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# Food Outlook

BIANNUAL REPORT ON GLOBAL FOOD MARKETS



October 2015

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# HIGHLIGHTS

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**I**n stark contrast to recent years, global food markets are becalmed with international prices of most foodstuffs well below their recent peaks and still falling. Declining trade volumes and weaker prices could trigger a record year-on-year drop in the world food import bill in 2015.

## WHEAT

Better than expected harvest results, large stocks and strong export competition continue to put downward pressure on international wheat prices. Despite abundant export availabilities and lower prices, wheat trade is expected to be lower than last season while global inventories in 2015 may hit a 13-year high.

## COARSE GRAINS

Large coarse grains stocks are keeping markets well supplied in spite of the forecast decline in this year's production. While this has contributed to firmer prices in futures markets, price increases in cash markets have been moderated by a weak import demand.

## RICE

In spite of the numerous setbacks that afflicted paddy crops in 2015, international rice prices continue to fall. With trade rebounding in 2016, inventories carried over by the major rice exporting countries are anticipated to shrink substantially.

## CASSAVA

Adverse weather has curbed crop prospects in 2015. This had little impact on 2015 cassava trade flows, as international demand reached record levels. The outlook for production and trade for 2016 remains highly tentative, under a strengthening El Niño and uncertain demand for cassava non-food products.

## OILCROPS

The outlook for 2015/16 points to further improvement in the supply and demand balance for oilseeds and oilmeals, while that of oils could tighten. Although global output of both oils and meals could fall short of last season's record, meal supplies should be bolstered by large opening stocks.

## MEAT

World meat production is forecast to increase modestly in 2015, with limited expansion of all categories of meat. Global meat trade in 2015 is projected to decline somewhat, mainly due to policy and disease-related import restrictions.

## DAIRY

International dairy product prices rebounded in September, following several months of decline. Although milk production continues to increase steadily in many countries, relatively low prices are expected to dampen global production growth in 2015.

## FISHERIES

Growth in global fish production continues to be driven by aquaculture, but El Niño remains a key factor influencing prices of fishmeal and fish oil, the main end products of anchoveta. A strong US dollar, economic slowdowns and increasing demand for national products are changing the pattern of international fish trade.

## THE PRICE OF FEEDING THE WORLD IS FALLING, WILL IT CONTINUE?

*Feeding the Planet, Energy for Life* is the central theme of Expo Milano 2015, a universal exposition underway in Milan, Italy. Guaranteeing healthy, safe and sufficient food for everyone, while respecting the equilibrium between resource availability and usage is the paramount challenge the exposition advocates. Understanding food price movements helps us address this challenge, as decisions on what, how, and how much to produce depend on price signals.



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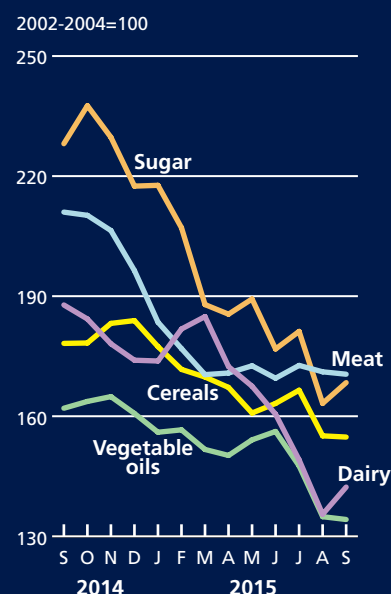
67

**The price of feeding the world is falling, will it continue?**



FAO Food Commodity Price Indices  
(Sept 2014 - Sept 2015)

129



\* This issue of the Food Outlook does not include the customary assessment of the world sugar market.

# MARKET SUMMARIES

The world cereal supply and demand balance is predicted to remain comfortable in the 2015/16 marketing season. Despite an anticipated drop in world production from last year's record, supplies should be almost sufficient to meet the projected demand, requiring only a small reduction in global stocks by the end of the season. Against this backdrop, cereal prices have remained under downward pressure.

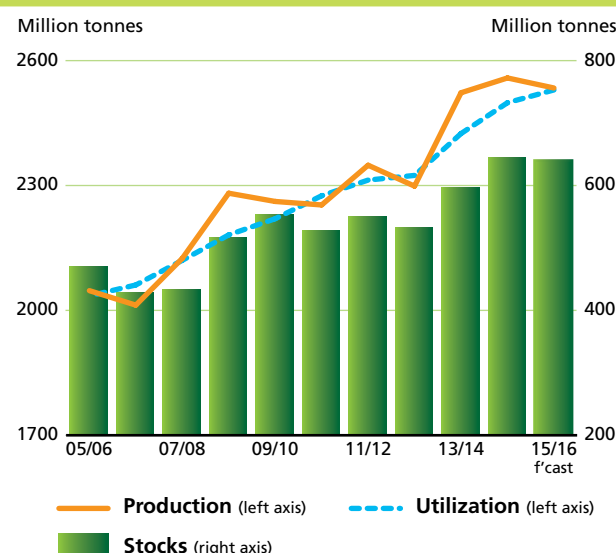
Global cereal production in 2015 is projected at 2 534 million tonnes, around 1 percent below the 2014 record. World wheat production is forecast at 735 million tonnes, marginally above last year's record, while, at 1 306 million tonnes, coarse grains production would be down 1.8 percent from 2014. The latest forecast for rice production in 2015 stands at 493 million tonnes (in milled terms), about 0.4 percent less than in 2014.

World cereal utilization in 2015/16 could approach 2 530 million tonnes, up 1.2 percent from 2014/15. Total food consumption is likely to drop by 1.1 percent, while feed utilization of cereals is projected to increase by 1.8 percent. Total industrial use of cereals (for the production of ethanol, starch and brewing) is forecast up marginally from the 2014/15 estimated levels, largely supported by strong demand for starch.

Global cereal stocks by the close of seasons in 2016 are anticipated to stand at 638 million tonnes, down 4 million tonnes from their opening levels. This would result in a falling global cereal stock-to-use ratio from 25.4 percent in 2014/15 to 24.8 percent in 2015/16. Given the prospect of a record crop this year, world wheat inventories are forecast to increase by 3.3 million tonnes, while end-of-season coarse grain stocks could fall slightly below last year. By contrast, rice stocks are forecast to shrink by more than 8 million tonnes in 2016, as this year's production is predicted to fall short of utilization.

World cereal trade in 2015/16 is forecast at nearly 364 million tonnes, 2.9 percent below the 2014/15 record. Most of this season's forecast contraction in world cereal trade stems from expected sharp drops in wheat and coarse grains shipments, while trade in rice is anticipated to rebound in 2016.

## CEREAL PRODUCTION, UTILIZATION AND STOCKS



## WORLD CEREAL MARKET AT A GLANCE<sup>1</sup>

|                                                  | 2013/14 | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | Change:<br>2015/16<br>over<br>2014/15                |
|--------------------------------------------------|---------|--------------------------|--------------------------|------------------------------------------------------|
| million tonnes                                   |         |                          | %                        |                                                      |
| WORLD BALANCE                                    |         |                          |                          |                                                      |
| Production                                       | 2 522.8 | 2 558.4                  | 2 534.3                  | -0.9                                                 |
| Trade <sup>2</sup>                               | 361.9   | 375.0                    | 364.0                    | -2.9                                                 |
| Total utilization                                | 2 424.7 | 2 498.9                  | 2 529.6                  | 1.2                                                  |
| Food                                             | 1 069.3 | 1 084.2                  | 1 096.6                  | 1.1                                                  |
| Feed                                             | 844.3   | 888.7                    | 904.3                    | 1.8                                                  |
| Other uses                                       | 511.1   | 526.0                    | 528.7                    | 0.5                                                  |
| Ending stocks                                    | 595.0   | 642.0                    | 637.8                    | -0.7                                                 |
| SUPPLY AND DEMAND INDICATORS                     |         |                          |                          |                                                      |
| Per caput food consumption:                      |         |                          |                          |                                                      |
| World (kg/yr)                                    | 149.4   | 149.8                    | 149.8                    | 0.0                                                  |
| LIFDC <sup>3</sup> (kg/yr)                       | 147.2   | 147.9                    | 147.9                    | 0.0                                                  |
| World stock-to-use ratio (%)                     | 23.8    | 25.4                     | 24.8                     |                                                      |
| Major exporters stock-to-disappearance ratio (%) | 17.9    | 17.6                     | 15.7                     |                                                      |
|                                                  |         |                          |                          |                                                      |
| FAO CEREAL PRICE INDEX<br>(2002-2004=100)        | 2013    | 2014                     | 2015<br><i>Jan-Sep</i>   | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                                  | 219     | 192                      | 165                      | -15.4                                                |

<sup>1</sup> Rice in milled equivalent.

<sup>2</sup> Trade refers to exports based on a July/June marketing season for wheat and coarse grains and on a January/December marketing season for rice.

<sup>3</sup> Low-income Food-Deficit countries.

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# WHEAT

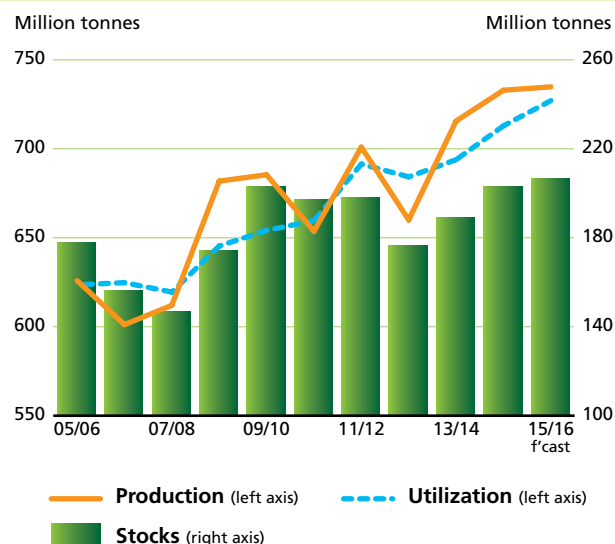
Global wheat production in 2015 is now forecast to reach a record of 735 million tonnes, almost 2 million tonnes more than in 2014, mostly on account of higher outputs in Australia, China, Morocco, Turkey, Ukraine and the United States.

World trade in 2015/16 (July/June) is forecast at 150 million tonnes, almost 6 million tonnes, or around 4 percent, lower than the 2014/15 high. Most of the contraction from last season reflects improved domestic availabilities in Asia and North Africa. Supported by weak national currencies, exports from the Russian Federation and Ukraine are projected to reach new highs in 2015/16, while smaller shipments are forecast for Canada and the EU.

Total wheat utilization in 2015/16 is projected to reach 727 million tonnes, up 2.0 percent from 2014/15. Feed use is forecast to grow by 4.2 percent to 144 million tonnes, largely driven by stronger demand in Asia and North America. In the United States, wheat feed consumption is projected up sharply from the previous season, as a result of this year's poor quality outcome of the spring milling wheat. In the EU, where domestic feed grain supply (of maize in particular), is expected to be much smaller than in 2014/15, the use of wheat for livestock feed is forecast to increase in spite of a slight reduction in this year's wheat production.

World wheat inventories by the close of crop seasons in 2016 are forecast to increase to their highest level in 13 years. Based on the current expectations, the world wheat stock-to-use ratio in 2015/16 would reach 28.9 percent, the highest since 2011/12. The EU, the Russian Federation and the United States are among the countries where stocks are anticipated to increase the most. By contrast, in Canada, where production has fallen sharply this year, ending stocks are likely to shrink to an all-time low.

## WHEAT PRODUCTION, UTILIZATION AND STOCKS



## WORLD WHEAT MARKET AT A GLANCE

|                                                               | 2013/14 | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | Change:<br>2015/16<br>over<br>2014/15                |
|---------------------------------------------------------------|---------|--------------------------|--------------------------|------------------------------------------------------|
| million tonnes                                                |         |                          | %                        |                                                      |
| WORLD BALANCE                                                 |         |                          |                          |                                                      |
| Production                                                    | 715.6   | 732.9                    | 734.8                    | 0.3                                                  |
| Trade <sup>1</sup>                                            | 156.8   | 155.8                    | 150.0                    | -3.7                                                 |
| Total utilization                                             | 693.9   | 712.9                    | 727.0                    | 2.0                                                  |
| Food                                                          | 481.3   | 486.1                    | 490.6                    | 0.9                                                  |
| Feed                                                          | 127.4   | 138.2                    | 144.0                    | 4.2                                                  |
| Other uses                                                    | 85.2    | 88.6                     | 92.4                     | 4.4                                                  |
| Ending stocks                                                 | 188.4   | 202.6                    | 205.9                    | 1.6                                                  |
| SUPPLY AND DEMAND INDICATORS                                  |         |                          |                          |                                                      |
| Per caput food consumption:                                   |         |                          |                          |                                                      |
| World (kg/yr)                                                 | 67.2    | 67.2                     | 67.0                     | -0.2                                                 |
| LIFDC (kg/yr)                                                 | 47.9    | 47.6                     | 47.4                     | -0.4                                                 |
| World stock-to-use ratio (%)                                  | 26.4    | 27.9                     | 28.9                     |                                                      |
| Major exporters stock-to-disappearance ratio <sup>2</sup> (%) | 13.8    | 15.6                     | 16.8                     |                                                      |
|                                                               |         |                          |                          |                                                      |
| FAO WHEAT PRICE INDEX <sup>3</sup><br>(2002-2004=100)         | 2013    | 2014                     | 2015<br><i>Jan-Sep</i>   | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                                               | 194     | 181                      | 147                      | -19.6                                                |

<sup>1</sup> Trade refers to exports based on a common July/June marketing season.

<sup>2</sup> Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States.

<sup>3</sup> Derived from the International Grains Council (IGC) wheat index.

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# COARSE GRAINS

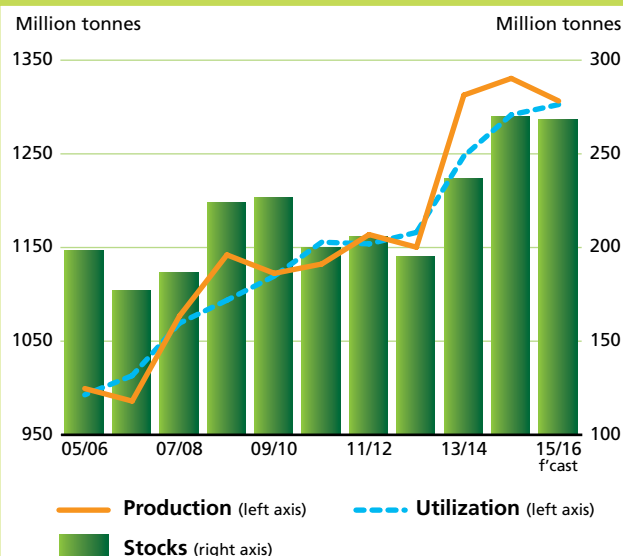
World production of coarse grains in 2015 is forecast at 1 306 million tonnes, about 2 percent lower than the record of 2014, with much of the decline concerning maize in the United States and the EU. Maize accounts for nearly 80 percent of the world's coarse grains output. Among the other major coarse grains, global barley output is likely to remain unchanged from the previous year, while world sorghum production is forecast at about 66 million tonnes, almost 2 percent higher than in 2014.

Global trade in coarse grains in 2015/16 may reach 169 million tonnes, down 3.6 percent from the record high of just over 175 million tonnes in 2014/15. Among the major coarse grains, world trade in maize is expected to fall to 126 million tonnes, down 1.6 percent from the previous season's record, but still the second highest volume ever. Shipments of barley are heading for a 13 percent decline from the 2014/15 exceptionally high level of 29 million tonnes, to 25.5 million tonnes. Trade in sorghum is put at 12.5 million tonnes, down 2.4 percent year-on-year. Most of the contraction is likely to occur in Asia, while total imports in Africa and Europe are forecast to increase. Large supplies in several exporting countries are likely to intensify competition for market share this season, especially in light of the projected contraction in world import demand.

Total utilization of coarse grains is forecast to increase by only 0.8 percent from 2014/15, to 1 303 million tonnes in 2015/16. The decline in production should lead to slower growth in feed and industrial use. Total use of maize is forecast to amount to 1 005 million tonnes, 1.5 percent higher than in the previous season. Utilization of barley may increase slightly, to 142 million tonnes, while sorghum use is projected to decrease by 2.6 percent, to 64.4 million tonnes.

World stocks of coarse grains are forecast at 267.6 million tonnes by the close of seasons in 2016, down marginally from their all-time high opening level. This would result in the world stocks-to-use ratio declining slightly to 20.1 percent in 2015/16. In spite of this small decrease, the ratio remains well above the low of 15.4 percent registered in 2003/04. Much larger stocks are forecast for China and Brazil, while declining production levels are expected to curtail inventories in the EU and the United States.

## COARSE GRAIN PRODUCTION, UTILIZATION AND STOCKS



## WORLD COARSE GRAINS MARKET AT A GLANCE

|                                                               | 2013/14 | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | Change:<br>2015/16<br>over<br>2014/15                |
|---------------------------------------------------------------|---------|--------------------------|--------------------------|------------------------------------------------------|
| million tonnes                                                |         |                          |                          | %                                                    |
| WORLD BALANCE                                                 |         |                          |                          |                                                      |
| Production                                                    | 1 312.7 | 1 330.6                  | 1 306.5                  | -1.8                                                 |
| Trade <sup>1</sup>                                            | 159.8   | 175.2                    | 169.0                    | -3.6                                                 |
| Total utilization                                             | 1 247.5 | 1 291.7                  | 1 302.6                  | 0.8                                                  |
| Food                                                          | 196.5   | 201.0                    | 203.7                    | 1.3                                                  |
| Feed                                                          | 700.1   | 732.1                    | 741.7                    | 1.3                                                  |
| Other uses                                                    | 350.9   | 358.5                    | 357.2                    | -0.4                                                 |
| Ending stocks                                                 | 236.4   | 269.2                    | 267.6                    | -0.6                                                 |
| SUPPLY AND DEMAND INDICATORS                                  |         |                          |                          |                                                      |
| Per caput food consumption:                                   |         |                          |                          |                                                      |
| World (kg/yr)                                                 | 27.5    | 27.8                     | 27.8                     | 0.2                                                  |
| LIFDC (kg/yr)                                                 | 40.0    | 40.6                     | 40.7                     | 0.0                                                  |
| World stock-to-use ratio (%)                                  | 18.3    | 20.7                     | 20.1                     |                                                      |
| Major exporters stock-to-disappearance ratio <sup>2</sup> (%) | 11.2    | 13.7                     | 12.9                     |                                                      |
|                                                               |         |                          |                          |                                                      |
| FAO COARSE GRAIN PRICE INDEX (2002-2004=100)                  | 2013    | 2014                     | 2015<br><i>Jan-Sep</i>   | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                                               | 246     | 183                      | 162                      | -14.2                                                |

<sup>1</sup> Trade refers to exports based on a common July/June marketing season.

<sup>2</sup> Major exporters include Argentina, Australia, Brazil, Canada, EU, Russian Fed., Ukraine and the United States.

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# RICE

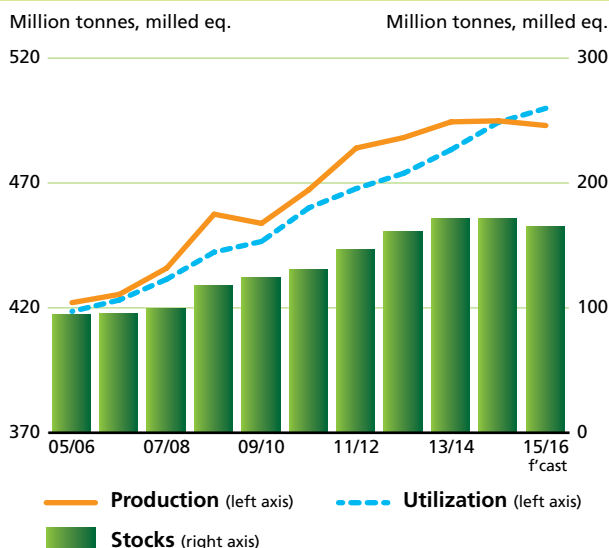
In spite of the numerous setbacks that afflicted paddy crops in 2015, international rice prices have continued to fall since late last year, reflecting a weakening of world import demand. The softening of prices affected all market segments, especially the higher quality Indica and aromatic rice, and virtually all exporters.

Since its onset, the 2015 paddy season has been marred by unfavourable climatic conditions associated with the prevalence of an El Niño weather anomaly, a situation predicted to linger until next year. As scope for recovering losses through larger secondary crops diminishes with the advancement of the season, the 2015 world rice production forecast has been cut to some 493 million tonnes, suggesting a second year of mute or negative growth. With the exception of Latin America and the Caribbean, and Europe, all regions are likely to record a production fall.

FAO's estimates of rice trade (milled basis) have been revised to take unrecorded rice flows into better consideration. Under the new approach, 45.3 million tonnes of rice are estimated to have been exchanged internationally in 2014 (January–December), 2.6 million tonnes more than previously reported and an all-time high. Forecasts for 2015 and 2016 have also been raised, now suggesting a 3.0 percent contraction in 2015 trade, followed in 2016 by a 2.2 percent recovery in 2016. The anticipated upturn of trade in 2016 is likely to be sustained by larger imports by Indonesia, the Democratic Republic of Korea and the Philippines. Purchases by African countries, especially Ghana and Nigeria, are also predicted to rise, to compensate for poor production outcomes. With the exception of India and the United States, which may face supply constraints, the expected trade recovery in 2016 is anticipated to boost sales from most exporters, particularly Thailand and Viet Nam.

With global production expected to fall short of utilization, world rice inventories may decline by 3.5 percent to 164 million tonnes in 2016, pushing the world rice stock-to-use ratio, an important indicator of food security, down from 34.1 percent in 2015 to 32.3 percent in 2016. Much of the 2016 anticipated decline in world carry-over stocks would concern exporting countries, especially India and Thailand.

## RICE PRODUCTION, UTILIZATION AND STOCKS



## WORLD RICE MARKET AT A GLANCE

|                                                                     | 2013/14      | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i>       | Change:<br>2015/16<br>over<br>2014/15                           |
|---------------------------------------------------------------------|--------------|--------------------------|--------------------------------|-----------------------------------------------------------------|
| <i>million tonnes</i>                                               |              |                          |                                | %                                                               |
| <b>WORLD BALANCE</b>                                                |              |                          |                                |                                                                 |
| <b>Production</b>                                                   | <b>494.5</b> | <b>494.9</b>             | <b>493.0</b>                   | <b>-0.4</b>                                                     |
| <b>Trade <sup>1</sup></b>                                           | <b>45.3</b>  | <b>44.0</b>              | <b>45.0</b>                    | <b>2.2</b>                                                      |
| <b>Total utilization</b>                                            | <b>483.3</b> | <b>494.3</b>             | <b>499.9</b>                   | <b>1.1</b>                                                      |
| Food                                                                | 391.5        | 397.0                    | 402.3                          | 1.3                                                             |
| <b>Ending stocks</b>                                                | <b>170.3</b> | <b>170.3</b>             | <b>164.3</b>                   | <b>-3.5</b>                                                     |
| <b>SUPPLY AND DEMAND INDICATORS</b>                                 |              |                          |                                |                                                                 |
| <b>Per caput food consumption:</b>                                  |              |                          |                                |                                                                 |
| World (kg/yr)                                                       | 54.5         | 54.6                     | 54.7                           | 0.2                                                             |
| LIFDC (kg/yr)                                                       | 58.8         | 59.1                     | 59.2                           | 0.2                                                             |
| <i>World stock-to-use ratio (%)</i>                                 | <i>34.4</i>  | <i>34.1</i>              | <i>32.3</i>                    |                                                                 |
| <i>Major exporters stock-to-disappearance ratio<sup>2</sup> (%)</i> | <i>28.8</i>  | <i>23.4</i>              | <i>17.6</i>                    |                                                                 |
|                                                                     |              |                          |                                |                                                                 |
| <b>FAO RICE PRICE INDEX<br/>(2002-2004=100)</b>                     | <b>2013</b>  | <b>2014</b>              | <b>2015<br/><i>Jan-Sep</i></b> | <b>Change:<br/>Jan-Sep 2015<br/>over<br/>Jan-Sep 2014<br/>%</b> |
|                                                                     | 233          | 235                      | 215                            | -9.2                                                            |

<sup>1</sup> Calendar year exports (second year shown).

<sup>2</sup> Major exporters include India, Pakistan, Thailand, the United States and Viet Nam.

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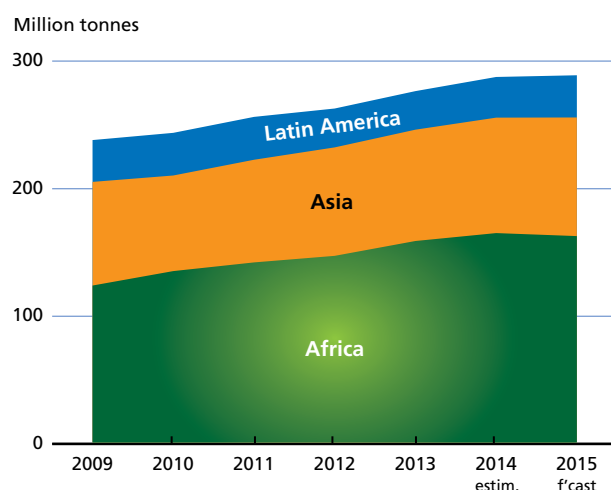
Adverse weather conditions in major growing regions have undermined the 2015 cassava production outcomes, stalling global output growth that previously had been rising at an astonishing rate. Cassava outputs in eastern Africa were smaller due to lower yields. El Niño is thought to have played a part in diminishing harvests in Southeast Asia, particularly where the 2015 crop season has yet to be concluded.

Production prospects for 2016 remain very uncertain, given the high probability of an intensifying El Niño event. If predictions transpire, the event could impair cassava crops in Southeast Asia, Brazil, and southern and eastern Africa. The countries at risk account for some 50 percent of world cassava production. Already, Thailand has factored lower yields into its 2016 forecasts, predicting a 1 tonne per hectare decrease. In Brazil, falling root prices and excess supplies of cassava could lead to lower plantings in the 2016 season.

Trade in cassava, which remains confined to East and Southeast Asia, has been particularly buoyant in 2015, with regional demand for cassava chips, flour and starch reaching record highs. International demand stems mostly from China, which continues to source cassava from abroad, as a cheaper raw material for its animal feed and industrial sectors. Thailand has traditionally met this demand, but Viet Nam resurfaced in 2015 as a major regional supplier of cassava products.

In addition to weather risks, 2016 outcomes will face economic uncertainties related to the slowdown in China's economy and its very large maize stockpiles, the strengthening US dollar and falling oil prices – all of which overhang prospects in East and Southeast Asia, particularly for trade. Virtually all countries in that region have geared their domestic markets towards supplying China. If China were to begin releasing its maize stockpiles, the regional market for cassava could slump, potentially causing an upheaval in the cassava sectors of the exporting countries.

## WORLD PRODUCTION OF CASSAVA



## WORLD CASSAVA MARKET AT A GLANCE

|                                                    | 2013         | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i>          | Change:<br>2015<br>over<br>2014                           |
|----------------------------------------------------|--------------|-----------------------|--------------------------------|-----------------------------------------------------------|
| <i>million tonnes, fresh</i>                       |              |                       | <i>root eq.</i>                | %                                                         |
| <b>WORLD BALANCE</b>                               |              |                       |                                |                                                           |
| <b>Production</b>                                  | <b>278.6</b> | <b>288.3</b>          | <b>288.8</b>                   | <b>0.2</b>                                                |
| <b>Trade</b>                                       | <b>35.3</b>  | <b>38.2</b>           | <b>45.4</b>                    | <b>18.9</b>                                               |
| <b>SUPPLY AND DEMAND INDICATORS</b>                |              |                       |                                |                                                           |
| <b>Per caput food consumption:</b>                 |              |                       |                                |                                                           |
| World (kg/year)                                    | 19.7         | 20.4                  | 20.5                           | 0.5                                                       |
| Developing (kg/year)                               | 34.27        | 35.10                 | 34.74                          | -1.0                                                      |
| LDC (kg/year)                                      | 85.3         | 88.6                  | 83.9                           | -5.3                                                      |
| Sub-Saharan Africa (kg/year)                       | 151.1        | 157.0                 | 154.7                          | -1.4                                                      |
| Trade share of prod. (%)                           | 12.7         | 13.2                  | 15.7                           | 18.7                                                      |
|                                                    |              |                       |                                |                                                           |
| <b>CASSAVA PRICES <sup>1</sup><br/>(USD/tonne)</b> | <b>2013</b>  | <b>2014</b>           | <b>2015<br/><i>Jan-Sep</i></b> | <b>Change:<br/>Jan-Sep 2015<br/>over<br/>Jan-Sep 2014</b> |
| Chips to China<br>(f.o.b. Bangkok)                 | 236.2        | 228.1                 | 215.7                          | -4.0                                                      |
| Starch (f.o.b. Bangkok)                            | 473.4        | 428.8                 | 430.8                          | 0.9                                                       |
| Thai domestic root prices                          | 90.1         | 72.4                  | 70.2                           | -0.7                                                      |

<sup>1</sup> Thai Tapioca Trade Association.

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# OILCROPS

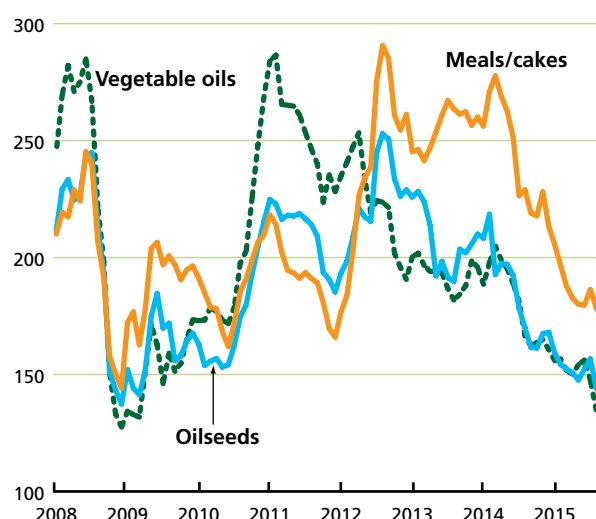
The current outlook for the 2015/16 marketing season points to further improvement in the global supply and demand balance for oilseeds and oilmeals, while that of oils/fats could tighten.

Oilseed production in 2015/16 is forecast to trail behind last season's record level on account of lower rapeseed, soybean and cottonseed outputs. Soy production could decrease slightly in both the United States and South America as yields drop from last season's unprecedented high level. Regarding rapeseed, adverse weather conditions compromised production prospects in the world's two leading producers, the EU and Canada, while global cottonseed output is expected to decrease on reduced plantings. Output from oil palms could grow at a below-average rate, due to unfavourable weather.

While 2015/16 crop projections foreshadow stagnation of oils/fats production, global oils/fats consumption is forecast to expand further, possibly requiring some downsizing of inventories. For meals/cakes, a small surplus in global production relative to demand could push global inventories beyond last season's record level. Based on current forecasts, a year-on-year drop in the stock-to-use ratio for oils/fats seems likely, while the stock-to-use ratio for meals/cakes would match last season's exceptionally high level.

International trade in oilseeds and derived products is forecast to expand further in 2015/16, albeit less than in recent years. In the case of oils/fats, the anticipated slowdown mainly reflects possible drops in imports by China and India, underpinned by, respectively, large inventories and production gains. Regarding meals/cakes, China, the world's largest buyer of soybeans, may see import growth slow for several reasons, including low soybean processing margins, the availability of large stocks, and the recent depreciation of China's currency.

## FAO MONTHLY INTERNATIONAL PRICE INDICES FOR OILSEEDS, VEGETABLE OILS AND OILMEALS/CAKES (2002-2004=100)



## WORLD OILCROP AND PRODUCT MARKET AT A GLANCE

|                                                  | 2013/14 | 2014/15<br>estim. | 2015/16<br>f'cast | Change:<br>2015/16<br>over<br>2014/15                |
|--------------------------------------------------|---------|-------------------|-------------------|------------------------------------------------------|
|                                                  |         |                   | million tonnes    | %                                                    |
| <b>TOTAL OILSEEDS</b>                            |         |                   |                   |                                                      |
| Production                                       | 513.2   | 547.4             | 534.5             | -2.4                                                 |
| <b>OILS AND FATS</b>                             |         |                   |                   |                                                      |
| Production                                       | 203.3   | 209.9             | 208.6             | -0.7                                                 |
| Supply                                           | 235.7   | 245.9             | 247.9             | 0.8                                                  |
| Utilization                                      | 198.9   | 204.6             | 211.8             | 3.5                                                  |
| Trade                                            | 107.9   | 112.0             | 114.2             | 1.9                                                  |
| Stock-to-utilization ratio (%)                   | 18.1    | 19.2              | 17.1              |                                                      |
| Major exporters stock-to-disappearance ratio (%) | 10.3    | 12.1              | 11.1              |                                                      |
| <b>MEALS AND CAKES</b>                           |         |                   |                   |                                                      |
| Production                                       | 128.8   | 140.4             | 138.2             | -1.6                                                 |
| Supply                                           | 147.2   | 162.0             | 166.0             | 2.5                                                  |
| Utilization                                      | 125.3   | 132.2             | 136.8             | 3.4                                                  |
| Trade                                            | 81.1    | 85.4              | 87.1              | 2.0                                                  |
| Stock-to-utilization ratio (%)                   | 17.3    | 21.0              | 21.0              |                                                      |
| Major exporters stock-to-disappearance ratio (%) | 9.4     | 13.3              | 15.3              |                                                      |
| <b>FAO PRICE INDICES</b>                         |         |                   |                   |                                                      |
| Jan/Dec<br>(2002-2004=100)                       | 2013    | 2014              | 2015<br>Jan-Sep   | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
| Oilseeds                                         | 207     | 184               | 151               | -20.8                                                |
| Oilmeals/cakes                                   | 255     | 243               | 186               | -26.1                                                |
| Vegetable oils                                   | 193     | 181               | 149               | -20.3                                                |

NOTE: Refer to table 2 in the Oilseeds section of the Market Assessments chapter, for explanations regarding definitions and coverage.

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# MEAT AND MEAT PRODUCTS

World meat production is anticipated to register a modest expansion in 2015, to 318.8 million tonnes. This represents potential growth of 1.1 percent, or 3.5 million tonnes, over 2014, with the largest increases expected in the EU, the United States and the Russian Federation. The poultry sector is forecast to drive the global expansion, followed by pigmeat, while only slight gains are foreseen for bovine and ovine meat.

Global meat trade is forecast to decline slightly in 2015, by 0.6 percent to 30.5 million tonnes, a marked slowdown from the 3 percent growth recorded last year. Projected trade trends diverge across meat sectors, with expansion forecast for bovine meat and a decrease anticipated for the other categories of meat. Volume-wise, poultry remains the most traded meat product, followed by bovine, pig and ovine meat, respectively.

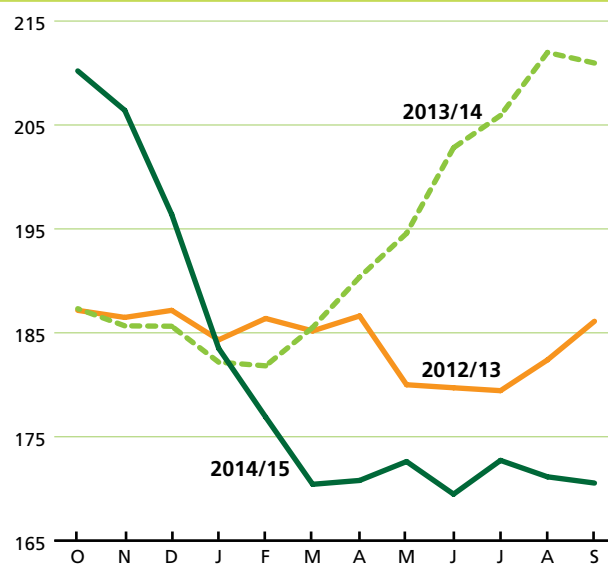
Trade in poultry is expected to decline by 1 percent to 12.6 million tonnes in 2015. This would mark the first contraction since 2009, although the rate of trade growth has been waning since 2012. For 2015, outbreaks of highly pathogenic avian influenza (HPAI) in some areas of the United States from January onwards caused numerous countries to suspend imports of poultry meat originating there. Additionally, sharply reduced purchases by the Russian Federation and Angola, following changes in import regimes, impacted negatively on trade. Meanwhile, trade in bovine meat is anticipated to expand in 2015, although at a reduced rate of 0.5 percent, to 9.7 million tonnes. Limited supply is the principal factor behind the anticipated slowdown, as import demand remains firm. Trade in pigmeat is projected to fall by 0.6 percent to 7 million tonnes in 2015, which would represent the third consecutive annual contraction. Reduced import demand, especially from the Russian Federation, is the main element behind the drop in trade. Restocking in Australia and New Zealand is anticipated to curb world trade in ovine meat by almost 5 percent to 976 000 tonnes in 2015, although some much smaller-scale exporters, such as India, Pakistan and Ethiopia, could see sales grow.

After a period of decline, the FAO Meat Price Index stabilized between April and September, averaging 171 points. However, this was exclusively due to higher bovine meat prices, as those of other categories of meat fell. Despite remaining stable, overall, for several months, meat prices are still well below last year.

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## FAO INTERNATIONAL MEAT PRICE INDEX (2002-2004 = 100)



## WORLD MEAT MARKET AT A GLANCE

|                                             | 2013         | 2014<br>estim. | 2015<br>f'cast  | Change:<br>2015<br>over<br>2014                      |
|---------------------------------------------|--------------|----------------|-----------------|------------------------------------------------------|
|                                             |              |                | million tonnes  | %                                                    |
| <b>WORLD BALANCE</b>                        |              |                |                 |                                                      |
| <b>Production</b>                           | <b>311.3</b> | <b>315.3</b>   | <b>318.8</b>    | <b>1.1</b>                                           |
| Bovine meat                                 | 68.0         | 68.1           | 68.3            | 0.3                                                  |
| Poultry meat                                | 108.6        | 110.5          | 112.1           | 1.5                                                  |
| Pigmeat                                     | 115.0        | 117.3          | 118.8           | 1.3                                                  |
| Ovine meat                                  | 13.9         | 13.9           | 14.0            | 0.9                                                  |
| <b>Trade</b>                                | <b>29.7</b>  | <b>30.6</b>    | <b>30.5</b>     | <b>-0.6</b>                                          |
| Bovine meat                                 | 8.9          | 9.6            | 9.7             | 0.5                                                  |
| Poultry meat                                | 12.4         | 12.7           | 12.6            | -1.0                                                 |
| Pigmeat                                     | 7.1          | 7.0            | 7.0             | -0.6                                                 |
| Ovine meat                                  | 1.0          | 1.0            | 1.0             | -4.9                                                 |
| <b>SUPPLY AND DEMAND INDICATORS</b>         |              |                |                 |                                                      |
| <b>Per caput food consumption:</b>          |              |                |                 |                                                      |
| World (kg/yr)                               | 43.4         | 43.3           | 43.4            | 0.1                                                  |
| Trade - share of prod. (%)                  | 9.5          | 9.7            | 9.6             | -1.7                                                 |
| <b>FAO MEAT PRICE INDEX (2002-2004=100)</b> |              |                |                 |                                                      |
|                                             | 2013         | 2014           | 2015<br>Jan-Sep | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                             | 184          | 198            | 178             | -11.8                                                |

# MILK AND MILK PRODUCTS

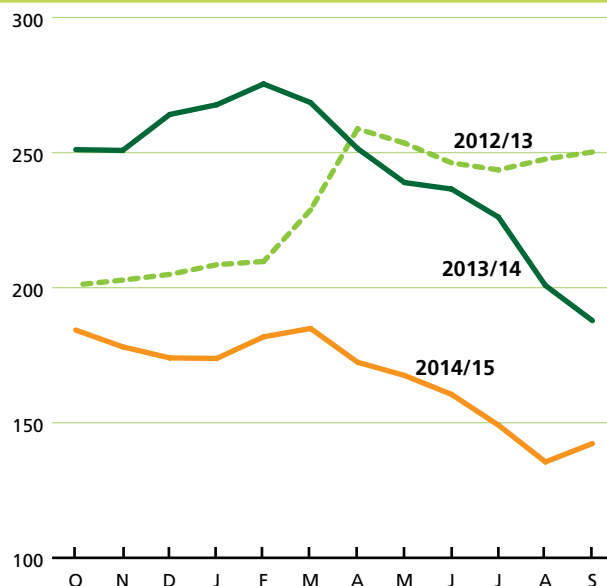
International dairy product prices rose in September 2015, following several months of decline. Reduced import demand from China and the Russian Federation weighed on international dairy markets for the first part of the year, while export availabilities remained generally ample. As seasonal milk production shifts in the second-half of the year from the Northern to the Southern Hemisphere, attention is turning to developments in Oceania – especially the outlook for New Zealand. World milk production is forecast to grow by 1.5 percent in 2015, a lower rate than that recorded in 2014, to reach 801 million tonnes. Asia is expected to account for most of the increase, although production is projected to rise in all regions, except Oceania.

Global trade in dairy products is forecast to fall by 1.7 percent to 71.3 million tonnes of milk equivalent, due to a weakened demand.

For the first time since 2006, imports in Asia are expected to contract in 2015, although it will remain the principal importing region. A steep reduction in demand by China – following several years of exceptional growth – is the main factor behind the regional decline. Most of the other major importers in Asia are expected to increase purchases, in particular Saudi Arabia, Indonesia, Malaysia, Vietnam, the United Arab Emirates, Japan and the Republic of Korea. More affordable world prices are anticipated to stimulate imports in Africa as a whole. The principal countries that could see growth are Algeria, Egypt and Nigeria. In Europe, imports by the Russian Federation are anticipated to fall for the second year in a row.

In terms of total sales of dairy products, the two major sources of supply, New Zealand and the EU, are expected to see exports essentially unchanged in 2015, while those of the United States, India and Argentina could fall substantially. Conversely, deliveries by Belarus and Australia are projected to register some growth in exports compared to the previous year.

## FAO INTERNATIONAL DAIRY PRICE INDEX (2002-2004 = 100)



## WORLD DAIRY MARKET AT A GLANCE

|                                          | 2013  | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i>  | Change:<br>2015<br>over<br>2014                      |
|------------------------------------------|-------|-----------------------|------------------------|------------------------------------------------------|
|                                          |       |                       | <i>million tonnes</i>  | %                                                    |
| WORLD BALANCE                            |       |                       |                        |                                                      |
| Total milk production                    | 767.5 | 789.0                 | 800.7                  | 1.5                                                  |
| Total trade                              | 68.7  | 72.6                  | 71.3                   | -1.7                                                 |
| SUPPLY AND DEMAND INDICATORS             |       |                       |                        |                                                      |
| Per caput food consumption:              |       |                       |                        |                                                      |
| World (kg/yr)                            | 107.2 | 109.0                 | 109.4                  | 0.4                                                  |
| Trade share of prod. (%)                 | 9.0   | 9.2                   | 8.9                    | -3.1                                                 |
| <hr/>                                    |       |                       |                        |                                                      |
| FAO DAIRY PRICE INDEX<br>(2002-2004=100) | 2013  | 2014                  | 2015<br><i>Jan-Sep</i> | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
| <hr/>                                    |       |                       |                        |                                                      |
|                                          | 243   | 224                   | 163                    | -31.8                                                |

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# FISH AND FISHERY PRODUCTS

In 2015, the global seafood industry has been characterized by falling prices for many important species and by some important changes in the pattern of trade caused by economic factors.

Overall fish production is forecast to grow by 2.6 percent to 168.6 million tonnes in 2015, boosted by a 5.0 percent expansion of aquaculture to 78.0 million tonnes, and a 0.7 percent in wild fish output to 90.6 million tonnes.

Developing countries play an important role in international fish trade. India, Indonesia and Ecuador account for a significant share of the international supply of shrimp, although they face depressed market conditions and a continued occurrence of the early mortality syndrome. Fishmeal and fish oil markets remain severely influenced by El Niño, which is expected to cause price volatility.

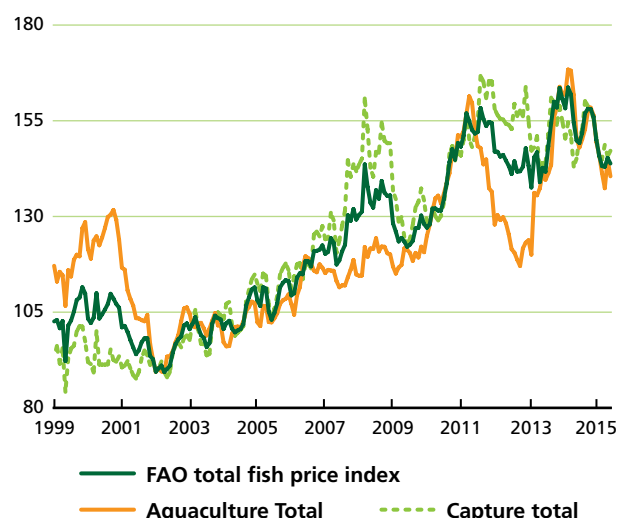
According to the FAO Fish Price Index, prices of fish in 2015 averaged 8 percent lower in the first six months of 2015 compared to the same period last year, largely reflecting a decline of 12 percent in the aquaculture sector and of 2 percent for captured fish. Across different species, shrimp prices are under downward pressure. Underpinned by a strong dollar, the US has been a major destination of shrimp exports this year, while a weaker Euro prevented the EU from taking full advantage of reduced shrimp prices. Whitefish prices, particularly for cod, moved upwards, due to increased demand and reduced catches.

The overall outlook for seafood international trade volumes in 2015 is generally positive, although falling prices for some species are likely to result in a lower trade value. More specifically, increasing production should exert downward pressure on shrimp prices. Likewise, salmon prices may be negatively affected by the sustained production growth in Norway. Consumer demand for fish remains strong. Direct human consumption, which accounts for more than 85 percent of all fish uses, is now projected to grow by 2 percent to 147.5 million tonnes. This would result in a slight increase in per capita fish intake, from 20.0 kg in 2014 to 20.1 kg in 2015, a consequence of slowing income growth in several important markets. On the other hand, the expected recovery in world wild fish catches in 2015 is predicted to foster a 9 percent rebound in the usage of fish as feed, which is mostly destined for aquaculture.

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## FAO FISH PRICE INDEX (2002-2004 = 100)



Source: Norwegian Seafood Council (NSC)

## WORLD FISH MARKET AT A GLANCE

|                                                      | 2013  | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i>   | Change:<br>2015<br>over<br>2014                      |
|------------------------------------------------------|-------|-----------------------|-------------------------|------------------------------------------------------|
|                                                      |       |                       | <i>million tonnes</i>   | %                                                    |
| WORLD BALANCE                                        |       |                       |                         |                                                      |
| Production                                           | 162.8 | 164.3                 | 168.6                   | 2.6                                                  |
| Capture fisheries                                    | 92.6  | 90.0                  | 90.6                    | 0.7                                                  |
| Aquaculture                                          | 70.2  | 74.3                  | 78.0                    | 5.0                                                  |
| Trade value (exports USD billion)                    | 136.1 | 143.5                 | 129.8                   | -9.6                                                 |
| Trade volume (live weight)                           | 58.8  | 59.5                  | 59.8                    | 0.5                                                  |
| Total utilization                                    | 162.8 | 164.3                 | 168.6                   | 2.6                                                  |
| Food                                                 | 141.0 | 144.6                 | 147.5                   | 2.0                                                  |
| Feed                                                 | 16.8  | 15.0                  | 16.4                    | 9.7                                                  |
| Other uses                                           | 5.0   | 4.8                   | 4.7                     | -2.1                                                 |
| SUPPLY AND DEMAND INDICATORS                         |       |                       |                         |                                                      |
| Per caput food consumption:                          |       |                       |                         |                                                      |
| Food fish (kg/yr)                                    | 19.7  | 20.0                  | 20.1                    | 0.9                                                  |
| From capture fisheries (kg/year)                     | 9.9   | 9.7                   | 9.5                     | -2.2                                                 |
| From aquaculture (kg/year)                           | 9.8   | 10.3                  | 10.6                    | 3.8                                                  |
|                                                      |       |                       |                         |                                                      |
| FAO FISH PRICE INDEX <sup>1</sup><br>(2002-2004=100) | 2013  | 2014                  | 2015<br><i>Jan-June</i> | Change:<br>Jan-Jun 2015<br>over<br>Jan-Jun 2014<br>% |
|                                                      | 148   | 157                   | 145                     | -8.2                                                 |

<sup>1</sup> Source of data: Norwegian Seafood Council (NSC)  
Totals may not match due to rounding



# MARKET ASSESSMENTS

# WHEAT

Major Wheat Exporters and Importers



## PRICES

### Abundant supplies keep international prices under pressure

Large supplies continue pushing international prices of wheat sharply below their previous year's levels. Uncertainty about the impact of adverse weather on crops during the critical growing stages caused steep increases in international prices just before the start of the season in July. However, as crop conditions improved, expectations of another record crop started to weigh on prices, resulting in a downward trend that has also been influenced by

falling prices in other commodity markets. Wheat prices fell to a five year low in August and in September, when the benchmark **US wheat (No.2 Hard Red Winter), f.o.b. Gulf**, averaged USD 218 per tonne, down over USD 60 per tonne, or nearly 22 percent, from September 2014.

Similarly, wheat futures have remained under downward pressure since January 2015. In September, the **Chicago Board of Trade (CBOT)** quotation for December delivery averaged USD 179 per tonne, down 3 percent from September 2014. *More detailed analysis of the futures markets can be found in the Market Indicators section of this report.*

Figure 1. Wheat export price (US No. 2 H.W. Gulf)

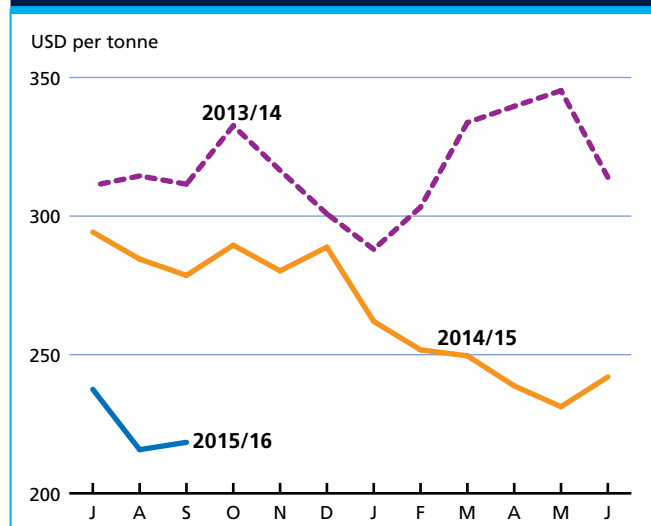
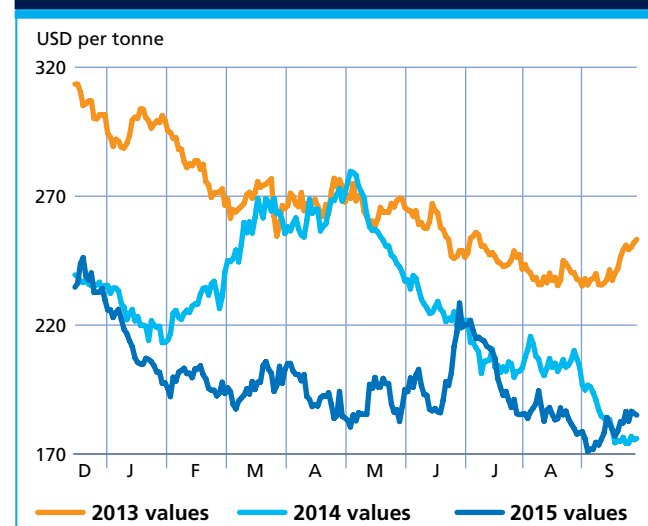


Figure 2. CBOT wheat futures for December



## PRODUCTION

### Third consecutive year of record production

FAO's latest forecast for 2015 wheat production stands at 735 million tonnes, 1.9 million tonnes (0.3 percent) above the 2014 level, mostly due to higher outputs in Australia, China, Morocco, Turkey, Ukraine and the United States.

In the **United States**, 2015 wheat production is estimated to have increased by 5 percent (3 million tonnes), to 58 million tonnes. The year-on-year gain is a result of higher yields and a lower abandonment rate, which more than offset a contraction in plantings. In **Canada**, with harvesting of the main 2015 spring crop nearing completion, aggregate production is expected to be 16 percent (4.7 million tonnes) lower than in 2014. The decline reflects reduced yields for both the spring and the minor durum wheat crops, although an increase in durum plantings averted a steeper production decline. In **Europe**, with the harvest virtually complete, the aggregate 2015 production is forecast to be 0.3 percent below 2014, mainly due to a contraction in the **EU's** output, estimated at 155 million tonnes, 1.6 percent less than the 2014 record. Smaller plantings mostly account for this decline, but increasingly favourable weather over the course of the cropping season buoyed yields above earlier forecasts and contained the production decrease. In the **Russian Federation**, despite an unfavourable start to the cropping season, production is put at 59.8 million tonnes, virtually unchanged from the high level of 2014. A mild winter with sufficient rains kept yields high, while an expansion in winter plantings compensated for reduced spring sowings. Similarly, in **Ukraine**, beneficial weather during winter and spring overturned earlier pessimistic prospects, and production is now put at 25.8 million tonnes, 7 percent higher than the good 2014 output.

In **Asia**, with the wheat crop harvest complete, the aggregate 2015 output is estimated at around 325 million tonnes, marginally above last year. **China** harvested nearly 130 million tonnes, 3 percent more than in 2014, following larger plantings and improved yields. By contrast, the wheat crop in **India** was adversely affected by unfavourable weather in the main northern and central producing states, which caused a decline in yields. As a result, production is estimated at around 89 million tonnes, 7 percent below the 2014 record. In **Pakistan**, 2015 wheat production is officially estimated at 27 million tonnes, up 4 percent from the bumper output of 2014, mainly owing to an expansion in the area planted. In the **Near East**, wheat production in **Turkey** rebounded by 18 percent to 22.5 million tonnes from the drought-reduced level of 2014. This increase rests solely on the achievement of well-

Table 1. World wheat market at a glance

|                                                               | 2013/14 | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | Change:<br>2015/16<br>over<br>2014/15                |
|---------------------------------------------------------------|---------|--------------------------|--------------------------|------------------------------------------------------|
|                                                               |         |                          | <i>million tonnes</i>    | %                                                    |
| WORLD BALANCE                                                 |         |                          |                          |                                                      |
| Production                                                    | 715.6   | 732.9                    | 734.8                    | 0.3                                                  |
| Trade <sup>1</sup>                                            | 156.8   | 155.8                    | 150.0                    | -3.7                                                 |
| Total utilization                                             | 693.9   | 712.9                    | 727.0                    | 2.0                                                  |
| Food                                                          | 481.3   | 486.1                    | 490.6                    | 0.9                                                  |
| Feed                                                          | 127.4   | 138.2                    | 144.0                    | 4.2                                                  |
| Other uses                                                    | 85.2    | 88.6                     | 92.4                     | 4.4                                                  |
| Ending stocks                                                 | 188.4   | 202.6                    | 205.9                    | 1.6                                                  |
| SUPPLY AND DEMAND INDICATORS                                  |         |                          |                          |                                                      |
| Per caput food consumption:                                   |         |                          |                          |                                                      |
| World (kg/yr)                                                 | 67.2    | 67.2                     | 67.0                     | -0.2                                                 |
| LIFDC (kg/yr)                                                 | 47.9    | 47.6                     | 47.4                     | -0.4                                                 |
| World stock-to-use ratio (%)                                  | 26.4    | 27.9                     | 28.9                     |                                                      |
| Major exporters stock-to-disappearance ratio <sup>2</sup> (%) | 13.8    | 15.6                     | 16.8                     |                                                      |
|                                                               |         |                          |                          |                                                      |
| FAO WHEAT PRICE INDEX <sup>3</sup><br>(2002-2004=100)         | 2013    | 2014                     | 2015<br><i>Jan-Sep</i>   | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                                               | 194     | 181                      | 147                      | -19.6                                                |

<sup>1</sup> Trade refers to exports based on a common July/June marketing season.

<sup>2</sup> Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States.

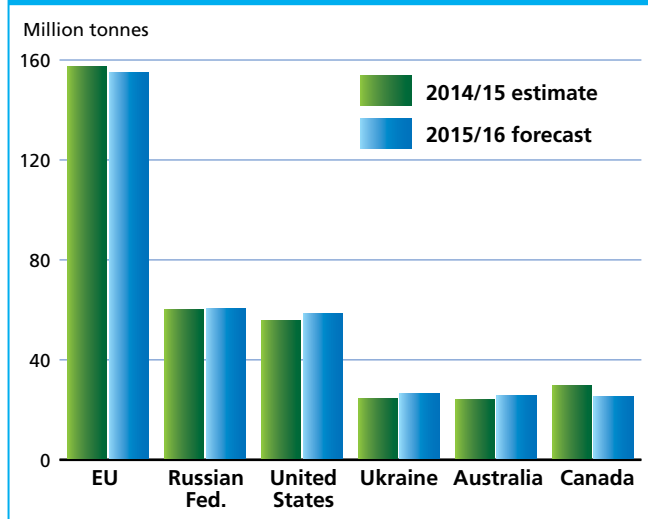
<sup>3</sup> Derived from the International Grains Council (IGC) wheat index.

Table 2. Wheat production: leading producers\*

|                      | 2013           | 2014<br>estim. | 2015<br>f'cast | Change:<br>2015 over<br>2014 |
|----------------------|----------------|----------------|----------------|------------------------------|
|                      | million tonnes |                |                | %                            |
| European Union       | 143.6          | 157.0          | 154.5          | -1.6                         |
| China (Mainland)     | 121.9          | 126.2          | 129.9          | 2.9                          |
| India                | 93.5           | 95.9           | 88.9           | -7.2                         |
| Russian Federation   | 52.1           | 59.7           | 59.8           | 0.1                          |
| United States        | 58.1           | 55.1           | 58.1           | 5.4                          |
| Canada               | 37.5           | 29.3           | 24.6           | -15.9                        |
| Pakistan             | 24.2           | 26.0           | 27.0           | 3.8                          |
| Australia            | 25.3           | 23.7           | 25.3           | 6.8                          |
| Ukraine              | 22.3           | 24.1           | 25.8           | 7.0                          |
| Turkey               | 22.1           | 19.0           | 22.5           | 18.4                         |
| Iran Islamic Rep. of | 14.0           | 14.0           | 14.0           | 0.0                          |
| Kazakhstan           | 14.0           | 13.0           | 14.0           | 7.7                          |
| Argentina            | 9.2            | 13.9           | 11.0           | -20.9                        |
| Egypt                | 8.8            | 8.8            | 9.0            | 2.3                          |
| Other countries      | 69.1           | 67.3           | 70.4           | 4.5                          |
| <b>World</b>         | <b>715.6</b>   | <b>732.9</b>   | <b>734.8</b>   | <b>0.3</b>                   |

\* Countries listed according to their position in global production (average 2013-2015)

Figure 3. Wheat production: major exporters



above-average yields that more than compensated for a contraction in plantings. Wheat production in *North Africa*, which accounts for the bulk of Africa's output of the crop, is up significantly from the drought-affected harvest of 2014. Beneficial weather accounted for the improved harvests in most countries, except for **Tunisia** where an autumn drought resulted in a decrease. **Morocco's** wheat crop more than recovered, reaching a record production of 8 million tonnes, up nearly 3 million tonnes from the previous year.

In the Southern Hemisphere, despite the presence of an El Niño episode that is historically associated with drier weather conditions in parts of Australia, Asia and the Americas, wheat production in **Australia** is forecast at 25.3 million tonnes, 7 percent higher than the previous year. This increase mainly rests on the projection of good yields, reflecting favourable rains and good soil moisture conditions that are expected to boost output in the main producing states of Western Australia and New South Wales. In *South America*, aggregate 2015 wheat production is forecast to contract by 8 percent compared to 2014, mostly reflecting the smaller crop foreseen for **Argentina** in view of reduced plantings, as farmers were deterred by falling prices and rising production costs. In **Brazil**, favourable weather over the course of the cropping season resulted in several positive adjustments to the production forecast. Despite lower plantings, Brazil's wheat output is now expected to reach a record level of 7.2 million tonnes, 17 percent up on the previous year's bumper harvest. In *Central America and the Caribbean*, 2015 production, mostly concentrated in **Mexico**, is forecast to increase by 3 percent. In *Southern Africa*, harvesting of the South African winter-wheat crop is expected to be complete by December, and the output is anticipated to decrease due to lower plantings.

## TRADE

### World wheat trade to fall below the previous season's record

FAO's forecast for world wheat trade (including wheat flour in wheat equivalent) in the 2015/16 (July/June) marketing year stands at 150 million tonnes, almost 6 million tonnes, or around 4 percent, below the 2014/15 record level. Most of the contraction from last season reflects lower imports in Asia and North Africa.

In *Asia*, where the biggest year-on-year reduction in imports is expected, total wheat purchases are likely to approach 72 million tonnes, around 4 million tonnes less than in the previous season. The **Islamic Republic of Iran** is behind much of this anticipated reduction, as due to high supplies, the country's imports could decline by 2.5 million tonnes. To limit imports by commercial entities, the Government had initially introduced import duties, which were expected to last until spring 2016; but which were canceled in early September 2015. Imports by **Turkey** are also expected to decline significantly, by 2.4 million tonnes, following a record domestic crop this year. Other countries where wheat deliveries could be reduced include **Afghanistan**, **China** (Mainland), **Pakistan** and **Thailand**. By contrast, a number of nations are expected to import slightly more wheat in 2015/16 than in the previous season. The **Republic of Korea** is forecast to buy more low quality wheat abroad for its growing livestock sector, as maize imports may not exceed last year's levels due to their less competitive prices in international markets. In the **Syrian Arab Republic**, where import requirements continue to grow despite higher domestic production, deliveries could reach 1.7 million tonnes, up 350 000 tonnes from the previous season. Higher deliveries are also forecast for **India**, **Indonesia**, **Iraq**, **Japan** and the **Philippines**. In **India**, a sharp decline in this year's production, combined with some deficit in high quality milling wheat, is expected to boost imports to 600 000 tonnes, the largest since 2007/08. However, the Government has imposed a 10 percent import duty on wheat until end of March 2016 in order to limit foreign purchases.

In *Africa*, aggregate imports are anticipated to drop by 730 000 tonnes to around 43 million tonnes in 2015/16, slightly below the estimated volume in 2014/15, but 1.5 million tonnes lower than the record level reached in 2013/14. The reduction from 2014/15 is primarily on account of Morocco where wheat purchases are expected to tumble by 1.3 million tonnes to 2.2 million tonnes, following a record harvest this year. By contrast, imports by **Egypt** are set to increase slightly to 11.2 million tonnes,

Figure 4. Wheat imports by selected importers

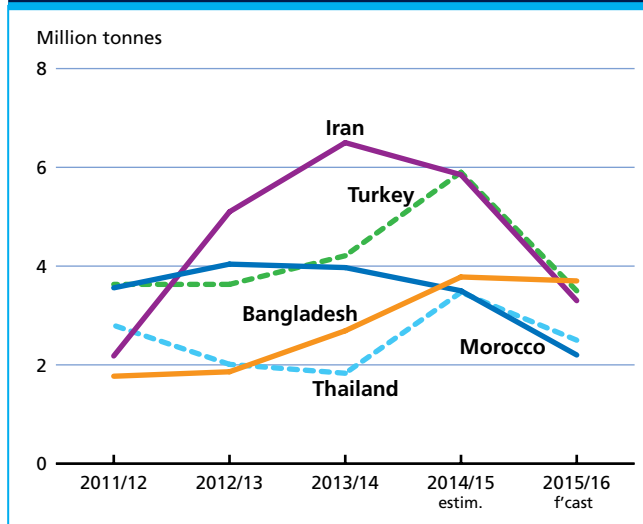


Figure 5. Wheat exports: major exporters

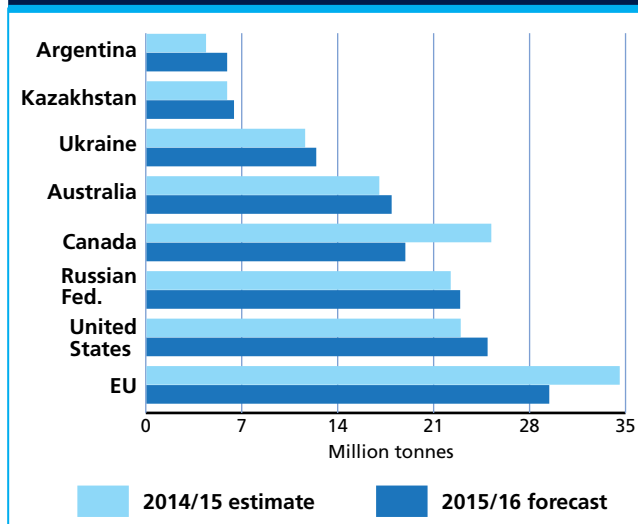
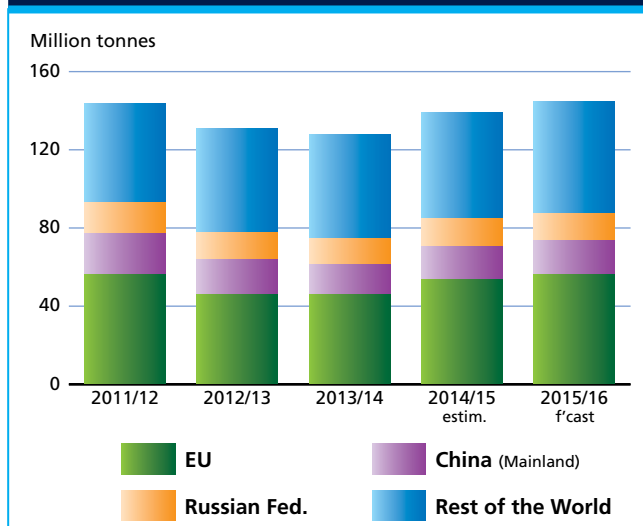


Figure 6. Wheat feed use



given this year's availability of cheaper wheat, especially from the Black Sea. Egypt has recently agreed to export Egyptian cotton to Ukraine in exchange for importing Ukrainian wheat. **Tunisia**, which relies heavily on wheat imports to meet its domestic needs, is expected to bring in more wheat this season, following a below average harvest.

In *Europe*, total imports of wheat are predicted to be marginally higher than in 2014/15, at around 8 million tonnes. Despite the decline in its wheat production, the **EU** is anticipated to purchase nearly the same quantity of wheat as last year. With a crop reduction for common wheat, but an increase for durum, the need for milling quality wheat is expected to remain the same as last season. Aggregate imports in *Latin America and the Caribbean* are forecast slightly above last season, with **Brazil** accounting for most of the increase. Despite a bumper crop this year, Brazil is expected to increase its imports by 13 percent to meet the growing domestic demand and replenish stocks.

Turning to wheat *exports*, **Canada** is forecast to cut its shipments by 6 million tonnes, or 25 percent, in response to a sharp fall in domestic production. Exports from the **EU** are also expected to be 5 million tonnes down from 2014/15; not only because of a decline in this year's production but also due to a stiffer competition from abundant supplies in the Black Sea region. By contrast, **Argentina** is likely to export more wheat, drawing from its relatively large carryover stocks from the previous season. Supported by a record crop and weak national currency, exports from the **Russian Federation** could even exceed last year's record, although the imposition of an export tax since July may dampen this prospect. Exports by **Ukraine** in 2015/16 could also hit a new record given the rapid pace in sales already seen in July and August. Shipments from the **United States** may increase only slightly despite higher production, as the strong US dollar and competition with cheaper wheat from other origins could limit sales.

## UTILIZATION

### A modest growth in total wheat utilization foreseen in 2015/16

Total wheat utilization in 2015/16 is projected in the order of 727 million tonnes, up 2.0 percent from 2014/15. Wheat use for **direct human consumption** is expected at around 491 million tonnes, 1 percent higher than in 2014/15, which is in line with the population growth. Globally, annual per capita wheat consumption is estimated to remain unchanged from last year at around 67 kg. Most of the increase in wheat food use would be concentrated in developing countries, which are anticipated to consume a

total of 355 million tonnes in 2015/16, up 1.2 percent from 2014/15.

Total wheat **feed use** in 2015/16 is forecast to grow by 4.2 percent, to 144 million tonnes, largely driven by stronger demand in Asia and North America. In Asia, most of the anticipated rise is expected to stem from China, where, because of continued high domestic maize prices, low quality wheat along with barley and sorghum are on high demand. In the United States, where maize is the main feed grain, the use of wheat for livestock consumption is also expected to increase this season, mostly because of large availability of low quality wheat. In the EU, traditionally the biggest market for feed wheat, feed use of wheat is set to increase by 2.5 million tonnes, to 55.5 million tonnes, supported also by a fall in this year's maize output in the EU.

## STOCKS

### Highest wheat inventories since 2003

World wheat inventories are forecast to reach 206 million tonnes by the close of crop seasons in 2016, the highest level since 2003 and 3.3 million tonnes above their opening levels. The forecast for ending stocks has been upgraded several times since the beginning of the season, largely in tandem with repeated upward revisions to production forecasts. The latest prediction is also 4 million tonnes higher than FAO's last forecast published in September. Based on the current prospects, the world **wheat stocks-to-use** ratio in 2015/16 would reach 28.9 percent, the highest since 2011/12. The ratio of **major wheat exporters' closing stocks to their total disappearance** (defined as domestic utilization plus exports), which is considered to be a better measure

of availability in global markets, is also expected to reach a quite high level of 16.8 percent, well above the 12.9 percent registered in 2007/08.

The United States is among the countries where this season's ending stock levels are anticipated to increase the most, by 3.3 million tonnes, bringing them to their highest level since 2009/10, at 23.8 million tonnes. Based on a forecast for another record crop this year, ending stocks in the Russian Federation are also set to increase significantly, by 1.3 million tonnes, to 5 million tonnes. Given expectations of lower exports this season, the EU's 2015/16 wheat inventories could rise by 2.5 million tonnes. By contrast, in **Canada**, ending stocks are likely to shrink by 3 million tonnes given the sharp fall in domestic production. Similarly, India is likely to end the season with smaller inventories because of the decline in its production. However, stocks in India still remain above average levels given successive years of bumper crops.

Figure 7. Wheat stocks and ratios





# COARSE GRAINS

Major Coarse Grain Exporters and Importers



## PRICES

### Prices remain close to the 2014 levels

Except for a few sporadic rallies in June, international prices of major coarse grains remained close to those registered in June last year. Planting uncertainties and worries over the impact of excess rains on maize crops in the United States were among the main reasons for the sharp price increases observed earlier in the season. However, large stockpiles carried over from the previous season and a slowing demand, amid an appreciating US dollar and large supplies of feed wheat from the Black Sea, helped to keep a lid on

export prices. The benchmark **United States maize prices (yellow, No. 2, f.o.b.)** averaged USD 166 per tonne in September, nearly unchanged from August and almost the same as in September 2014. At their current levels, maize prices have fallen by as much as 50 percent from their all-time high of USD 330 per tonne in July 2012.

An overall tightening in the world supply-and-demand balance, mostly driven by falling production in the EU and the United States, has kept futures prices firmer than last year. In September 2015, the **Chicago Board of Trade (CBOT) maize futures** for December delivery averaged USD 147 per tonne, down slightly from August but still

Figure 1. Maize export price (US No. 2 yellow, Gulf)

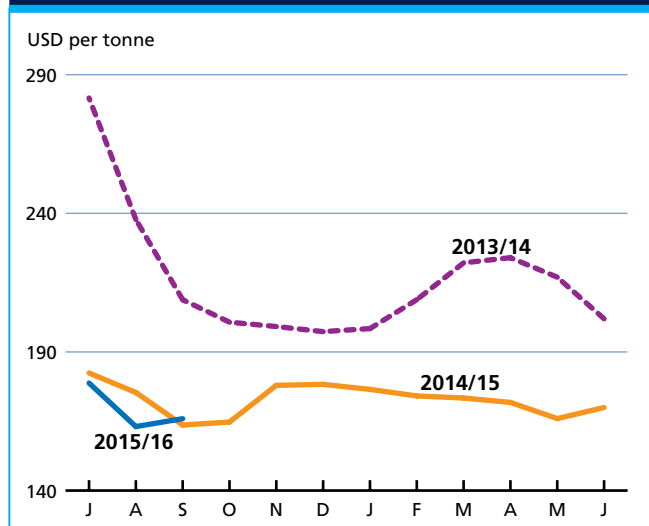
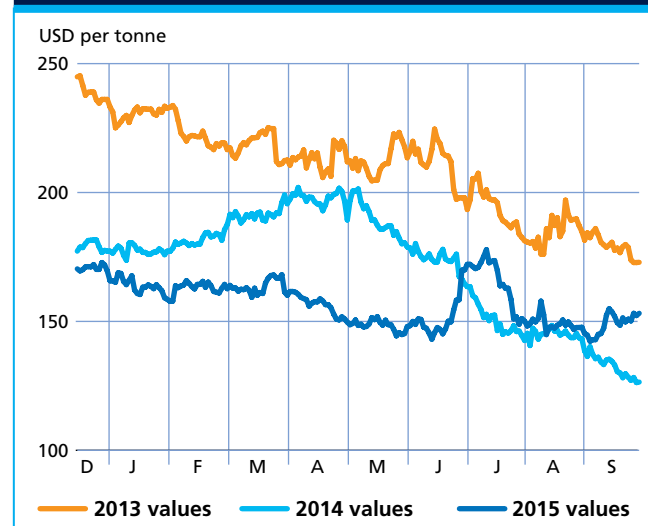


Figure 2. CBOT maize futures for December



11 percent above the corresponding period last year. *More detailed analysis of the futures markets can be found in the Market Indicators section of this report.*

## PRODUCTION

### Coarse grains output in 2015 to fall from last year's record

FAO's forecast for global coarse grains production in 2015 stands at 1 307 million tonnes, about 2 percent lower than the record of 2014, mostly reflecting reduced expectations for maize in the **United States** and the **EU**.

Global maize production in 2015, which accounts for nearly 80 percent of the world's coarse grains output, is forecast at 1 007 million tonnes, which is 22.2 million tonnes or 2.2 percent below the 2014 record. The reduction largely results from lower projections in the **United States** and the **EU**, but the overall decline is partly offset by a larger expected crop in **China**.

Harvesting of the 2015 maize crop in the **United States**, the world's largest producer, began in September, and current indications point to an output of 345 million tonnes, 4.4 percent down from the 2014 record. The decline is mostly attributed to a contraction in plantings, instigated by reduced crop profitability, while yields are forecast to decline only marginally from the high levels of 2014. In **Canada**, production is projected to rebound by 7 percent from the low level of 2014, mainly reflecting an increase in the planted area.

In **Asia**, the latest information confirms a significant production rise in the Far East subregion in 2015. The increase is mostly on account of an improved output in **China**, where supportive government procurement programmes promoted an expansion in maize

plantings. Production is estimated at a record level of 226 million tonnes, almost 5 percent up on the previous year. Elsewhere in Asia, maize production remained similar to the level of 2014, except in **Indonesia**, which registered a 1 million-tonne (5 percent) production gain.

In the **EU**, harvesting of the 2015 maize crop is expected to be finalized by the end of the year, and prospects remain subdued compared with the bumper output of 2014. Following several negative revisions since the preliminary forecasts were made earlier in the year, EU production is expected to fall by 21 percent to a below-average level of 60 million tonnes. A steep reduction in yields, due to hot and dry weather, is mainly behind the sharp decline. In the **Russian Federation**, the 2015 maize production was upgraded to 13 million tonnes, significantly higher than earlier forecasts, and 15 percent greater than the above-average level of the previous year. The production gain this year rests on larger plantings and increased yields, following favourable weather conditions. In **Ukraine**, a price-induced contraction in plantings is largely behind an expected 14 percent production decrease from last year's high level. Current forecasts indicate a maize crop of 24.5 million tonnes.

In **South America**, the main 2015 harvest was completed in July, and the maize output is forecast to expand by 5 percent compared to last year, mostly based on production gains in the two largest producers, **Brazil** and **Argentina**. In Argentina, improved yields more than offset a price-induced contraction in the area planted. In Brazil, increased crop productivity further augmented the positive impact of a forecast expansion in plantings. As a result, this year's country output is expected at a record level of 84 million tonnes, 6.5 percent higher than in 2014. In **Central America and the Caribbean**, aggregate 2015 maize

Figure 3. Coarse grain production and area

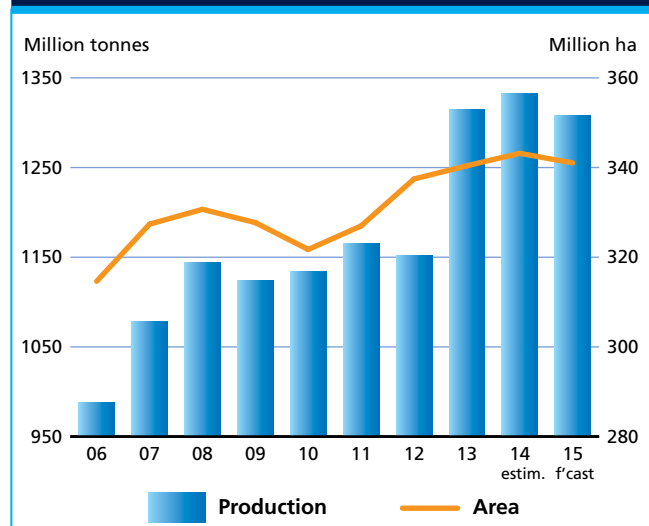


Figure 4. World maize production

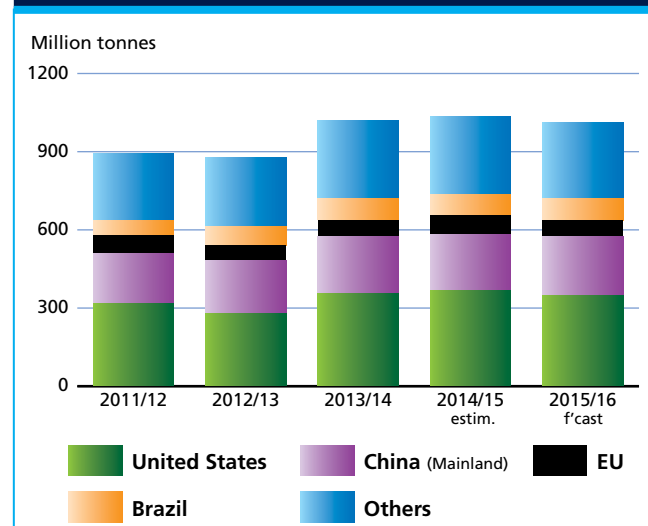


Table 1. World coarse grain market at a glance

|                                                               | 2013/14 | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | Change:<br>2015/16<br>over<br>2014/15                |
|---------------------------------------------------------------|---------|--------------------------|--------------------------|------------------------------------------------------|
| million tonnes                                                |         |                          | %                        |                                                      |
| WORLD BALANCE                                                 |         |                          |                          |                                                      |
| Production                                                    | 1 312.7 | 1 330.6                  | 1 306.5                  | -1.8                                                 |
| Trade <sup>1</sup>                                            | 159.8   | 175.2                    | 169.0                    | -3.6                                                 |
| Total utilization                                             | 1 247.5 | 1 291.7                  | 1 302.6                  | 0.8                                                  |
| Food                                                          | 196.5   | 201.0                    | 203.7                    | 1.3                                                  |
| Feed                                                          | 700.1   | 732.1                    | 741.7                    | 1.3                                                  |
| Other uses                                                    | 350.9   | 358.5                    | 357.2                    | -0.4                                                 |
| Ending stocks                                                 | 236.4   | 269.2                    | 267.6                    | -0.6                                                 |
| SUPPLY AND DEMAND INDICATORS                                  |         |                          |                          |                                                      |
| Per caput food consumption:                                   |         |                          |                          |                                                      |
| World (kg/yr)                                                 | 27.5    | 27.8                     | 27.8                     | 0.2                                                  |
| LIFDC (kg/yr)                                                 | 40.0    | 40.6                     | 40.7                     | 0.0                                                  |
| World stock-to-use ratio (%)                                  | 18.3    | 20.7                     | 20.1                     |                                                      |
| Major exporters stock-to-disappearance ratio <sup>2</sup> (%) | 11.2    | 13.7                     | 12.9                     |                                                      |
|                                                               |         |                          |                          |                                                      |
| FAO COARSE GRAIN PRICE INDEX (2002-2004=100)                  | 2013    | 2014                     | 2015<br><i>Jan-Sep</i>   | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                                               | 246     | 183                      | 162                      | -14.2                                                |

<sup>1</sup> Trade refers to exports based on a common July/June marketing season.

<sup>2</sup> Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States.

<sup>3</sup> Derived from the International Grains Council (IGC) wheat index.

production is put at 29.7 million tonnes, almost 6 percent higher than last year's output. This mainly reflects a record crop of 25.5 million tonnes in **Mexico**. In the rest of the subregion, prospects for the 2015 maize season (first and second crops) are unfavourable. Prolonged dry weather associated with El Niño significantly reduced maize outputs during the main first crop, whose harvest concluded in September, particularly impacting the dry corridor of El Salvador, Guatemala, Honduras and Nicaragua. Prospects for the second maize crop, planted by mid-September, are similarly unfavourable, mainly based on an expected continuation of below-average rains.

In *Southern Africa*, drought conditions at the beginning of 2015 resulted in steep yield reductions, notably in the largest producer, **South Africa**, where production is estimated to have fallen almost 30 percent from the high level of 2014. Dry weather conditions also depressed outputs in most countries of the subregion compared with the 2014 bumper levels. In aggregate, the subregion's 2015 output is estimated at 20.5 million tonnes, 27 percent down from the previous year's good outcome.

The forecast for 2015 world barley production stands at 144 million tonnes, up slightly from 2014. Production declines in the **EU** and the **Russian Federation** were compensated for by larger outputs in **Argentina**, **Morocco** and **Turkey**.

World sorghum production in 2015 is forecast at about 66 million tonnes, 1.2 million tonnes (almost 2 percent) higher than the previous year. The expected rise is attributed to higher projected outputs in the **United States** and **Australia**, more than offsetting an anticipated fall in the **Sudan**.

## TRADE

### World trade in decline

Global trade (exports) in coarse grains in 2015/16 (July/June) is forecast at 169 million tonnes, down 3.6 percent from the record high of just over 175 million tonnes in 2014/15. Among the major coarse grains, world trade in **maize** is expected to reach 126 million tonnes, down 1.6 percent from the previous season's record, but still the second highest. Shipments of **barley** are heading for a 13 percent decline from the exceptionally high 2014/15 level of 29 million tonnes, to 25.5 million tonnes. Trade in **sorghum** is put at 12.5 million, down 2.4 percent. For other coarse grains, the variation in trade volumes from the previous season is expected to be small.

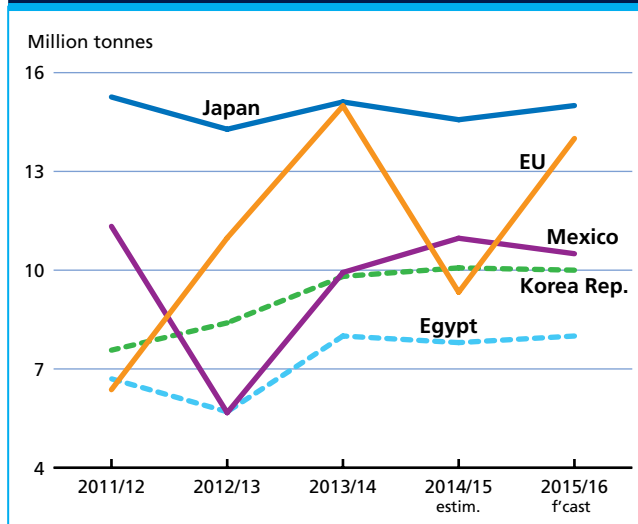
Total imports in *Asia*, the most important continent for coarse grains trade, are put at 94 million tonnes, down just over 5 million tonnes from the previous season, with most

Table 2. Coarse grains production: leading producers\*

|                    | 2013           | 2014<br>estim. | 2015<br>f <sup>cast</sup> | Change:<br>2015 over<br>2014 |
|--------------------|----------------|----------------|---------------------------|------------------------------|
|                    | million tonnes |                |                           | %                            |
| United States      | 367.4          | 377.4          | 366.0                     | -3.0                         |
| China (Mainland)   | 227.9          | 225.2          | 235.9                     | 4.8                          |
| European Union     | 158.9          | 170.2          | 149.3                     | -12.3                        |
| Brazil             | 83.5           | 82.1           | 87.3                      | 6.3                          |
| India              | 43.2           | 42.0           | 42.6                      | 1.5                          |
| Argentina          | 40.9           | 39.9           | 41.5                      | 4.0                          |
| Russian Federation | 36.6           | 41.7           | 40.0                      | -4.0                         |
| Ukraine            | 40.5           | 39.5           | 34.4                      | -12.8                        |
| Mexico             | 30.7           | 31.8           | 33.4                      | 4.8                          |
| Canada             | 28.8           | 22.0           | 23.5                      | 6.7                          |
| Indonesia          | 18.5           | 19.0           | 20.0                      | 5.2                          |
| Nigeria            | 18.4           | 19.5           | 19.2                      | -1.2                         |
| Ethiopia           | 18.5           | 19.2           | 17.9                      | -6.8                         |
| Turkey             | 14.5           | 12.9           | 15.0                      | 15.9                         |
| South Africa       | 13.0           | 15.6           | 11.1                      | -28.9                        |
| Other countries    | 171.3          | 172.5          | 169.4                     | -1.8                         |
| <b>World</b>       | <b>1 312.7</b> | <b>1 330.6</b> | <b>1 306.5</b>            | <b>-1.8</b>                  |

\* Countries listed according to their position in global production (average 2013-2015)

Figure 5. Maize imports: major importers



of the decline attributed to the Islamic Republic of Iran and China. In the **Islamic Republic of Iran**, maize and barley imports are likely to be curtailed this season, due to large carryovers from the previous season and this year's favourable output. Maize imports are forecast at 5 million tonnes, 2 million tonnes lower than in 2014/15, and barley imports at 1.7 million tonnes, some 500 000 tonnes lower than in 2014/15. In **China**, maize imports are likely to reach 3.5 million, down slightly from the previous season's level, given the prospect for another record crop this year and a massive stockpile. China's imports of maize substitutes, such as barley and sorghum, which peaked in 2014/15, could also decline by around 1.4 million tonnes, but remain well above-average, given their more attractive prices compared with maize in the domestic market. In August, the Government announced that, from September 2015, importers of barley and sorghum as well as dried distillers grains (DDGs) would need to register their purchases. Imports of coarse grains (mainly maize) by **Indonesia** are forecast to decline by at least 700 000 tonnes to 3 million tonnes, supported by expectations of record production and the Government's decision to suspend the issuance of new import licenses for feed mills from August 2015 until further notice.

By contrast, Japan and Saudi Arabia are forecast to import more coarse grains in 2015/16 than in the previous season. Maize imports by **Japan** are projected at 15 million tonnes, up 400 000 tonnes from 2014/15, helped by lower international prices. In **Saudi Arabia**, the world's largest barley importer, this season's imports are projected to remain similar to the previous year's level of 8.5 million tonnes, as the anticipated rise in domestic feed demand is expected to be met by higher maize imports, now forecast to increase by 600 000 tonnes over the

Figure 6. Coarse grain exports: major exporters

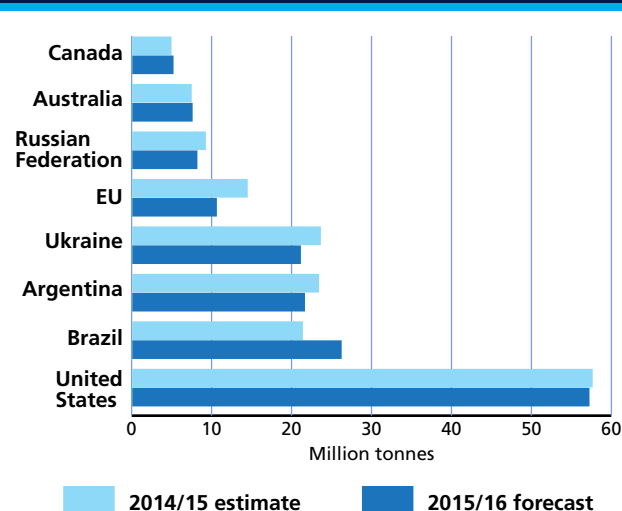


Figure 7. Barley imports: major importers

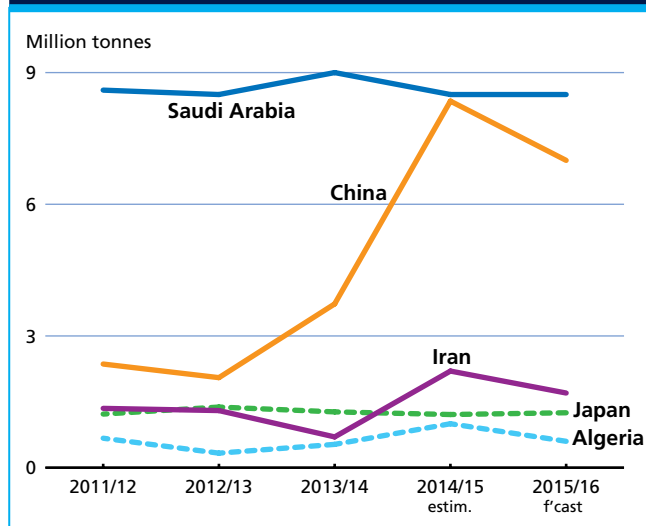


Figure 8. Sorghum imports: major importers

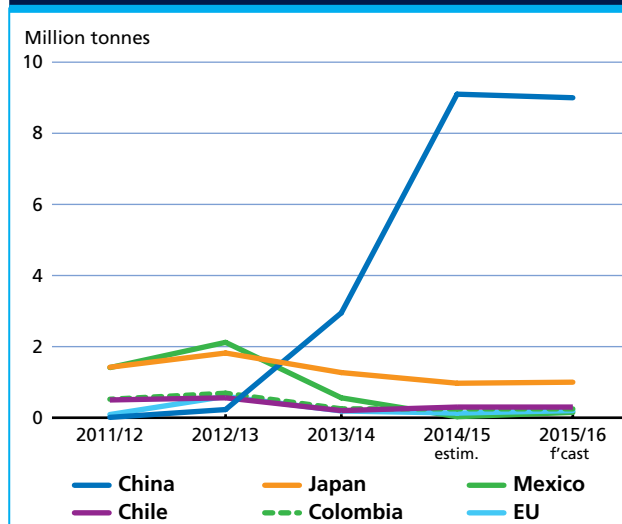


Table 3. Maize use for ethanol (excluding non-fuel) in the United States

|                    | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15*<br>estim. | 2015/16*<br>(f'cast) |
|--------------------|---------|---------|---------|---------|---------|---------|--------------------|----------------------|
| Thousand tonnes    |         |         |         |         |         |         |                    |                      |
| Maize production   | 307.142 | 332.550 | 316.166 | 313.956 | 273.188 | 351.270 | 361.101            | 345.073              |
| Ethanol use        | 93.396  | 116.616 | 127.538 | 127.005 | 117.886 | 130.155 | 132.212            | 133.355              |
| Yearly change (%)  | 21      | 25      | 9.4     | -0.4    | -7.2    | 10.4    | 1.6                | 0.9                  |
| As % of production | 30      | 35      | 40.3    | 40.5    | 43.2    | 37.1    | 36.6               | 38.6                 |

Source: WASDE-USDA \* 11 September 2015

previous season, to 3.6 million tonnes. This reflects recent efforts by the Government to limit the growth in imports of barley for livestock feed.

In *Africa*, total imports of coarse grain (mostly maize) are forecast at 23.4 million tonnes in 2015/16, up 1.7 million tonnes from 2014/15. Aggregate imports by countries in northern Africa are forecast to increase slightly, to 18.2 million tonnes, with higher maize deliveries to **Algeria** and **Egypt** accounting for all of the increase. By contrast, imports of barley are seen falling in **Algeria** and **Morocco**, more than offsetting an increase in **Tunisia** due to a drop in its domestic production. Imports of coarse grains into sub-Saharan Africa are forecast to surge by 1.4 million tonnes, with maize accounting for most (1.2 million tonnes) of it. Maize imports are projected to rise sharply, particularly in **South Africa** and **Zimbabwe**, because of smaller domestic harvests. In the **Sudan**, imports of sorghum are forecast to exceed last season's level due to a fall in domestic production.

In *Europe*, aggregate imports of coarse grains are forecast to rise sharply, by 4.8 million tonnes from the previous season's level, to reach 16.2 million tonnes. Almost all of this increase is expected in the **EU**, where imports in 2015/16 are forecast to rebound to 14.8 million tonnes (mostly maize) following this year's sharp fall in maize production because of hot and dry weather conditions.

Total imports of coarse grains by countries in *Latin America and the Caribbean* are forecast to decrease slightly in 2015/16, to nearly 30 million tonnes, mostly on much larger production results. In **Mexico**, the region's largest coarse grain importer, this season's maize imports are projected at 10.5 million tonnes, down 470 000 from the previous year, reflecting this year's anticipated bumper crop. Mexico's import of sorghum could increase slightly but, given the large supplies of maize, would still remain well below average.

Regarding **exports**, large supplies in several exporting countries are likely to intensify competition for market share, especially in light of the projected contraction in world import demand this season. Among the major exporters, only **Brazil** is seen to increase its sales this

season, by almost 5 million tonnes, to 25.5 million tonnes (all maize), supported not only by record domestic production but also a weaker currency which increases the country's export competitiveness. Shipments from the world's largest coarse grains exporter, the **United States**, are forecast at 56.5 million tonnes in 2015/16 (July/June), down slightly from the previous season as lower maize sales are expected to more than offset an increase in sorghum shipments. However, the largest decline is expected for the **EU**, where total shipments could be down by nearly 4 million tonnes from 2014/15, with exports of both barley and maize lower than in the previous season. Smaller barley and maize sales are also forecast for **Ukraine**, where this year's total shipment could decline to 20.4 million tonnes from almost 23 million tonnes in 2014/15. Other important exporting countries that may ship less coarse grains this season include the **Russian Federation**, where barley exports are expected to be lower, and **Argentina** and **South Africa**, which may cut their maize exports below the previous season's levels.

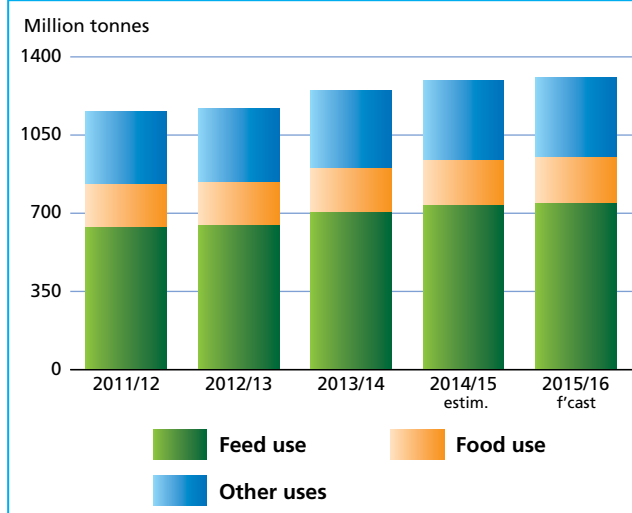
## UTILIZATION

### World utilization up slightly

Total utilization of coarse grains is forecast to increase by only 0.8 percent from 2014/15, to 1 303 million tonnes in 2015/16, a sharp slowdown from the estimated 3.5 and 7 percent growth registered respectively in 2014/15 and 2013/14. Lower world production in 2015 is much behind the slower growth in feed and industrial uses. Total use of maize is forecast 1 005 million tonnes, 1.5 percent up from the previous season, while utilization of barley may increase slightly to 142 million tonnes, and that of sorghum fall by 2.6 percent, to 64.4 million tonnes.

Global **feed** utilization of coarse grains in 2015/16 is forecast up 1.3 percent from 2014/15 to 742 million tonnes. As the most important source of feed, usage of coarse grains by the livestock sector has been growing steadily. However, its year-on-year increases are influenced by the amount of feed wheat available in some markets (i.e. in the EU), the supply of other feed ingredients

Figure 9. Coarse grain utilization



such as cassava, and distilled dried grains (DDGs), which are the by-products of maize-ethanol production. Among the leading markets, feed use of grains in the United States and the EU may rise slightly above last season's record, to around 140 million tonnes and 122 million tonnes, respectively. In China, feed use of coarse grains may reach 155 million tonnes, up 1.3 percent from 2014/15 as compared with a 9 percent surge in the previous season. Continued high domestic prices and a sluggish prospect for animal production growth are the reasons for the slowdown. Total feed use in the Commonwealth of Independent States (CIS) is put at about 43 million tonnes, unchanged from the previous season. Feed use in Argentina and Mexico is expected to register a relatively strong growth, supported by larger domestic supplies, but, in Brazil, the expansion is likely to be less pronounced than in recent years.

Total **food** consumption of coarse grains is forecast to increase by 1.3 percent in 2015/16, to almost 204 million tonnes. While, globally, food use of coarse grains accounts for only 18 percent of the total, the use of coarse grains remains a significant staple food in a number of countries in Africa, Asia, and Latin America and the Caribbean. Among the individual coarse grains, maize food use is largest and it is forecast to rise to 129 million tonnes in 2015/16, up 1.3 percent from the previous season. In Africa, it could reach 47 million tonnes, just over 1 percent higher than in 2014/15. In Asia, the year-on-year growth is put at only 0.4 percent, with total maize for human consumption forecast at 39 million tonnes, while in Latin America and the Caribbean, it is expected to reach 31 million tonnes, 1 percent higher than in 2014/15.

Total use of coarse grains for **industrial** processing is currently projected at around 304 million tonnes in

2015/16, which would be around 1 percent over the previous season's estimated level. According to the latest (September) estimates from the International Grains Council (IGC), maize continues to account for the bulk of industrial usage of coarse grains, at around 267 million tonnes, with nearly 163 million tonnes used just for the production of fuel ethanol. Based on the latest (September) forecasts by the United States Department of Agriculture (USDA), maize use for biofuel production in the United States could attain 133.2 million tonnes, up 0.9 percent from the recently revised 2014/15 estimate. Biofuels would absorb almost 38.6 percent of the currently projected domestic maize production in the United States, up from 36.6 percent last year. In addition, a strong world demand for starch is seen to boost the use of maize for starch production in 2015/16 to 100 million tonnes, up 2 percent from the previous season and a record, with most of the increase in China, where the total use of coarse grains for starch production could reach 43 million tonnes, at least 4 percent more than in 2014/15.

## STOCKS

### Small decrease in world stocks

Based on the latest forecasts for 2015 production and 2015/16 utilization, world coarse grain stocks by the close of seasons in 2016 are forecast at 267.6 million tonnes, down marginally from their all-time high opening level of 269.2 million tonnes. Consequently, the **world stocks-to-use ratio** for coarse grains is forecast to fall slightly, from 20.7 percent in 2014/15 to 20.1 percent in 2015/16. The ratio remains well above the low of 15.4 percent registered in 2003/04. Successive years of good production levels

Figure 10. Coarse grain stocks and ratios





in a number of major producing countries have boosted the level of stocks at the global level and, while world production this year is forecast to fall, it would still exceed the projected utilization in 2015/16.

Total inventories of the major exporters are forecast to fall to around 100 million tonnes, down 6.6 million tonnes, or 6 percent from their opening level. As a result, the **major exporters' stocks-to-disappearance ratio** (i.e. domestic consumption plus exports) in 2015/16 is also expected to decline to 12.9 percent from 13.7 percent in 2014/15. In the United States, an anticipated increase in sorghum inventories will not be sufficient to offset a decline in maize stocks, which are likely to decrease because of lower production. As a result, total carryovers in the United States are forecast to shrink by about 2.8 million tonnes, though still at the second highest level since 2009/10. Similarly, lower inventories are anticipated in the EU and Ukraine, following this year's expected production fall. By contrast, another record maize crop in Brazil is likely to lift the country's inventories for the third consecutive year, to 13.9 million tonnes. Variations in stocks in other major exporting countries are likely to be small.

With the notable exception of China, stocks held in most other countries are forecast to remain below or around their opening levels. In China, coarse grain inventories are heading for their fifth consecutive increase, possibly climbing to 107 million tonnes, or 6 million tonnes higher than their already elevated opening level. Maize inventories account for the bulk of China's coarse grain stocks and are forecast to increase to 103 million tonnes by the end of this season, supported not only by a record crop but also a slower growth in demand. The high domestic price, which has encouraged farmers to expand production of maize in recent years, is the main reason for the growing stockpile in China. In September, the Government cut the price at which it buys maize for state reserves from northeastern provinces (China's leading maize producing region) by about 10 percent, while also announcing plans to offer subsidies for building more storage facilities.





# RICE

Major Rice Exporters and Importers



## PRICES

### International rice prices keep falling

In spite of the setbacks that afflicted paddy crops in 2015 in numerous countries, international rice prices have declined virtually every month since September 2014, in line with the tendencies prevailing in grains markets. The price slump reflected a sluggish import demand, especially in Asia, where major importers looked well supplied, and in Africa, due to a weakening of exchange rates and more difficult access to official foreign exchange reserves. Policies aimed at curbing the size of large public rice inventories in India

and Thailand, the two leading rice exporting countries, also contributed to the price slide. Accordingly, the FAO All Rice Price Index averaged 206 points in September 2015, 3.5 points or 1.7 percent down from the previous month and 16 points or 7.1 percent below January 2015. The tendency for prices to fall was general, dominating all market segments, particularly the higher quality indica and the aromatic rice varieties, which have seen their respective sub-indices shed 17 points (8.9 percent) and 21 points (11.3 percent), respectively, since January. Export prices fell in most origins, as competition for markets intensified, also influenced by the strength of the US dollar. For instance,

Figure 1. Export prices for aromatic rice

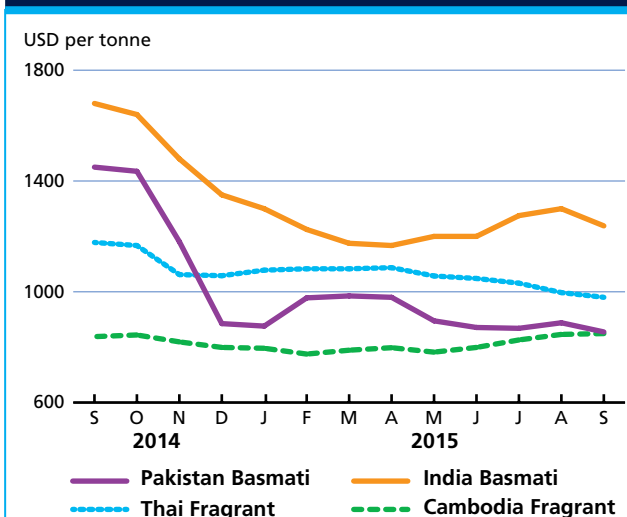
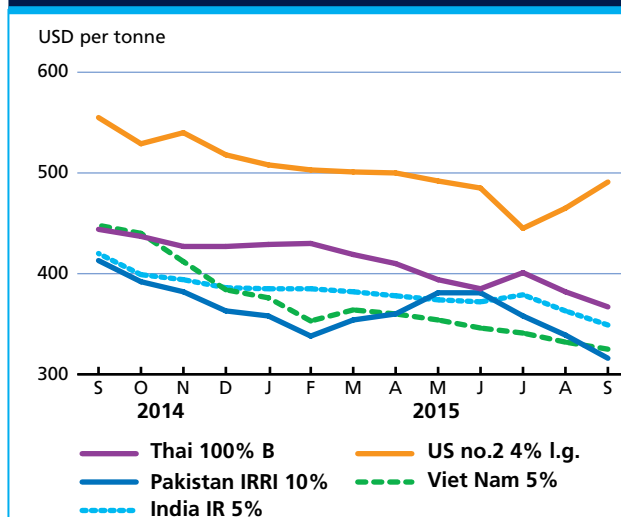


Figure 2. Export prices for higher-quality indica rice



the benchmark Thai 100% B rice, fob Bangkok, was quoted at USD 367 per tonne in September 2015, 14.5 percent below the USD 429 per tonne reported in January 2015. Prices have also been under pressure in India, Pakistan and Viet Nam, with especially sharp falls registered for India and Pakistan's basmati rice as a result of larger production and softening demand. The market weakness was also manifest in the other major export origins, including the United States, Uruguay, Brazil and Egypt.

## PRODUCTION<sup>2</sup>

### Global rice production in 2015 beset by abnormal weather conditions

At this time of year, the 2015 paddy season is already well advanced, with only the secondary crops in the Northern Hemisphere awaiting cultivation. The season has virtually closed in the Southern Hemisphere and is about to conclude in those Northern Hemisphere countries growing a single paddy crop.

Since September, FAO has scaled back its forecast for global rice production in 2015 by close to 8 million tonnes, much on account of *Asian* countries, where the season has been marred by erratic climatic conditions, attributed to the prevalence of an El Niño weather anomaly since early 2015. The phenomenon, which has been mostly associated with delayed and deficient precipitation, has been predicted to intensify in the coming months, before waning in the second quarter of 2016. If confirmed, its effects would bear heavily on those crops that are sown in the last quarter of 2015 and early next year. Against this background, 2015 production prospects in the region deteriorated somewhat in **Indonesia**, currently in the grip of a drought that could impair the crops due for harvest in the coming months. Production forecasts in **Cambodia**, **India** and **Thailand** were also downgraded, on insufficient or untimely rainfall, and in **Myanmar**, following excessive rains and floods in July. In the other regions, anomalous weather conditions also called for a lowering of the 2015 production forecasts in *North America* (**United States**) and *Africa* (**Madagascar** and **Ghana**). By contrast, prospects for 2015 crops have improved since last month in *Europe* (**EU**) and in *Latin America and the Caribbean*. In the latter, the upgrade ensued from more buoyant crop results than originally foreseen in South America (**Brazil**, **Colombia**, **Guyana** and **Peru**), which compensated for worsening expectations in Central America and the Caribbean (**Cuba**, **Honduras**, **Nicaragua**), where late and poor rainfall affected crops for the second consecutive season.

<sup>2</sup> Production figures are all expressed in milled rice equivalent, unless stated otherwise.

At the current forecast of 493.0 million tonnes, *global* rice production (milled basis) would be 1.9 million tonnes, or 0.4 percent lower than the current estimate for 2014, implying a second year of mute or negative growth. In *Asia*, about 446.2 million tonnes are forecast to be harvested, marginally below the already poor outcome of the 2014 season. Indeed, many countries in the region have endured adverse climatic conditions since the onset of the season. Particularly affected has been **Thailand**, where the main crop has been hindered by late and insufficient precipitation. The deficient rainfall, which resulted in a low filling of reservoirs, is also likely to jeopardize the largely irrigated secondary crop due for planting in the next few months, especially as the Government is considering banning its cultivation. In **India**, an erratic unfolding of the monsoon rains may curb production somewhat below the already poor 2014 performance, bringing it to its lowest level since 2010. Contraction is also forecast for the **Democratic Republic of Korea**, **Nepal**, **Pakistan**, the **Philippines**, the **Republic of Korea** and **Viet Nam**, because of abnormal weather conditions or unremunerative producer prices. On the other hand, widespread flood problems in July are anticipated to depress **Myanmar's** production by 1.7 percent, a relatively small decline that assumes a large part of the damaged fields will be replanted. These countries' shortfalls are anticipated to be partly offset by sizable production gains in **Bangladesh**, **China (mainland)**, **Indonesia** and **Sri Lanka**. In **China (mainland)**, notwithstanding some dry spells depressing the first (early) crop, a good outturn under the main (intermediate) crop is expected to sustain a modest 0.5 percent expansion in overall production. Crops in the southern parts of **Indonesia** are currently suffering

Figure 3. Global rice paddy production and area

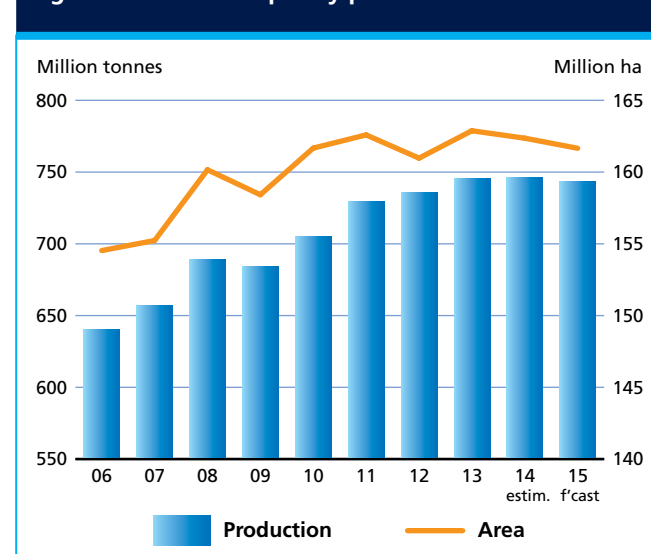


Table 1. World rice market at a glance

|                                                               | 2013/14 | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | Change:<br>2015/16<br>over<br>2014/15                |
|---------------------------------------------------------------|---------|--------------------------|--------------------------|------------------------------------------------------|
| million tonnes                                                |         |                          | %                        |                                                      |
| WORLD BALANCE                                                 |         |                          |                          |                                                      |
| Production                                                    | 494.5   | 494.9                    | 493.0                    | -0.4                                                 |
| Trade <sup>1</sup>                                            | 45.3    | 44.0                     | 45.0                     | 2.2                                                  |
| Total utilization                                             | 483.3   | 494.3                    | 499.9                    | 1.1                                                  |
| Food                                                          | 391.5   | 397.0                    | 402.3                    | 1.3                                                  |
| Ending stocks                                                 | 170.3   | 170.3                    | 164.3                    | -3.5                                                 |
| SUPPLY AND DEMAND INDICATORS                                  |         |                          |                          |                                                      |
| Per caput food consumption:                                   |         |                          |                          |                                                      |
| World (kg/yr)                                                 | 54.5    | 54.6                     | 54.7                     | 0.2                                                  |
| LIFDC (kg/yr)                                                 | 58.8    | 59.1                     | 59.2                     | 0.2                                                  |
| World stock-to-use ratio (%)                                  | 34.4    | 34.1                     | 32.3                     |                                                      |
| Major exporters stock-to-disappearance ratio <sup>2</sup> (%) | 28.8    | 23.4                     | 17.6                     |                                                      |
|                                                               |         |                          |                          |                                                      |
| FAO RICE PRICE INDEX<br>(2002-2004=100)                       | 2013    | 2014                     | 2015<br><i>Jan-Sep</i>   | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                                               | 233     | 235                      | 215                      | -9.2                                                 |

<sup>1</sup> Calendar year exports (second year shown).

<sup>2</sup> Major exporters include India, Pakistan, Thailand, the United States and Viet Nam.

Table 2. Rice Production: leading producers \*

|                  | 2013                              | 2014<br>estim. | 2015<br>f'cast | Change:<br>2015 over<br>2014 |
|------------------|-----------------------------------|----------------|----------------|------------------------------|
|                  | million tonnes, milled equivalent |                |                | %                            |
| China (Mainland) | 139.5                             | 141.5          | 142.1          | 0.5                          |
| India            | 106.7                             | 104.8          | 103.8          | -0.9                         |
| Indonesia        | 44.7                              | 44.4           | 45.8           | 3.0                          |
| Bangladesh       | 34.1                              | 34.5           | 34.6           | 0.2                          |
| Viet Nam         | 28.6                              | 29.2           | 29.0           | -0.7                         |
| Thailand         | 24.3                              | 22.7           | 21.3           | -6.0                         |
| Myanmar          | 17.0                              | 17.3           | 17.0           | -1.7                         |
| Philippines      | 12.3                              | 12.4           | 12.0           | -3.1                         |
| Brazil           | 8.0                               | 8.2            | 8.5            | 2.7                          |
| Japan            | 7.9                               | 7.8            | 7.8            | -0.5                         |
| Pakistan         | 6.8                               | 7.0            | 6.8            | -2.4                         |
| United States    | 6.1                               | 7.1            | 6.0            | -14.9                        |
| Cambodia         | 5.6                               | 5.6            | 5.5            | -1.5                         |
| Egypt            | 4.2                               | 4.3            | 4.1            | -5.3                         |
| Korea Rep. of    | 4.2                               | 4.2            | 4.1            | -4.4                         |
| World            | 494.5                             | 494.9          | 493.0          | -0.4                         |

\* Countries listed according to their position in global production (average 2013-2015)

from an extensive drought problem. Nonetheless, the Government is predicting that the country will achieve a record output in 2015, as the bulk of the crops has been already collected with excellent results. A strengthening of El Niño in the coming months would most likely impact the 2016 crops, soon to be planted, by limiting the availability of water in reservoirs. Owing to a favourable weather pattern, production in **Sri Lanka** is forecast to stage a full recovery from the 2014 drought-induced shortfall, possibly reaching a record high this season.

Prospects for 2015 production point to a decline in *Africa*, where 18.5 million tonnes are expected to be harvested, 1.5 percent less than the excellent 2014 season result. Much of the contraction would stem from production drops in **Egypt** and **Madagascar**, two of the most important producers in the region, due, in the former, to excessively high temperatures damaging yields, and, in the latter, to the late arrival and erratic distribution of the rains. Poor and irregular precipitation is also behind expectations of declines in **Nigeria** and **Ghana**. Part of these falls will be compensated by increases elsewhere, especially in western Africa, spearheaded by gains in **Mali** and **Guinea**. In *North America*, the harvest is about to be concluded in the **United States**. According to the latest US Department of Agriculture forecast, a reduction in both plantings and yields is expected to bring milled production in the country down by a marked 15 percent to 6.0 million tonnes. The decline, which mostly concerned long grain rice varieties, is largely attributed to low domestic prices, erratic rainfall and restrictions on the use of irrigation water in California. In *Oceania*, the 2015 crop was already harvested in the first half of the year in **Australia**. Official forecasts for the country confirm a 12 percent drop of output, as producers cut plantings in reaction to the high prices charged for irrigation. Prospects for production are more positive in the other regions. In *Latin America and the Caribbean*, good crops in South America, especially in **Brazil**, **Colombia** and **Peru**, are expected to foster a 2.6 percent increase, bringing the region's total to 19.2 million tonnes. This would be notwithstanding a 4 percent contraction in Central America and the Caribbean, where most producers have been negatively affected by prolonged droughts, especially in **Cuba** and **Nicaragua**. In *Europe*, excellent crop results in Italy, but also in Spain and Greece are expected to boost output in the **European Union** by 4.5 percent to 1.8 million tonnes. Prospects for the **Russian Federation**, where the harvest is underway, point to an average crop, little changed from last season.

## TRADE

### An upturn of global import demand behind the forecast recovery of world trade in 2016

FAO's estimates of rice trade (milled basis) have been revisited to take rice flows that fail to be recorded in the official customs statistics into better consideration. This raised the estimate of volume exchanged internationally to 45.3 million tonnes in 2014 (January–December), 2.6 million tonnes more than previously reported and an all-time high. Likewise, trade forecasts for 2015 and 2016 have also been adjusted upwards, now suggesting a 3.0 percent contraction to 44.0 million tonnes in 2015, followed by a 2.2 percent recovery to 45.0 million tonnes in 2016.

The fall in rice trade in 2015 will be mostly import-driven, as availabilities are still large among exporting countries. Instead, rice import demand has softened compared to the 2014 high, largely reflecting the abundance of supplies held by major importing countries, the result of either good harvests or large purchases last year, which helped them refurbish reserves. The declines may be particularly pronounced for countries in *Asia*, especially **Bangladesh, China (Mainland), Indonesia** and **Sri Lanka**. In the case of **China (Mainland)**, now estimated to be the most important destination of rice trade, inflows have been constrained by the tightening of border controls aimed at stalling the entry of unrecorded rice from neighbouring countries, such as Myanmar and Viet Nam. In addition, to have access to the low duty import quota, Chinese traders are reportedly required to purchase a proportional amount of rice from government inventories at official procurement prices. As a result, China (Mainland) is now forecast to import 5.7 million tonnes, of which only 2.7 million tonnes officially. Deliveries to *African* countries are also likely to dip in 2015, partly on account of **Nigeria**, where traders have more difficult access to foreign exchange reserves. In the region, **Benin, Guinea, Madagascar, Tanzania** and **Senegal** are also expected to buy less. By contrast, shipments to countries in *Latin America and the Caribbean* are foreseen to rise, sustained mainly by large imports by **Cuba** and **Colombia**, needed to compensate for reduced output. However, a depreciating currency is likely to curtail imports by **Brazil**. In the other regions, the **United States** and, in particular, the **EU** look set to step up their rice purchases. The expected decline in rice trade flows in 2015 would mostly impact **Thailand's** exports, which are anticipated to drop by over 10 percent, largely reflecting a loss of market share in Africa, especially in the parboiled rice segment. Sales by **India, Myanmar** and **Viet Nam** are also forecast to fall,

Figure 4. World rice trade and FAO rice export price index

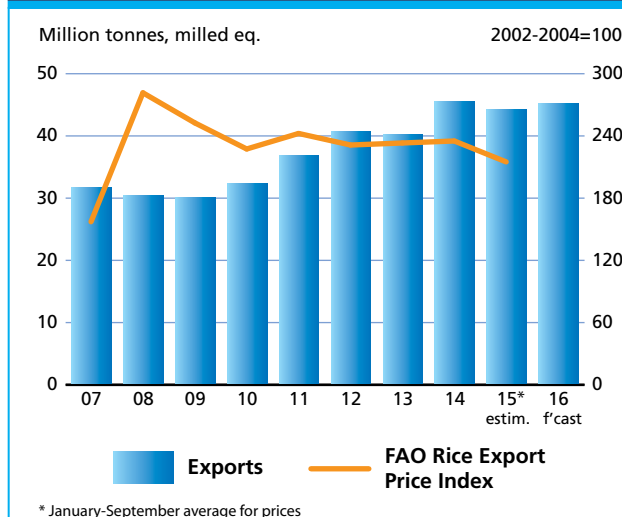


Figure 5. Rice imports in China

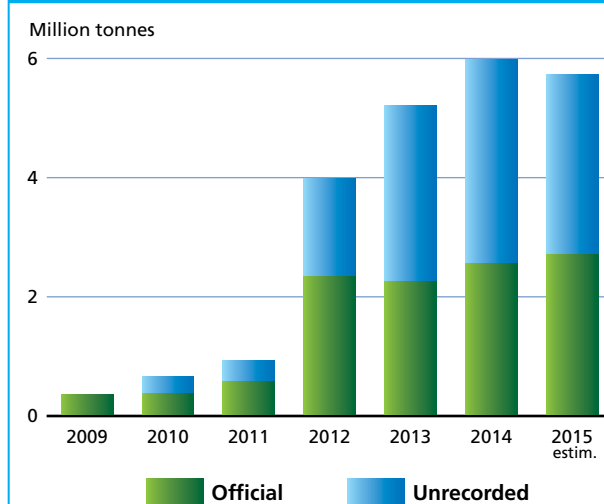


Figure 6. Rice imports by region

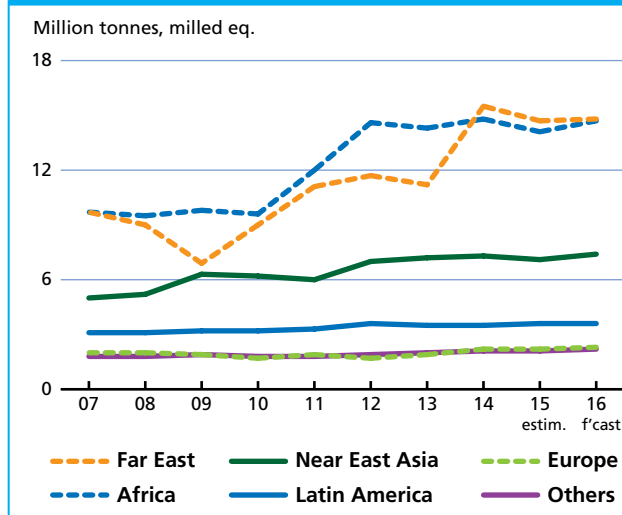
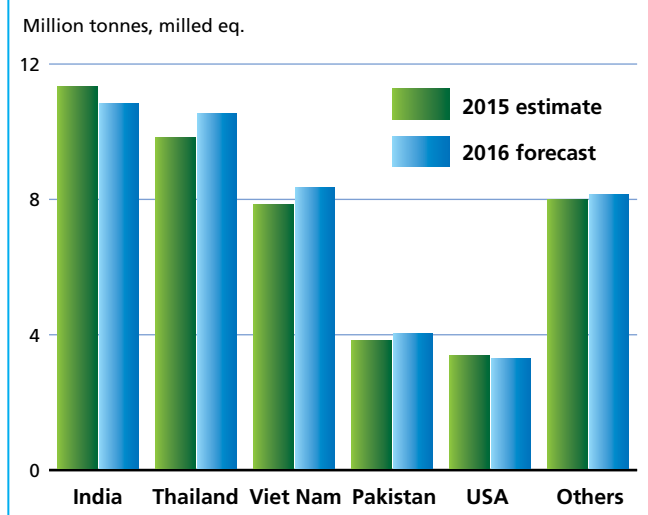


Figure 7. Rice exports by the major exporters



in the case of Myanmar, largely because of the imposition of an export ban between August and September-October. The weakening of demand by Brazil will also weigh negatively on exports by **Argentina, Paraguay** and **Uruguay**. By contrast, those by **Cambodia, Pakistan** and the **United States** are anticipated to rise.

Although still preliminary, the **2016** trade forecast points to a 2.2 percent growth to 45.0 million tonnes, implying an only partial recovery, as many importing countries remain committed to achieving rice self-sufficiency and strive to contain their purchases. Nonetheless, the rebounding of trade is likely to be led by import demand by large traditional buyers. A tightening of supplies or rising domestic prices are expected to foster an increase of deliveries to **Indonesia**, the **Democratic Republic of Korea**, the **Islamic Republic of Iran**, **Nigeria** and the **Philippines**. Although more expensive local rice will continue to make importing rice attractive, deliveries to **China** are anticipated to drop again next year, as control from the government may again curb informal inflows. Imports by *African countries*, led by **Nigeria**, may also rebound in 2016, as they will be needed to relieve market tightness. Overall, shipments to countries in *Latin America and the Caribbean* look set to remain stable in 2016, as larger inflows to Central America and the Caribbean offset a decline in South America, where **Bolivia, Brazil** and especially **Colombia** are expected to buy less.

With a few exceptions, traditional exporters are expected to respond to the firming of global import demand by stepping up their deliveries in 2016. In absolute terms, the increases will be largest for **Thailand** and, especially, **Viet Nam**, where exports would be boosted by the currently foreseen surge of imports by Indonesia

and the Philippines, Viet Nam's traditional markets.

**Cambodia, Myanmar** and **Pakistan** are also expected to benefit from the trade expansion and ship more next year. By contrast, **India** may face a decline, while still exporting 10.8 million tonnes, especially if, after two years of production shortfalls, rising domestic prices start eroding the country's rice competitiveness. Smaller availabilities could bring down sales by the **United States, Brazil** and **Egypt**. The non-renewal in 2016 of the Petro-Caribe bilateral agreement with Venezuela may also result in falling rice exports by **Guyana**.

## UTILIZATION

### Food continues to drive rice consumption growth

World rice utilization in 2015/16 is forecast at some 500 million tonnes (milled basis), 1.1 percent, or 6 million tonnes, more than the previous year. Growth would be sustained principally by a 1.3 percent increase in consumption as food, to 402.3 million tonnes, while strong competition from other grains and feedstuffs may dampen growth in rice use in animal rations. In Thailand, however, the utilization of rice as a feed ingredient is anticipated to keep rising vigorously, as large supplies drawn from public stocks have depressed domestic prices, making low quality rice competitive with coarse grains. Likewise, feed utilization of rice is expected to keep on a rising trend in Japan, since, in addition to sizeable stock releases, the government offers incentives to produce rice specifically for feed. As for food, the world average per capita rice consumption is forecast to reach 54.7 kg in 2015/16, up slightly from 54.6 kg in 2014/15, facilitated by falling retail prices in Asia. These values are about 3 kg less than what was estimated and reported in previous issues of Food Outlook. Indeed, the pattern of rice utilization has been reviewed for many countries, which has resulted in a scaling-up of historical estimates of feed and other utilizations at the world level.

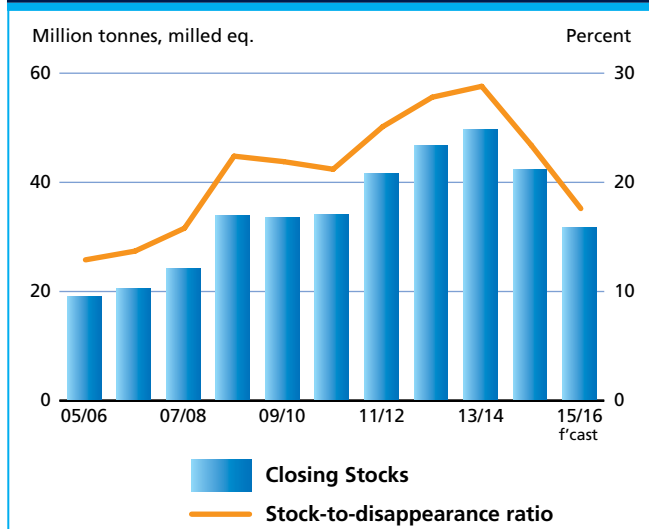
## STOCKS

### World rice inventories to decline, particularly in the major exporting countries

Global production is currently expected to fall short of utilization in 2015/16, which would require the difference to be covered by existing reserves. This could bring world rice inventories down by 3.5 percent, or almost 6 million tonnes, to 164.3 million tonnes in 2016. As a result, the world rice stock-to-use ratio, an important indicator of food security, is estimated to fall from 34.1 percent in 2015 to 32.3 percent in 2016.



**Figure 8. Stocks held by the five major rice exporters and stock-to-disappearance ratio**



Much of the decline in 2016 world carry-over stocks is expected to take place in the major exporting countries, especially **India** and **Thailand**, where the governments are striving to liquidate excess public stocks. Reserves are also anticipated to fall in **Australia**, **Brazil**, **Cambodia**, **Myanmar** and the **United States**. By contrast, they may rise in **Pakistan**, **Argentina**, **Guyana** and **Paraguay**. In Argentina and Paraguay, this would be due to the low level of exports portended for 2015 and 2016. By contrast,

**Figure 9. Global rice stocks and stock-to-use ratio**

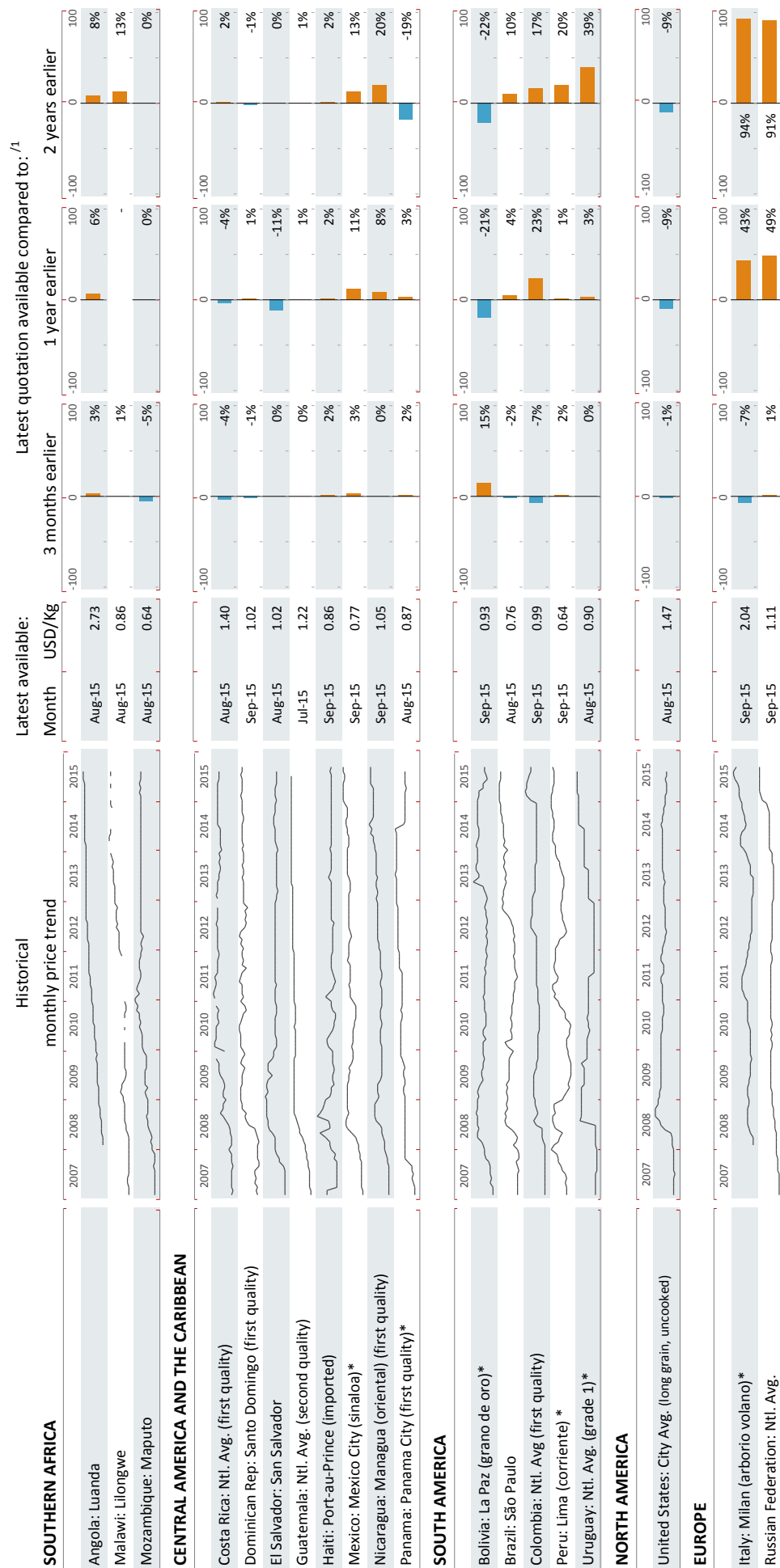


several importing countries, including **China**, **Indonesia**, **the Republic of Korea** and **Sri Lanka**, are likely to end the season with greatly increased inventories. Overall, the five major exporting countries (**India**, **Pakistan**, **Thailand**, **United States** and **Viet Nam**) are anticipated to carry less than 32 million tonnes in reserves in 2016, resulting in a stock-to-disappearance ratio of 17.6 percent in 2015/16, far lower than the estimate of 23.4 percent for the previous marketing year and the lowest since 2007/08.

Table 3. Monthly retail prices of rice in selected markets

| ASIA                                          | Historical<br>monthly price trend<br>2007 2008 2009 2010 2011 2012 2013 2014 2015 | Latest available: |        | Latest quotation available compared to: <sup>/1</sup> |                |                 |  |
|-----------------------------------------------|-----------------------------------------------------------------------------------|-------------------|--------|-------------------------------------------------------|----------------|-----------------|--|
|                                               |                                                                                   | Month             | USD/Kg | 3 months earlier                                      | 1 year earlier | 2 years earlier |  |
| Bangladesh: Dhaka (coarse)                    |                                                                                   | Sep-15            | 0.39   | -1%                                                   | -14%           | -               |  |
| Cambodia: Phnom Penh (mix)*                   |                                                                                   | Aug-15            | 0.39   | 0%                                                    | 0%             | -11%            |  |
| China: 50 City Avg. (japonica second quality) |                                                                                   | Aug-15            | 0.97   | 0%                                                    | 3%             | 8%              |  |
| India: Delhi                                  |                                                                                   | Sep-15            | 0.44   | -7%                                                   | -6%            | 4%              |  |
| Indonesia: Ntl. Avg. (medium quality)         |                                                                                   | Sep-15            | 0.71   | 3%                                                    | 15%            | 22%             |  |
| Republic of Korea: Ntl. Avg.                  |                                                                                   | Sep-15            | 1.90   | 0%                                                    | -1%            | -4%             |  |
| Mongolia: Ulaanbaatar                         |                                                                                   | Jul-15            | 1.17   | 0%                                                    | 2%             | 41%             |  |
| Myanmar: Yangon (Emata, Manawthukha FQ)*      |                                                                                   | Sep-15            | 0.40   | 15%                                                   | 34%            | 32%             |  |
| Pakistan: Karachi (irri)                      |                                                                                   | Sep-15            | 0.43   | -8%                                                   | -24%           | -21%            |  |
| Philippines: Ntl. Avg. (well-milled)          |                                                                                   | Sep-15            | 0.89   | 0%                                                    | -5%            | 6%              |  |
| Sri Lanka: Colombo (white)                    |                                                                                   | Sep-15            | 0.45   | -9%                                                   | -19%           | 10%             |  |
| Thailand: Bangkok (5% broken)*                |                                                                                   | Sep-15            | 0.32   | 2%                                                    | -9%            | -11%            |  |
| Viet Nam: Dong Thap (25% broken)*             |                                                                                   | Sep-15            | 0.30   | 0%                                                    | -16%           | 1%              |  |
| <b>WESTERN AFRICA</b>                         |                                                                                   |                   |        |                                                       |                |                 |  |
| Burkina Faso: Ouagadougou (imported)*         |                                                                                   | Aug-15            | 0.59   | 0%                                                    | 6%             | -10%            |  |
| Cape Verde: Santiago (imported)               |                                                                                   | Aug-15            | 0.88   | -2%                                                   | -              | -11%            |  |
| Chad: N'Djamena (imported)                    |                                                                                   | Jul-15            | 0.83   | 4%                                                    | 0%             | -18%            |  |
| Mali: Bamako*                                 |                                                                                   | Aug-15            | 0.66   | 15%                                                   | 11%            | 20%             |  |
| Mauritania: Nouakchott (imported)             |                                                                                   | Aug-15            | 1.06   | -12%                                                  | 4%             | 20%             |  |
| Niger: Niamey (imported)*                     |                                                                                   | Aug-15            | 0.64   | 0%                                                    | 6%             | -5%             |  |
| Togo: Lomé (imported)                         |                                                                                   | Aug-15            | 0.70   | -4%                                                   | -24%           | -27%            |  |
| <b>EASTERN AFRICA</b>                         |                                                                                   |                   |        |                                                       |                |                 |  |
| Rwanda: Kigali*                               |                                                                                   | Sep-15            | 0.98   | 15%                                                   | 1%             | 3%              |  |
| Somalia: Mogadishu (imported)                 |                                                                                   | Jul-15            | 0.54   | -4%                                                   | -8%            | -14%            |  |
| Uganda: Kampala*                              |                                                                                   | Sep-15            | 0.77   | 24%                                                   | 6%             | -7%             |  |

Table 3. Monthly retail prices of rice in selected markets (cont'd)



<sup>/1</sup> Quotations in the month specified in the third column were compared to their levels in the preceding three, twelve and twenty-four months. Price comparisons were made in nominal local currency units.

\* Wholesale prices.

Sources: FAO/GIEWS GIEWS Food Price Data and Analysis Tool; Korea Agricultural Marketing Information Service (KAMIS); Japan Ministry of Agriculture, Forestry and Fisheries; U.S. Bureau of Labor Statistics (BLS); Associazione Industrie Risiere Italiane (AIRI). Please note that prices shown are comparable over time, but not across countries, as they may refer to different stages of the marketing chain (e.g. retail versus wholesale prices), different rice types (e.g. aromatic versus non-aromatic) or different qualities of rice (e.g. fully broken versus 5% broken).

# CASSAVA

Major Cassava Exporters and Importers



## PRICES

### International quotations of cassava remain stable

Monthly reference prices of internationally traded cassava, a market that is mostly confined to East and Southeast Asia, have registered little movement in the past year. Prices of Thai chips (f.o.b. Bangkok) have remained relatively flat between September 2014 and September 2015, fluctuating between USD 210 and USD 235 per tonne, and stood at the middle of the band in September. Similarly, movements in Thai flour and starch quotations (Super High Grade, f.o.b. Bangkok), at a virtual standstill for the past year, were quoted at USD 430 per tonne in September 2015.

These price developments have come at a time when regional demand for Thai cassava products has been at an all-time high, despite a falling baht against the US dollar and declining international quotations for maize with which cassava products compete. In addition, Thai domestic root prices have exhibited much more variability than cassava product prices. The stability of international cassava chip quotations, which previously was met via price support, is now achieved via releasing official stockpiles to private traders at a discount, a move that provides greater price certainty to regional buyers while also ensuring the long-term commercial viability of feed, ethanol and starch – the principal markets for cassava products.

## PRODUCTION

### Adverse weather stalls growth in world cassava production

World cassava production is tentatively forecast to reach 289 million tonnes in 2015, just over 500 000 tonnes more than 2014. From the turn of the decade, global cassava output had been expanding at an exceptionally high rate (4 percent p.a.), outpacing most other staple crops and far exceeding world population growth, but unfavourable weather in key growing zones is likely to curtail cassava's production growth momentum in 2015.

Obtaining an accurate assessment of cassava production is troublesome, due to a widespread lack of data on harvest expectations and negligible information on planting intentions. Even in countries where the crop is known to play a critical role in food security and the rural economy, or where its trade carries importance, little effort is made to regularly survey the crop – as is done for other staples. This holds especially true in *sub-Saharan Africa* (SSA), the world's largest growing region. In SSA, growth in cassava production has held a firm upward trajectory, as greater public and private investments have led to crop expansions. But owing to adverse weather, the 2015 output could contract for the first time in almost ten years, with the SSA cassava harvest forecast at 163 million tonnes – a 3 million tonne drop from 2014.

Table 1. World cassava market at a glance

|                                                    | 2013                                  | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i>   | Change:<br>2015<br>over<br>2014                           |
|----------------------------------------------------|---------------------------------------|-----------------------|-------------------------|-----------------------------------------------------------|
|                                                    | <i>million tonnes, fresh root eq.</i> |                       |                         | %                                                         |
| <b>WORLD BALANCE</b>                               |                                       |                       |                         |                                                           |
| <b>Production</b>                                  | <b>278.6</b>                          | <b>288.3</b>          | <b>288.8</b>            | <b>0.2</b>                                                |
| <b>Trade</b>                                       | <b>35.3</b>                           | <b>38.2</b>           | <b>45.4</b>             | <b>18.9</b>                                               |
| <b>SUPPLY AND DEMAND INDICATORS</b>                |                                       |                       |                         |                                                           |
| <b>Per caput food consumption:</b>                 |                                       |                       |                         |                                                           |
| World (kg/year)                                    | 19.7                                  | 20.4                  | 20.5                    | 0.5                                                       |
| Developing (kg/year)                               | 34.27                                 | 35.10                 | 34.74                   | -1.0                                                      |
| LDC (kg/year)                                      | 85.3                                  | 88.6                  | 83.9                    | -5.3                                                      |
| Sub-Saharan Africa (kg/year)                       | 151.1                                 | 157.0                 | 154.7                   | -1.4                                                      |
| Trade share of prod. (%)                           | 12.7                                  | 13.2                  | 15.7                    | 18.7                                                      |
| <b>CASSAVA PRICES <sup>1</sup><br/>(USD/tonne)</b> | <b>2013</b>                           | <b>2014</b>           | <b>2015<br/>Jan-Sep</b> | <b>Change:<br/>Jan-Sep 2015<br/>over<br/>Jan-Sep 2014</b> |
| Chips to China<br>(f.o.b. Bangkok)                 | 236.2                                 | 228.1                 | 215.7                   | -4.0                                                      |
| Starch (f.o.b. Bangkok)                            | 473.4                                 | 428.8                 | 430.8                   | 0.9                                                       |
| Thai domestic root prices                          | 90.1                                  | 72.4                  | 70.2                    | -0.7                                                      |

<sup>1</sup> Source: Thai Tapioca Trade Association.

Table 2. World cassava production

|                                  | 2012                | 2013*          | 2014**         | 2015**         |
|----------------------------------|---------------------|----------------|----------------|----------------|
|                                  | <i>(000 tonnes)</i> |                |                |                |
| <b>WORLD</b>                     | <b>262 072</b>      | <b>278 564</b> | <b>288 264</b> | <b>288 845</b> |
| <b>Africa</b>                    | <b>146 371</b>      | <b>160 858</b> | <b>165 661</b> | <b>162 541</b> |
| Nigeria                          | 50 950              | 53 000         | 55 000         | 57 000         |
| Congo, Democratic<br>Republic of | 16 000              | 16 500         | 16 817         | 15 300         |
| Ghana                            | 14 547              | 15 550         | 16 524         | 15 113         |
| Angola                           | 10 636              | 16 412         | 15 872         | 14 300         |
| Mozambique                       | 10 051              | 11 000         | 12 700         | 12 000         |
| Tanzania, United Rep. of         | 5 462               | 5 400          | 5 923          | 5 500          |
| Uganda                           | 4 925               | 5 228          | 5 440          | 5 000          |
| Malawi                           | 4 692               | 4 814          | 5 143          | 5 000          |
| Benin                            | 3 296               | 3 696          | 3 048          | 1 990          |
| Cameroon                         | 4 287               | 4 596          | 4 836          | 5 000          |
| Rwanda                           | 2 716               | 2 948          | 3 117          | 3 000          |
| Madagascar                       | 3 621               | 3 115          | 3 033          | 2 750          |
| Côte d'Ivoire                    | 2 412               | 4 239          | 2 485          | 5 087          |
| <i>Other Africa</i>              | <i>12 773</i>       | <i>14 361</i>  | <i>15 723</i>  | <i>15 501</i>  |
| <b>Latin America</b>             | <b>30 472</b>       | <b>30 223</b>  | <b>31 875</b>  | <b>33 079</b>  |
| Brazil                           | 23 045              | 21 226         | 23 048         | 24 200         |
| Paraguay                         | 1 686               | 2 800          | 3 000          | 3 000          |
| Colombia                         | 2 252               | 2 483          | 2 500          | 2 510          |
| <i>Other Latin America</i>       | <i>3 489</i>        | <i>3 715</i>   | <i>3 327</i>   | <i>3 369</i>   |
| <b>Asia</b>                      | <b>84 996</b>       | <b>87 238</b>  | <b>90 480</b>  | <b>92 967</b>  |
| Thailand                         | 26 601              | 28 276         | 30 228         | 33 611         |
| Indonesia                        | 24 177              | 23 937         | 25 000         | 24 500         |
| Viet Nam                         | 9 746               | 9 743          | 9 750          | 10 000         |
| India                            | 8 047               | 8 237          | 8 140          | 8 000          |
| China, mainland                  | 4 560               | 4 585          | 4 593          | 4 500          |
| Cambodia                         | 7 614               | 8 000          | 8 000          | 7 800          |
| Philippines                      | 2 223               | 2 361          | 2 500          | 2 400          |
| <i>Other Asia</i>                | <i>2 029</i>        | <i>2 101</i>   | <i>2 270</i>   | <i>2 157</i>   |
| <b>Oceania</b>                   | <b>233</b>          | <b>245</b>     | <b>248</b>     | <b>257</b>     |

\* Estimate

\*\* Forecast

Figure 1. International cassava and Thai Domestic prices (Sept 2012 - Sept 2015)

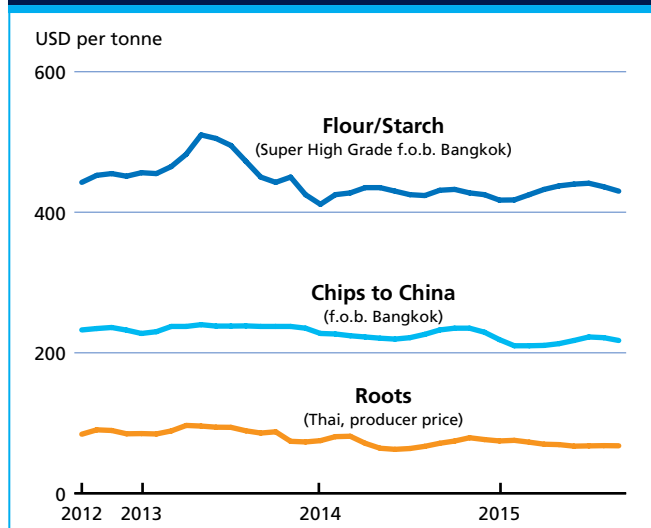
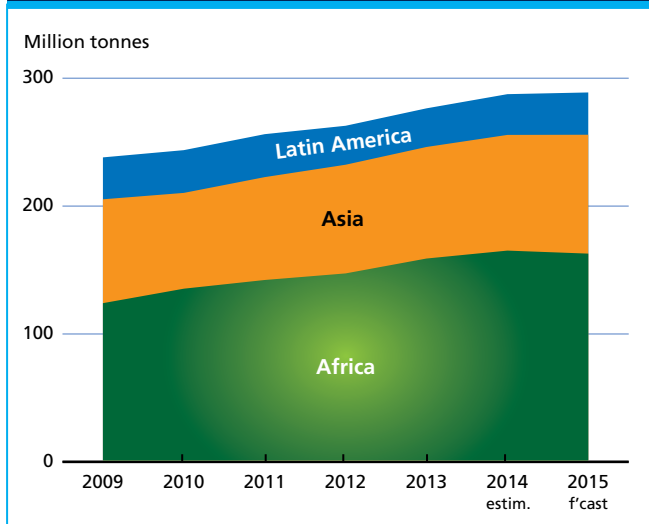


Figure 2. Maize and cassava chip prices (Sept 2012 - Sept 2015)



Figure 3. World production of cassava



Nevertheless, commercialization of cassava remains a key objective of many West African governments, as it would enable them to limit wheat imports in areas where cassava processed into flour could substitute for wheat flour.

**Nigeria** leads regional production and continues to provide preferential loans to producers, grants to processors for the expanded uptake of domestic cassava and the continued propagation of improved varieties. As a result, the country is projected to harvest a crop of around 57 million tonnes, around 1 million tonnes more than in 2014. Favourable growing conditions were recorded in **Côte d'Ivoire** where a record crop of 5 million tonnes has been estimated by officials, more than double the size of last year's poor harvest. Some recovery in output is anticipated in **Guinea**, **Liberia** and **Sierra Leone**, the countries affected by last year's outbreak of the Ebola virus. However, restrictions on the movement of labour have remained in force in some areas, potentially disrupting crop maintenance as well as harvesting. By contrast, unfavourable growing conditions, particularly excessive dryness, have been reported in other main producing countries in West Africa, including **Ghana** and **Benin** where official estimates point a considerable contraction in cassava harvests.

Prospects for sub-Saharan Africa as a whole have been marred by lower than expected outcomes in *central, eastern and southern African* countries, which continue to be affected by widespread drought. However, cassava's tolerance to erratic weather conditions has spared the region from a substantial output contraction. This drought tolerance trait has put cassava expansion high on the agenda of many governments, especially in the context of climate change adaptation strategies. Nonetheless, lower cassava harvests are still foreseen in the important producing countries of the **Democratic People's Republic**

**of Congo, Angola, Madagascar, Malawi, Mozambique, United Republic of Tanzania and Zambia.** The Southern African Development Community (SADC) recently announced that these countries would have a combined 4 million tonne contraction in the 2015 cassava output.

In *Asia*, 2015 cassava production is forecast to increase by around 3 percent to almost 93 million tonnes. The industrial utilization of cassava in the form of alcohol, ethanol, starch and animal feed, and their lucrative export markets, has underpinned a sustained expansion of the crop in the region, particularly in Southeast Asia. However, weather disruptions, including dryness from El Niño, have stymied the prospect of a much larger regional harvest by affecting cassava yields.

In **Thailand**, Asia's largest producer, the 2015 season has concluded, and official reports point to an all-time production high of 34 million tonnes, due to both record plantings and record yields. Favourable root prices relative to maize led many grain producers to shift to cassava cultivation. In **China**, production of the crop is forecast slightly below last year's level, as the country continues to source the material in processed form (mainly dry chips and flour) from neighbouring countries, namely **Cambodia**, **Lao People's Democratic Republic** and **Viet Nam**, where it has engaged in efforts to ensure long-term supplies. Of all these countries, only in Viet Nam production is expected to increase in 2015. Despite policy measures in Viet Nam to limit cassava acreage to no more than 450 000 ha (in response to concerns about deforestation and land degradation), the area under cassava is reported to have risen 25 percent in 2015. If this is the case, it could lead to a record cassava crop of 10 million tonnes.

In contrast, cassava sectors in **Indonesia** and the **Philippines** are more important for food security than for industry. Dietary diversification programmes in the two countries have targeted cassava as a substitute for rice, but lower yields in 2015 are expected to drive production down from 2014 levels.

In *South Asia*, cassava also plays a role in food security. In **India**, unattractive root prices in the major growing state of Tamil Nadu are thought to have lowered plantings, leading to a small dip in national cassava output in 2015.

The cassava production outlook for *Latin America and the Caribbean* points to an increase in 2015, largely owing to **Brazil**, the region's largest producer. Production in the country, which is dominated by family farms (83 percent of national output), is expected to rise as remunerative root prices supported higher plantings during the first half of the year. Official reports foresee a crop of 24 million tonnes, an increase of 5 percent over 2014. Little is known about production prospects in the region's other sizable

producing countries, such as **Paraguay, Colombia** and **Peru**, but recent trends point to a possible moderate increase in production.

## UTILIZATION

### Rising demand for processed cassava

Cassava is utilized in a multitude of ways. Food constitutes the major end use of the crop, but local and regional markets for animal feed, industrial use and energy feature prominently (see box). Assessing the levels of uptake by different markets is virtually impossible, as again, no concerted effort is made at the country level to measure utilization activity. Because cassava roots are highly perishable once harvested, they are utilized entirely within the crop year.

Cassava as a foodstuff constitutes the major form of its utilization. As a staple, the root crop has little importance in the global diet (typically 20kg per cap/year in fresh root equivalent) owing to its perishability trait as well as its bulkiness that precludes widespread trade. However, where the crop is grown overall dietary significance rises. This is

particularly evident in sub-Saharan Africa, where cassava forms an important dietary staple in root form but also in processed form in which fermented and non-fermented granulated and flour-based products continues on an upward trend in the region. Many countries in sub-Saharan Africa have launched value addition initiatives in the cassava food chain promoting cassava to support the rural economy as well as to meet rising dietary needs. With production levels effectively translating into levels of food availability, and with non-food markets of little significance, the prospective decline in cassava production in sub-Saharan Africa would lead per capita food availability to fall by 2 kg, to around 155 kg per year in fresh root equivalent.

Cassava also features prominently in diets in Latin America, especially in Brazil, where the blending of cassava flour with wheat flour is mandated. Likewise, in south Asia (India) and Southeast Asia (Indonesia and Philippines) cassava is widely consumed. However, as non-food markets are also well established in these regions, it is difficult to assess changes in food utilization.

As a raw material in East and Southeast Asia's energy sector, cassava has gained a substantial competitive

#### Box: Beyond food - a multitude of uses

*Starch.* When processed into starch, cassava has multiple uses. Known as "tapioca" in this form, it has applications ranging from culinary to industrial and pharmaceutical, including food thickening agents, a tea popular in Asia known as "bubble tea", laundry stiffening products, biodegradable bags, binding pharmaceutical tablets and natural paints. Most starches are highly substitutable and tapioca is no exception, often competing with maize starch, especially on international markets and in East and Southeast Asia. Trade in tapioca is indicative of its demand, and with exports reaching new heights in recent years, uptake is on the rise.

*Ethanol.* The demand for cassava from ethanol sectors, especially in Asia, continues to be a major driver of growth in world cassava utilization. A typical ethanol distillery can produce around 280 litres (222 kg) of 96 percent pure ethanol from 1 tonne of cassava roots with 30 percent starch content. With sharply falling oil prices lowering the cost of gasoline, ethanol demand would depend mostly on mandatory blending rates. In Southeast Asia, the centre of cassava-based ethanol production, the crop competes with sugar cane in the energy sector.

*Animal feed.* The tradition of chopping and mixing cassava roots, stems and leaves into silage for feeding cattle and pigs is prominent in *Latin America and the Caribbean*, especially **Brazil**. However, cassava is increasingly being utilized as a compound feed ingredient in the form of dried chips and pellets, which are then supplemented by other feeds, such as soymeal, to make up for cassava's deficiency in protein and certain vitamins. In *Asia*, the uptake of cassava in compound feed form is gathering some momentum, mostly via trade.



edge over sugar cane in 2015 notwithstanding a higher energy content than its competitor. In **China**, where many provinces have enacted mandatory blending with gasoline, around 500 million litres of ethanol could be produced from imported chips and domestic cassava availabilities in 2015. The utilization of cassava-based ethanol is also prominent elsewhere in the region, especially in **Thailand** and **Vietnam**, where it is also expected to rise in 2015. In Viet Nam, a national mandate requiring 5 percent of all gasoline sold in the country to be blended with ethanol, came into force at the end of 2014. Given current cassava production levels and gasoline demand, the mandate will require converting much of the country's cassava crop to ethanol. In 2015, the Government also initiated a 5 percent export tax to help ensure availability of local supplies of the energy-giving feedstock. In Thailand, consumption of gasoline blends with 20 percent and 85 percent ethanol has increased due to wider distribution and more E85-equipped cars on the road. Ethanol is principally made from cassava and molasses, and the production of fuel ethanol in Thailand is estimated to rise well over 3 million litres per day in 2015.

The use of cassava as an animal feed is also expected to increase in 2015, especially on account of Latin America where the availability of cassava has risen. In East and Southeast Asia, the commodity as a feedstuff has gathered importance in recent years, especially in China. Domestic feedstuffs, particularly maize, remain uncompetitive with imported feeds such as cassava, in spite of China's large maize stockpiles. With rising deliveries of cassava chips and pellets to the country, cassava feed is set to increase in 2015. But in Thailand, sales of low quality broken rice from government stocks are likely to displace the demand for feed cassava in 2015.

## TRADE

### Cassava product trade soars to record levels

Mostly confined to East and Southeast Asia, the volume of world trade in cassava is expected to exceed 23 million tonnes (chip and pellet weight equivalent), 19 percent more than last year's volume and double the volume of 2010. In recent years, international cassava flows have mainly been driven by industrial demand for the product, particularly from China, and 2015 is no exception.

The anticipated expansion in trade is mostly based on increased demand for **Thai** products, where export of chips and pellets (predominantly chips) is expected to increase by around 18 percent from 2014, while exports of flour and starch are set to rise by 17 percent. These outcomes would give Thailand a 77 percent share of world cassava

**Table 3. World exports of cassava  
(Product weight of chips and pellets)**

|                          | 2012          | 2013          | 2014          | 2015          |
|--------------------------|---------------|---------------|---------------|---------------|
| 000 tonnes               |               |               |               |               |
| <b>Total</b>             | <b>16 191</b> | <b>17 638</b> | <b>19 080</b> | <b>22 685</b> |
| <b>Flour and Starch</b>  | <b>7 029</b>  | <b>7 391</b>  | <b>8 588</b>  | <b>10 019</b> |
| Thailand                 | 6 163         | 6 686         | 7 919         | 9 292         |
| Viet Nam                 | 500           | 355           | 337           | 411           |
| Others                   | 367           | 350           | 333           | 316           |
| <b>Chips and Pellets</b> | <b>9 161</b>  | <b>10 247</b> | <b>10 492</b> | <b>12 666</b> |
| Thailand                 | 4 853         | 6 006         | 6 927         | 8 203         |
| Viet Nam                 | 2 386         | 2 700         | 2 565         | 3 463         |
| Cambodia                 | 722           | 361           | 350           | 350           |
| Nigeria                  |               |               | 500           | 500           |
| Others                   | 200           | 180           | 150           | 150           |

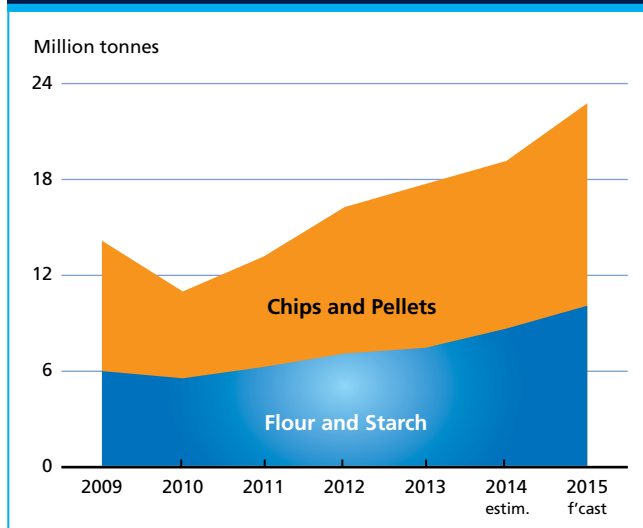
**Table 4. Thai trade in cassava  
(Product weight of chips and pellets)**

|                               | 2012          | 2013          | 2014          | 2015          |
|-------------------------------|---------------|---------------|---------------|---------------|
| 000 tonnes                    |               |               |               |               |
| <b>Total</b>                  | <b>11.016</b> | <b>12.692</b> | <b>14.845</b> | <b>17.495</b> |
| <b>Flour and starch total</b> | <b>6.163</b>  | <b>6.686</b>  | <b>7.919</b>  | <b>9.292</b>  |
| Japan                         | 843           | 872           | 916           | 903           |
| China                         | 1.577         | 2.774         | 3.513         | 3.874         |
| Chinese Province of Taiwan    | 555           | 628           | 665           | 643           |
| Indonesia                     | 1.482         | 647           | 888           | 2.410         |
| Malaysia                      | 575           | 436           | 525           | 621           |
| Others                        | 1.131         | 1.329         | 1.412         | 841           |
| <b>Chips and pellets</b>      |               |               |               |               |
| <b>Total</b>                  | <b>4.853</b>  | <b>6.006</b>  | <b>6.927</b>  | <b>8.203</b>  |
| China                         | 4.772         | 5.930         | 6.918         | 8.191         |
| Others                        | 174           | 77            | 9             | 12            |

Source: TTTA, FAO

<sup>1</sup> In product weight of chips and pellets

**Figure 4. World trade in cassava products  
(Chip and pellet equivalent)**



exports. Viet Nam has resurfaced as an important exporter, owing to a combination of greater competitiveness and higher export availabilities. The country's cassava exports, mostly in the form of chips, could rise by well over a third in 2015, to around 4 million tonnes. In an effort to divert local cassava chips to its ethanol industry, the capacity of which is far from being filled, Viet Nam has imposed a 5 percent tax on the export of chips. With quotations denominated in US dollars, both countries are seeing their currencies fall against the dollar, and both stand to benefit.

China's imports of chips and pellets continue to be driven by its animal feed sector and the need to fulfil its ethanol sector capacity. In spite of high availability of domestic feedstuffs and energy feedstocks, notably maize, China continues to source lower priced imports. With chip demand reaching around 12 million tonnes, China is set to dominate international trade in this product in 2015. As for cassava starch and flour, growth in global transactions looks set to expand substantially in 2015, breaking the 10 million tonne mark for the first time. Cassava-based starch and flour have competed favourably with maize-based counterparts, notably in terms of price stability, which is largely behind the expanded trade in these cassava products.

Prospects for an international market expanding beyond Asia still remain largely elusive, despite **Nigeria** having recently shipped 1 million tonnes of cassava chips to China. Nigeria has also signed a memorandum of understanding with China to export 3.2 million tonnes in the future. However, the country's prospects for reaching this trade level are shrouded with uncertainty, as China is reportedly offering prices below the cost of production in Nigeria.

## OUTLOOK

### High uncertainties prevail

Adverse weather conditions in major growing regions have undermined 2015 cassava production outcomes, stalling global growth which previously had been rising at an astonishing rate. Production prospects for 2016 remain very uncertain, given the high probability of an intensifying El Niño event. If predictions for the event transpire, it would bring with it dryness and high temperatures, making cassava output vulnerable in Southeast Asia, Brazil, and southern and eastern Africa. The countries at risk account for some 50 percent of world cassava production.

Already, Thailand has factored lower yields into its 2016 forecasts, predicting a 1 tonne per hectare decrease, while in Brazil, falling root prices and excess supplies of cassava could lead to lower plantings in the 2016 season, notwithstanding El Niño. Viet Nam is considering proposals from its Ministry of Industry and Trade to relax the curb on national cassava acreage, which would see cassava plantings climb 20 percent.

In addition to weather risks, 2016 will face economic uncertainties related to the slowdown in China's economy and its very large maize stockpiles, the strengthening US dollar and falling oil prices – all of which overhang prospects in Southeast Asia, particularly for trade. Virtually all countries in that region have geared their domestic markets towards supplying China. If China were to begin releasing its maize stockpiles, the regional market for cassava could slump, potentially causing an upheaval in the cassava sectors of the exporting countries.

# OILCROPS, OILS AND MEALS<sup>1</sup>

Major Oilseed Exporters and Importers



## PRICES<sup>2</sup>

### International meal prices may continue to weaken, while oils/fats values should level off

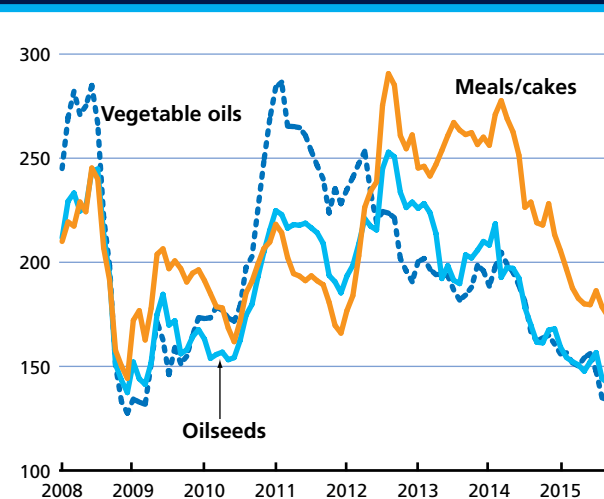
Overall, the 2014/15 (October/September) marketing year saw a marked improvement in fundamentals for the entire oilseed complex. Accordingly, international prices of both oilseeds and oilseed products continued the downward trend they had embarked on during 2013/14.

Regarding oilseeds and meals, the prospect of record-level global soybean availabilities and the possibility that world soy output in 2014/15 would outstrip demand for the third consecutive season (leading to a further build-up in stocks) caused world prices of the key oilcrops and their meals to ease almost uninterruptedly from December 2014 onward. The anticipation of a concomitant increase in global feedgrain supplies added to the downward pressure on prices. For oils/fats, the persistent weakening in prices mainly reflects the further replenishment in stocks facilitated by adequate total supplies amid subdued

global import demand. The sharp decline in crude oil prices, which led to reduced demand for vegetable oils as biofuel feedstock, contributed to the fall in oils/fats prices. Eventually, by September 2015, the three FAO price indices following the oilseed complex fared at multi-year lows – reaching their lowest value since March 2009 in the case of oilseeds and oils/fats, and since December 2011 in the case of meals.

Preliminary forecasts for 2015/16 point to further improvement in the global supply and demand balance of

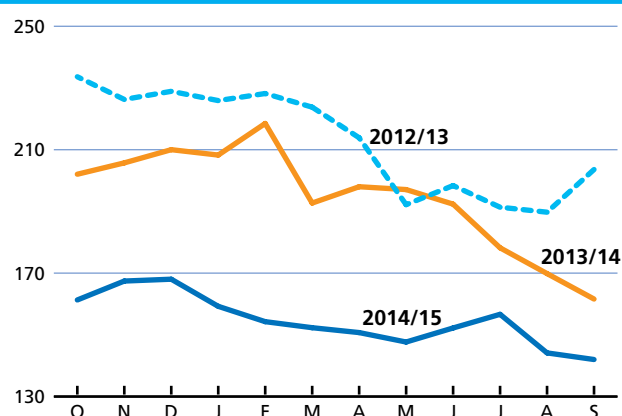
Figure 1. FAO monthly international price indices for oilseeds, vegetable oils and meals/cakes (2002-2004=100)



<sup>1</sup> Almost the entire volume of oilcrops harvested worldwide is crushed to obtain oils and fats for human nutrition or industrial purposes, and to obtain cakes and meals which are used as feed ingredients. Therefore, rather than referring to oilseeds, the analysis of the market situation is mainly undertaken in terms of oils/fats and cakes/meals. Hence, production data for oils (cakes) derived from oilseeds refer to the oil (cake) equivalent of the current production of the relevant oilseeds, i.e. they do not reflect the outcome of actual oilseed crushing. Furthermore, the data on trade in and stocks of oils (cakes) refer to the sum of trade in and stocks of oils and cakes plus the oil (cake) equivalent of oilseed trade and stocks.

<sup>2</sup> For details on prices and corresponding indices, see Statistical appendix Table 23.

Figure 2. FAO monthly price index for oilseeds (2002-2004=100)



Note: With regard to the sudden drops in the price index for oilseeds in May 2013 and March 2014, please note the clarification provided in appendix table 23

Figure 3. FAO monthly price index for vegetable oils (2002-2004=100)

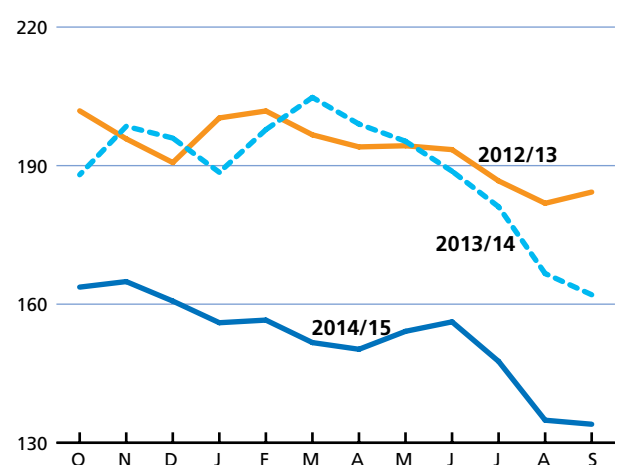


Figure 4. FAO monthly price index for oilmeals/cakes (2002-2004=100)

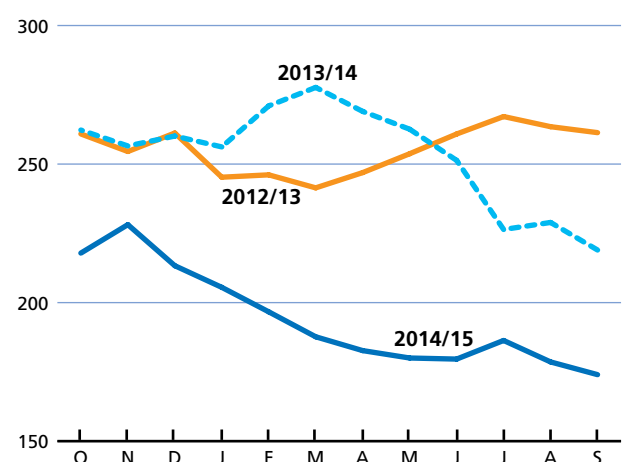
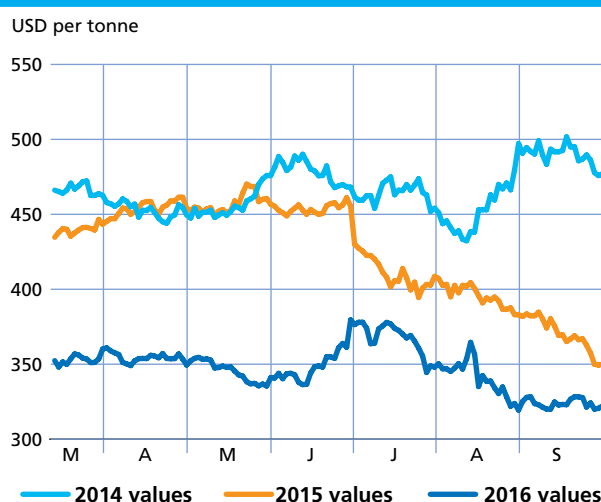


Figure 5. CBOT soybean futures for March



oilmeals, whereas that of vegetable oils could tighten. For meals, a small surplus in production relative to demand could take global inventories beyond their 2014/15 record level. This, together with the expectation that stock-to-use ratios would stay high, suggests that international meal prices would remain low and could possibly weaken further. The gradual fall in the Chicago Board of Trade (CBOT) futures for soybeans, which now stand well below the corresponding values of the last two years, seems to point in the same direction. For oils/fats, by contrast, stalling world production could make reductions in inventories necessary to satisfy global demand. Considering that stock-to-use ratios for oils/fats could also drop below last season's level, the long lasting slide in international oil/fat values may soon bottom out, making a rebound in prices during 2015/16 seem possible.

## OILSEEDS

### 2015/16 production to trail behind last season's record level

After three years of record-breaking harvests, the expansion in world oilseed production is expected to come to a halt in 2015/16. Total oilseed output is tentatively forecast at 535 million tonnes, trailing 2–3 percent behind last season's all-time record. The year-on-year drop would be mainly on account of lower rapeseed, soybean and cottonseed production, with modest falls also anticipated for sunflowerseed and copra. The likely recovery in world groundnut production and further growing palmkernel output is not expected to alter the global picture.

Global soybean production is currently forecast at 318 million tonnes, closely trailing last season's historic record. Globally, a modest increase in total plantings

could be offset by lower average yields. In the Northern Hemisphere, where harvesting is underway, production is anticipated to fall slightly. In the **United States**, output is currently pegged at 107 million tonnes – marginally above last year's all-time high. While plantings climbed to a new record (mostly at the expense of grains), average yields are estimated to drop – although staying above 3 tonnes per hectare thanks to favourable growing conditions in most producing areas. Year-on-year drops in output are expected in **China** and **Canada** as a result of, respectively, further cuts in sown area and unfavourable weather at the start of the growing season. By contrast, in **India**, a recovery in production is expected due to both higher plantings and improved yields. A record harvest is anticipated in the **Ukraine**, although initial higher forecasts had to be lowered after the recent wave of hot and dry weather. In South America, where plantings of the 2015/16 crop are now underway, a further expansion in area sown to soybeans seems likely, especially in **Brazil**, as the returns anticipated for soybean compare favourably with those of competing crops. However, rising production costs may result in lower input use, possibly affecting yields. The current forecast for South America's aggregate output stands at 171 million tonnes – only marginally below last season's historic record. Assuming normal weather conditions, **Brazil** could harvest 97.5 million tonnes and **Argentina** 57.5 million tonnes, respectively, their highest and second-highest outputs on record.

World rapeseed production is tentatively forecast at 64 million tonnes – a significant drop compared to the last two seasons' bumper harvests. Production should fall in all major producing countries except India. In the **EU** and **Canada**, the world's top producers, crops suffered from adverse weather conditions, whereas in **China**, **Ukraine**,

the **Russian Federation** and **Australia**, production should fall on lower plantings. In **India**, after last season's crop failure, higher plantings and favourable growing conditions point to a partial recovery in this year's production. Global cottonseed production is forecast to drop sharply, mostly reflecting a further strong cut in **China's** plantings. Significant production drops are also expected in **Pakistan** and the **United States**. With regard to sunflowerseed, production gains in **Ukraine** and the **Russian Federation** will not be sufficient to offset a plunge in the **European Union**, where crops suffered from exceptional heat and dryness. Global groundnut output is forecast to expand, supported by production gains in **China** and the **United States**. Global palmkernel output should keep rising, mainly reflecting continued expansion in **Indonesia**.

It should be noted that production prospects in Southern Hemisphere countries remain subject to the ongoing El Niño weather event. Depending on its strength and duration, oil palms in Southeast Asia and rapeseed in Australia may suffer from below-average rainfall, while above-average precipitation could benefit South America's soy and sunflowerseed crops.

## OILS AND FATS<sup>3</sup>

### Growth in global oils/fats output could stall in 2015/16

The above crop projections translate into a slight fall in global oils/fats production in 2015/16 – following an average annual rise of 4–5 percent during the last three seasons. Continued growth in palm oil output is expected to compensate for declines in rape, sunflower and cottonseed oil. Palm oil production is tentatively forecast to increase by 1.7 million tonnes, or less than 3 percent, with growth coming almost entirely from further expansion of the mature oil palm area in **Indonesia**. With regard to yields, repeated spells with low rainfall during the course of this year, in particular in **Malaysia**, are expected to curb palm oil productivity into 2016. Furthermore, in case El Niño results in additional rainfall deficits in Southeast Asia during the coming months, the palms' yield potential could be compromised until the end of next year. At the moment, production in Indonesia and Malaysia is pegged at, respectively, 33.9 and 20.2 million tonnes, implying relatively weak year-on-year gains of 3 and 1 percent.

Global oils/fats supplies, which comprise 2015/16 production and 2014/15 ending stocks, are tentatively forecast at 248 million tonnes, which entails a well below-average

Table 1. World production of major oilcrops

|                        | 2013/14        | 2014/15<br>estim. | 2015/16<br>f'cast | Change<br>2015/16<br>over<br>2014/15 |
|------------------------|----------------|-------------------|-------------------|--------------------------------------|
|                        | million tonnes |                   |                   | %                                    |
| Soybeans               | 283.4          | 319.7             | 318.2             | -0.5                                 |
| Rapeseed               | 71.9           | 71.4              | 64.3              | -10.0                                |
| Cottonseed             | 44.7           | 44.9              | 40.9              | -8.9                                 |
| Groundnuts (unshelled) | 38.9           | 37.9              | 38.4              | 1.3                                  |
| Sunflower seed         | 42.4           | 40.9              | 39.9              | -2.4                                 |
| Palm kernels           | 14.7           | 15.4              | 15.8              | 2.8                                  |
| Copra                  | 5.6            | 5.7               | 5.5               | -2.9                                 |
| <b>Total</b>           | <b>501.6</b>   | <b>535.9</b>      | <b>523.0</b>      | <b>-2.4</b>                          |

Note: The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown. For tree crops, which are produced throughout the year, calendar year production for the second year shown is used.

<sup>3</sup> This section refers to oils from all origins, which – in addition to products derived from the oil crops discussed under the section on oilseeds – include palm oil, marine oils as well as animal fats.

**Table 2. World oilcrops and product market at a glance<sup>1</sup>**

|                                                                     | 2013/14        | 2014/15<br>estim. | 2015/16<br>f'cast | Change:<br>2015/16<br>over<br>2014/15      |
|---------------------------------------------------------------------|----------------|-------------------|-------------------|--------------------------------------------|
|                                                                     | million tonnes |                   |                   | %                                          |
| TOTAL OILCROPS                                                      |                |                   |                   |                                            |
| Production                                                          | 513.2          | 547.4             | 534.5             | -2.4                                       |
| OILS AND FATS <sup>2</sup>                                          |                |                   |                   |                                            |
| Production                                                          | 203.3          | 209.9             | 208.6             | -0.7                                       |
| Supply <sup>3</sup>                                                 | 235.7          | 245.9             | 247.9             | 0.8                                        |
| Utilization <sup>4</sup>                                            | 198.9          | 204.6             | 211.8             | 3.5                                        |
| Trade <sup>5</sup>                                                  | 107.9          | 112.0             | 114.2             | 1.9                                        |
| Global stock-to-use ratio (%)                                       | 18.1           | 19.2              | 17.1              |                                            |
| Major exporters<br>stock-to-disappearance<br>ratio (%) <sup>6</sup> | 10.3           | 12.1              | 11.1              |                                            |
| MEALS AND CAKES <sup>7</sup>                                        |                |                   |                   |                                            |
| Production                                                          | 128.8          | 140.4             | 138.2             | -1.6                                       |
| Supply <sup>3</sup>                                                 | 147.2          | 162.0             | 166.0             | 2.5                                        |
| Utilization <sup>4</sup>                                            | 125.3          | 132.2             | 136.8             | 3.4                                        |
| Trade <sup>5</sup>                                                  | 81.1           | 85.4              | 87.1              | 2.0                                        |
| Global stock-to-use ratio (%)                                       | 17.3           | 21.0              | 21.0              |                                            |
| Major exporters<br>stock-to-disappearance<br>ratio (%) <sup>8</sup> | 9.4            | 13.3              | 15.3              |                                            |
| FAO PRICE INDICES                                                   |                |                   |                   |                                            |
| Oct/Sept<br>(2002-2004=100)                                         | 2012/13        | 2013/14           | 2014/15           | Change:<br>2014/15<br>over<br>2013/14<br>% |
| Oilseeds                                                            | 213            | 194               | 155               | -20.5                                      |
| Oilmeals/cakes                                                      | 255            | 253               | 194               | -23.4                                      |
| Vegetable oils                                                      | 193            | 189               | 153               | -19.2                                      |

<sup>1</sup> Refer to footnote 1 on page 38 for overall definitions and methodology.

<sup>2</sup> Includes oils and fats of vegetable, animal and marine origin.

<sup>3</sup> Production plus opening stocks.

<sup>4</sup> Residual of the balance.

<sup>5</sup> Trade data refer to exports based on a common October/September marketing season.

<sup>6</sup> Major exporters include Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States.

<sup>7</sup> All meal figures are expressed in protein equivalent; meals include all meals and cakes derived from oilcrops as well as meals of marine and animal origin.

<sup>8</sup> Major exporters include Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, Ukraine and the United States.

increase of 1 percent. Domestic availability of oils/fats should improve in a number of important producing countries, notably **India, Indonesia, Malaysia, the United States, Argentina and Brazil**. Large carry-in stocks should contribute significantly to these improvements, except for India, where the rise in domestic supplies would stem primarily from production gains. On the other hand, poor crop outturns are expected to result in unusual, pronounced supply drops in **Canada, the European Union and Australia**, while a more modest fall in availabilities is anticipated for **China**.

## Oils/fats utilization to expand further

Global consumption of oils/fats in 2015/16 is tentatively forecast at 212 million tonnes, up about 7 million tonnes from 2014/15. With regard to individual oils, soy and palm oil are expected to dominate overall consumption growth, thanks to record supplies and price discounts relative to other vegetable oils. Together, soy and palm oil are anticipated to satisfy close to 60 percent of total oils/fats demand. Conversely, consumption of rape, sunflower and cottonseed oils could drop.

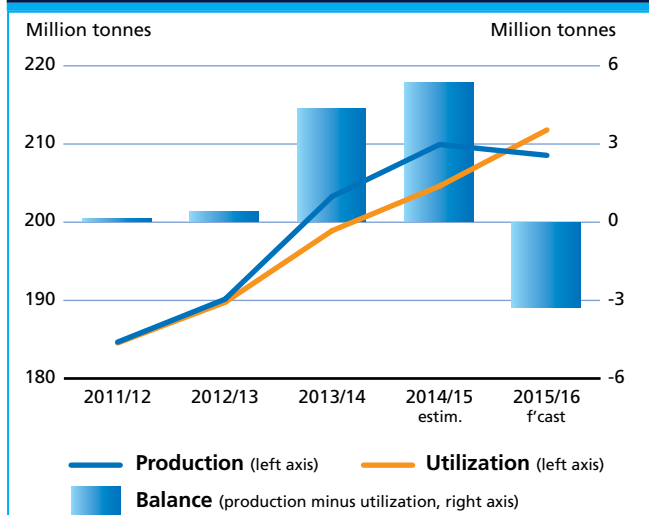
The key drivers behind increased uptake for food and traditional industrial uses continue to be population increases and economic growth in some of the main consuming regions, particularly Asia. Consumption should also be stimulated by prevailing low prices, as illustrated by the current six-and-a-half year low in FAO's vegetable oil price index. Contrary to recent years, rising demand from the biofuel sector is expected to be less of a driving factor in 2015/16. In fact, for the first time, industry estimates for 2015 point towards a contraction in global biodiesel production, and, hence, in purchases of oils/fats by fuel producers. Compared with last year's peak of 30.6 million tonnes, 2015 production is pegged at 29 million tonnes.<sup>4</sup> Recently, only three countries, **Indonesia, Malaysia and South Africa**, raised their mandatory consumption targets. Actually, in Indonesia, mandatory blending was deferred for 5 months after the government stopped support payments to biofuel producers. Even more importantly, in several countries, notably **Argentina and Indonesia**, discretionary blending of diesel with biodiesel (i.e. voluntary blending by petrol companies on purely economic grounds) has been either scaled back or suspended on account of the steady erosion of crude mineral oil prices since late 2014. With the slump in crude oil values, the price premiums of vegetable oils (especially palm and soyoil) widened, making discretionary blending uneconomical. Barring a swift recovery in crude oil prices and given current trends in national biofuel policies – i.e. marginal if any increases in mandatory blending rates and rising efforts to cap financial assistance to producers – a marked recovery in demand for oils/fats by the biofuel sector seems unlikely in 2015/16.

With regard to total consumption, developing nations in Asia continue to drive growth in global oils/fats uptake. In **China and India**, oils/fats use should expand at about average rates, although, in the case of China, downward corrections could become necessary based on reduced national economic growth. In **Indonesia**, consumption growth would be fuelled in part by fresh demand from the biofuel sector – provided the recently reinstated support

<sup>4</sup> Tentative estimates based on unofficial sources.



**Figure 6. Global production and utilization of oils/fats**



**Figure 7. World stocks and ratios of oils/fats (including the oil contained in seeds stored)**



payments to the industry remain in place. By contrast, in **Argentina**, where oils/fats consumption depends heavily on discretionary biodiesel production for export, domestic uptake should fall below recent levels. In most developed countries, about-average consumption growth is envisaged, except in **Canada**, where the anticipated decline in domestic supplies is expected to weigh on consumption.

### Global inventories of oils/fats likely to fall

After two seasons with ample supplies, in 2015/16, total oils/fats production could fall short of demand by some 3 million tonnes or 1–2 percent, possibly prompting a drawdown in global inventories. Based on current projections, 2015/16 ending stocks, pegged at 36.2 million tonnes (including the oil contained in stored oilseeds), should be down conspicuously from last season's historic peak but still

the second-largest amount on record. Commodity-wise, global soybean inventories (including the oil contained in stored soybeans) could climb to a new record, whereas a depletion of stocks is foreseen for several other oils, especially rape and sunflower oil. Multi-year low reserves of rape and sunflower oil should push up the prices of both oils, explaining why soy and palm oil are expected to drive consumption growth in 2015/16. At country level, sizeable year-on-year drops in inventories are anticipated in **Canada, China, Indonesia** and among **EU** members, together with more modest reductions in **Malaysia, Argentina** and **Brazil**. By contrast, another strong build-up in stocks is envisaged in the **United States**.

Based on current projections, both the 2015/16 global stock-to-use ratio and the stock-to-disappearance ratio for the major exporting countries<sup>5</sup> are poised to fall from last season's historic peak.

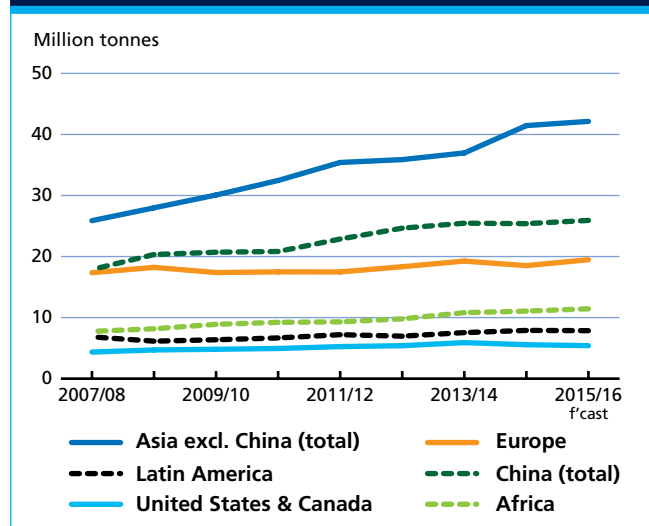
### Growth in oils/fats trade to slow down markedly

World trade in oils/fats – including the oil contained in traded oilseeds – is projected to climb to 114 million tonnes in 2015/16, posting a considerably lower year-on-year increase than in recent years. Underpinned by production forecasts, global transactions of rapeseed oil should contract for the second consecutive season, while world trade in competitively priced palm and soybean oil is expected to expand further.

On the import side, **China's** purchases are projected to grow only moderately, as the country can draw from large inventories to satisfy domestic demand. In **India**, thanks to the recovery in domestic supplies, imports should grow by

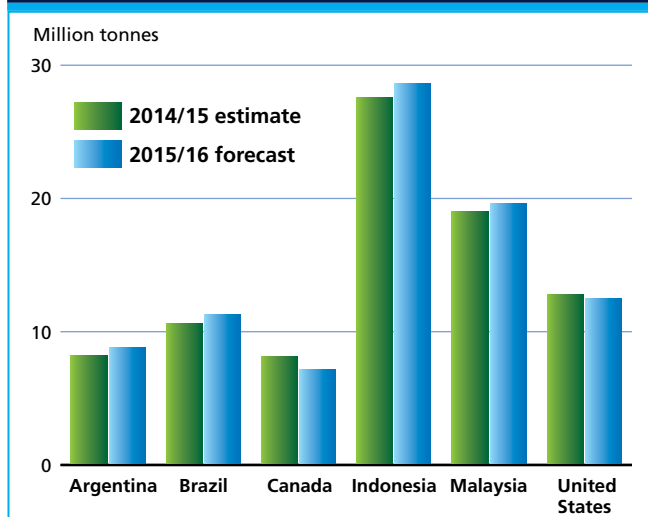
<sup>5</sup> Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States.

**Figure 8. Oil/fat imports by region or major country (including the oil contained in seed imports)**





**Figure 9. Oil/fat exports by major exporters (including the oil contained in seed exports)**



no more than 2–3 percent, compared with the 13 percent average of the last four years. By contrast, the **EU** is expected to shore up its oils/fats purchases to compensate for the anticipated fall in domestic supplies amid continued consumption growth.

With regard to exports, a contraction in shipments is foreseen, particularly in **Canada**, but also in the **EU** (a net importer) and **Australia**, mostly reflecting tight domestic supplies. Shipments by the **United States** could fall behind last season's record – despite record domestic export availabilities – due to increased competition from South American exporters. The above reductions in exports should be more than offset by larger deliveries from **Indonesia**, **Malaysia** and South America. Indonesia and Malaysia are forecast to raise their combined palm oil shipments by 1.6 million tonnes – up 3.8 percent year-on-year. In Indonesia, export growth would slow compared with previous years, owing to higher domestic uptake, especially by the country's oleochemical and biofuel industries. Shipments by **Argentina** and **Brazil** should be at multi-year highs, aided by the availability of large domestic inventories and by exporters benefitting from the US dollar's current strength against the two countries' currencies.

## MEALS AND CAKES<sup>6</sup>

### Global meal/cake supplies set to expand – thanks to large opening stocks

Based on current crop forecasts, the recent expansion in global oilmeal/cake production would come to a halt

in 2015/16. Pegged at 138 million tonnes (expressed in protein equivalent), output would trail 1–2 percent behind the 2014/15 record, primarily reflecting reductions in soy, rape and cottonseed meal. Output of other oilmeals should remain about unchanged.

By contrast, a further expansion is expected for global supplies, which also include 2014/15 carry-out stocks. Thanks to large opening stocks, total supplies are forecast at a record 166 million tonnes. In the world's top consumer, **China**, meal supplies from domestically grown oilseeds could fall slightly on poor crop outturns. More pronounced year-on-year drops are expected in **Canada**, the **EU** and **Australia**, again reflecting poor harvests. In Canada and the EU, large carry-in stocks will help mitigate the drop in supplies. The aforementioned falls should be more than offset by gains in **India** and, in particular, in the world's three leading soymeal producers, the **United States**, **Argentina** and **Brazil**. In India, supply gains would come from higher oilcrops, while in the three other countries, high domestic availabilities would be due to large carry-in stocks. The aggregate supplies of the United States, Argentina and Brazil are projected to climb to an unprecedented 104 million tonnes, up 4 percent on last year.

### Consumption should continue rising in 2015/16, albeit at a reduced pace

Global meal/cake consumption is forecast to reach 137 million tonnes – expressed in protein equivalent. Growing uptake by the livestock sector arising from further economic growth in several countries and the protracted fall in international meal prices should support meal consumption in 2015/16. However, after two consecutive seasons of strong growth, consumer interest could slacken, because, inter alia, large oilmeal supplies may coincide with ample availabilities of feed grains, dampening oilmeal demand in some countries. As in recent years, soybean meal should play a dominant role in overall consumption growth. In fact, higher soymeal utilization is expected to offset contractions in the other meals, notably rapeseed meal, but also cotton and sunflowerseed meals.

Among developing countries, Asia should continue to occupy a key position in overall consumption growth. In **China**, the world's largest meal consumer, total demand is expected to continue expanding, though less pronouncedly than last season. Forecasts of slow overall economic growth, together with persisting avian influenza in the poultry sector, may trim the growth in meat production and, with it, demand for meals. A possible rise in maize sales from government stocks could also affect meal

<sup>6</sup> This section refers to meals from all origins. In addition to products derived from the oil crops discussed under the section on oilseeds, this also includes fish meal and meals of animal origin.

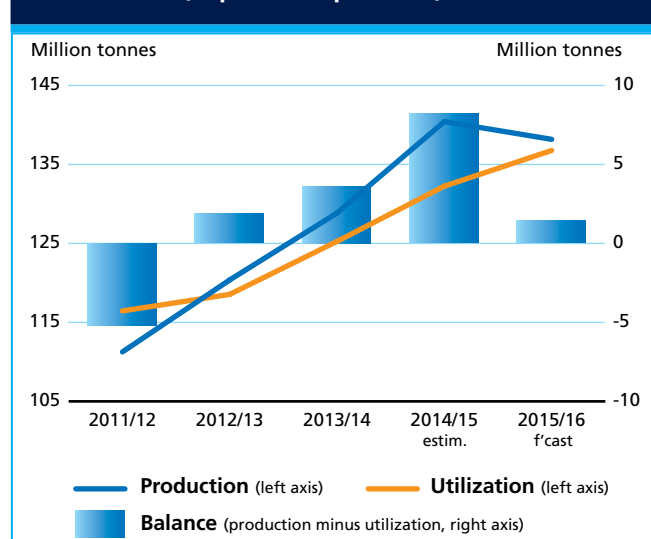
demand. In other Asian countries, consumption should keep rising, especially in **India**, the **Philippines**, **Thailand**, **Turkey** and **Vietnam**. Elsewhere, tentative forecasts point to modest rises in meal demand in the **EU**, **Brazil** and **Argentina**, while consumption in the **United States** could remain about unchanged.

### Global meal inventories to settle around last season's all-time high

In 2015/16, global meal output should more or less match consumption – as opposed to last season, when production significantly outstripped demand, triggering an extraordinary rise in stocks. Based on current forecasts, 2015/16 production may exceed consumption by a small margin, possibly facilitating a further, modest increase in global meal inventories (including the meal contained in stored seeds). Regarding individual meals, the share of soy meal in total inventories is expected to climb further, possibly approaching 90 percent.

**China**, the **EU**, **Australia**, **Ukraine** and the **Russian Federation** are envisaged to downsize their stocks to make up for poor output. The biggest reduction concerns China, where the government's decision to stop public soybean procurement should halt the accumulation of stocks. The above reductions could be more than offset by further stock replenishments in the **United States** and **Brazil** – supported by bumper soy harvests as well as, in the case of the United States, reduced export opportunities. **Argentina's** stocks are pegged close to last season's all-time record. Together, the United States, Brazil and Argentina, the three main suppliers of soybeans/soy meal, would hold more than half of the world's reserves.

**Figure 10. Global production and utilization of meals/cakes (in protein equivalent)**



**Figure 11. World stocks and ratios of meals/cakes (in protein equivalent and including the meal contained in seeds stored)**



Based on the above forecasts, the global stock-to-use ratio for meals/cakes would almost match last year's record-high level, while the stock-to-disappearance ratio for the major exporters<sup>7</sup> could post another increase.

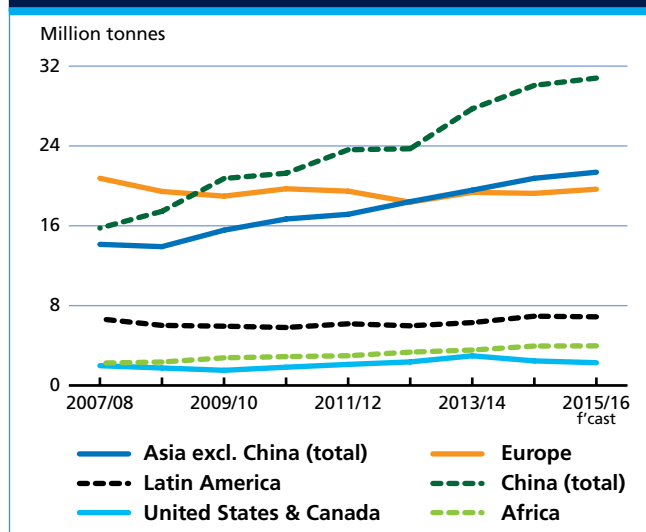
### Expansion in global meal trade to slow down further

International meal trade (including the meal contained in traded oilseeds) has expanded by 10 and 5 percent in 2013/14 and 2014/15, respectively, but is projected to grow by only 2 percent in 2015/16. Commodity-wise, record-high transactions in soybean meal are anticipated to offset falling sales of rapeseed meal, mirroring the former's buoyant supplies and competitive price.

Regarding imports, Asian countries will continue to dominate demand. The region, as a whole, is set to account for about 60 percent of global purchases, and China alone for 36 percent. **China's** imports (mostly in the form of whole soybeans) could decrease, due to the availability of large stocks, the recent deterioration in soybean processing margins and faltering growth in local meal demand. The ongoing depreciation of China's currency could also weigh on import demand. Purchases by other developing nations in Asia should expand by about-average rates, led by the **Philippines**, the **Republic of Korea**, **Thailand** and **Vietnam**. In the **EU**, the world's second largest buyer, tighter domestic supplies could result in a rebound in imports, while, in the **United States** (a net exporter of meals), record local availabilities should facilitate further trimming of foreign purchases.

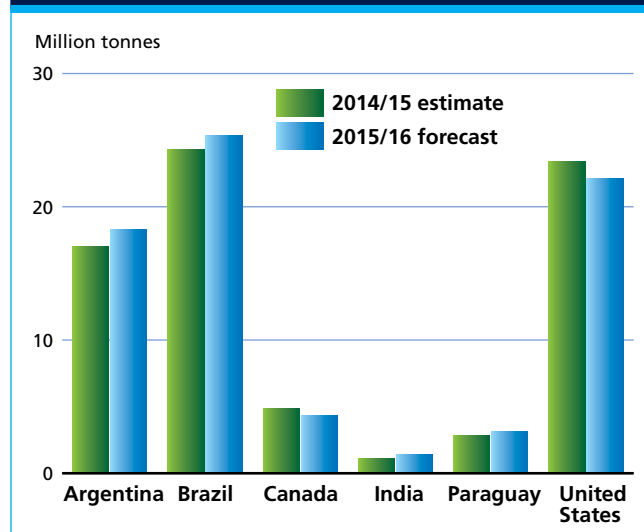
<sup>7</sup> Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, Ukraine and the United States.

**Figure 12. Meal/cake imports by region or major country (in protein equivalent and including the meal contained in seed imports)**



Export growth will be concentrated in South America, with smaller gains also foreseen in **India, China, the Russian Federation, Ukraine, Indonesia** and **Malaysia**. Provided current production forecasts materialize, South America could ramp up – for the third year in succession – its soybean/soymeal deliveries by another 6 percent, or over 2.7 million tonnes, (expressed in protein equivalent and including the meal contained in soybean exports), with **Argentina** and **Brazil** contributing 1.2 and 1 million, respectively. Assisted by record old-crop inventories, the

**Figure 13. Meal/cake exports by major exporters (in protein equivalent and including the meal contained in seed exports)**



two countries' exports should be bolstered by the weakness of their respective currencies, which have raised the competitiveness of their exports relative to those of the **United States**. In fact, year-on-year, US shipments could fall by a conspicuous 1.3 million tonnes, allowing Argentina and Brazil to garner market share. With regard to meals other than soymeal, dispatches of rapeseed/rape meal by **Canada** and **Australia**, the world's main suppliers, should fall on account of low domestic supplies and competition from lower priced soymeal.

# MEAT AND MEAT PRODUCTS

Major Meat Exporters and Importers



After a period of decline, the **FAO Meat Price Index** stabilized between April and September, averaging 171 points. The upturn was the result of higher bovine meat prices, as those of the other categories of meat declined. Meat prices remain substantially below last year, having shed 40 points, or 19 percent, compared to September 2014.

## Modest production expansion; trade growth may stall

World meat production is anticipated to record a modest 1.1 percent expansion in 2015, to 318.8 million tonnes, with the largest increases expected in the EU, the United States and the Russian Federation. The poultry sector is forecast to drive the global expansion, followed by pig meat. Only modest gains are foreseen in bovine and ovine meat production.

Global meat trade is forecast to decline slightly in 2015, by 0.6 percent, to 30.5 million tonnes. This would represent a marked slowdown from the 3 percent growth recorded last year. Projected trade trends diverge across meat sectors, with an expansion forecast for bovine meat and a decline anticipated for the other categories of meat. Poultry remains the main traded meat product, followed by bovine, pig and ovine meat, respectively.

## BOVINE MEAT

### Production up slightly

Bovine meat production in 2015 is forecast to increase by

Figure 1. Prices stabilize (2002-2004=100)

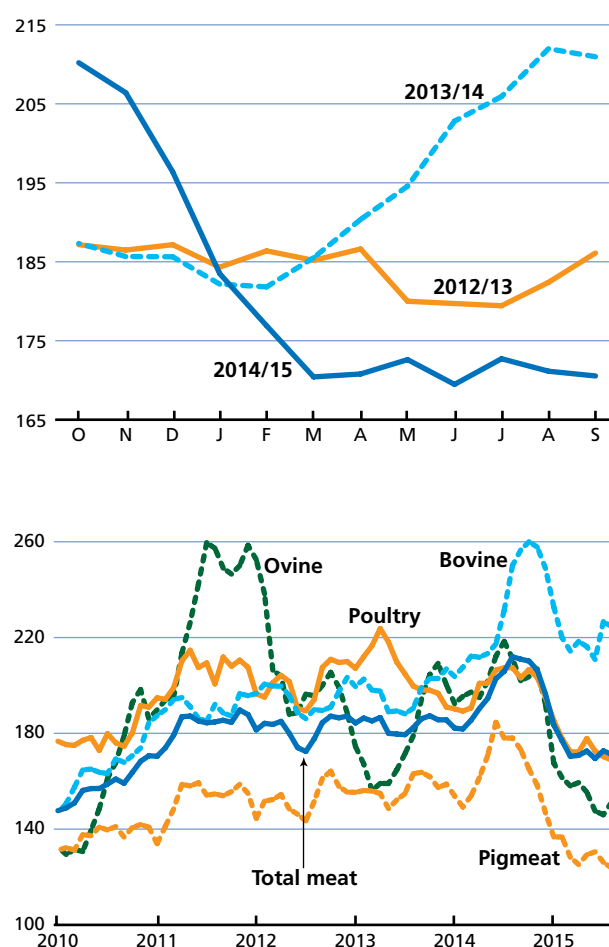


Table 1. World meat market at a glance

|                                                 | 2013         | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i>           | Change:<br>2015<br>over<br>2014                                   |
|-------------------------------------------------|--------------|-----------------------|---------------------------------|-------------------------------------------------------------------|
|                                                 |              |                       | <i>million tonnes</i>           | %                                                                 |
| <b>WORLD BALANCE</b>                            |              |                       |                                 |                                                                   |
| <b>Production</b>                               | <b>311.3</b> | <b>315.3</b>          | <b>318.8</b>                    | <b>1.1</b>                                                        |
| Bovine meat                                     | 68.0         | 68.1                  | 68.3                            | 0.3                                                               |
| Poultry meat                                    | 108.6        | 110.5                 | 112.1                           | 1.5                                                               |
| Pigmeat                                         | 115.0        | 117.3                 | 118.8                           | 1.3                                                               |
| Ovine meat                                      | 13.9         | 13.9                  | 14.0                            | 0.9                                                               |
| <b>Trade</b>                                    | <b>29.7</b>  | <b>30.6</b>           | <b>30.5</b>                     | <b>-0.6</b>                                                       |
| Bovine meat                                     | 8.9          | 9.6                   | 9.7                             | 0.5                                                               |
| Poultry meat                                    | 12.4         | 12.7                  | 12.6                            | -1.0                                                              |
| Pigmeat                                         | 7.1          | 7.0                   | 7.0                             | -0.6                                                              |
| Ovine meat                                      | 1.0          | 1.0                   | 1.0                             | -4.9                                                              |
| <b>SUPPLY AND DEMAND INDICATORS</b>             |              |                       |                                 |                                                                   |
| <b>Per caput food consumption:</b>              |              |                       |                                 |                                                                   |
| <i>World (kg/yr)</i>                            | 43.4         | 43.3                  | 43.4                            | 0.1                                                               |
| <i>Trade - share of prod. (%)</i>               | 9.5          | 9.7                   | 9.6                             | -1.7                                                              |
| <b>FAO MEAT PRICE INDEX<br/>(2002-2004=100)</b> | <b>2013</b>  | <b>2014</b>           | <b>2015<br/><i>Jan-Sept</i></b> | <b>Change:<br/>Jan-Sept 2015<br/>over<br/>Jan-Sept 2014<br/>%</b> |
|                                                 | 184          | 198                   | 178                             | -11.8                                                             |

0.3 percent, to 68.3 million tonnes – prolonging the trend of modest growth evident for several years.

In *South America*, inadequate rain has impinged on cattle availabilities for slaughter in many countries. In **Brazil**, two years of unusually dry weather have affected cattle condition and calf development – causing prices to rise and encouraging producers to retain stock. As a consequence, in 2015, bovine meat production is anticipated to fall by 3 percent to 9.4 million tonnes. In **Argentina**, little growth in production is anticipated, as adverse weather conditions have weighed on the calf crop, while Government export restrictions limit the extent to which sales abroad can be increased. In neighbouring **Paraguay** and **Uruguay**, production growth is forecast, supported by productivity increases and spurred by international demand and attractive cattle prices.

In *Asia*, **India** continues to see its industry grow, stimulated by government programmes to utilize male buffalo calves from the country's expanding dairy herd, although it is not clear at this point (September 2015) how a projected slowdown in exports, the main destination for meat produced, may eventually affect production. Output is forecast to drop in the **Republic of Korea**, where improved prices have encouraged herd rebuilding and some small-scale producers have left the industry. Production in **Japan** is also anticipated to fall, due to continued herd reduction,

especially dairy cattle, although high prices for *Wagyu* beef have fostered some additional retention of stock. In **China**, a reduction in the size of the national herd is forecast to result in a fall in output. Competition from imports – both live cattle and carcasses – and limited availability of land and fodder supplies, combined with poor profitability in the dairy industry, have prompted a number of smaller scale producers in China to exit livestock production.

Most parts of *Africa* received adequate rainfall during the first part of the year, which led to satisfactory pasture conditions and laid the basis for an anticipated moderate increase in bovine meat production in a number of countries, including **Morocco** and **Nigeria**. In **Egypt**, increased output is also forecast, supported by government programmes to control foot-and-mouth disease (FMD) and other policies aimed at bolstering red meat production. Meanwhile, some areas of eastern and southern Africa experienced intermittent seasonal rains during the first part of the year, affecting pastures and feed availability. As a consequence, growth may be constrained in those two subregions. Furthermore, outbreaks of foot-and-mouth disease in eastern and central Africa, including **Kenya**, **Uganda** and **Rwanda**, may depress yields.

In *North America*, the **United States** is expected to see bovine meat production stabilize in 2015, as higher slaughter weights, assisted by cheaper feed costs, should largely counterbalance a decline in slaughtered cattle numbers as a result of calves being retained for herd expansion. Output, forecast at 11.1 million tonnes, would still be the lowest since 1994. The long-term decline in the cattle herd in **Canada**, evident since 1992, is expected to persist in 2015, although increased slaughter weights should partly offset its effect on output, which is forecast at 1 million tonnes. In **Mexico**, reduced feed costs are anticipated to lead to higher bovine meat production via increased slaughter weight and continued herd reduction.

In *Oceania*, dry weather, low international milk product prices and strong international demand for bovine meat have led to a surge in production. In **Australia**, strong international prices are expected to foster an increase in slaughtering, further reducing the national herd in 2015, which may fall to a 20-year low. As a result of the culling, output is forecast to reach 2.6 million tonnes, a 5.3 percent increase over 2014 and a third year of exceptionally high performance. Likewise, production in **New Zealand** is foreseen to be substantially higher, reaching 670 000 tonnes, or 3.1 percent more than in 2014, due to both drought during the first part of the year and sharply lower milk payouts to farmers which led to curtailment of dairy herd expansion. In the **Russian Federation**, bovine meat output is forecast at 1.7 million tonnes, the same

level as the previous year. In the **EU**, production could rise by 1.7 percent in 2015, mainly owing to retention of male dairy calves for fattening and the culling of dairy cows in some countries. Within the EU, the dairy herd is becoming increasingly important as a source of bovine meat supplies, while the size of the pure beef herd is declining.

### Trade: Firm import demand

World trade in bovine meat in 2015 is anticipated to expand by 0.5 percent, to 9.7 million tonnes, a much slower pace than the average rate of 10 percent recorded in the previous two years. Supply limitation is the principal factor behind the anticipated slowdown, as import demand should remain firm in most countries.

Bovine meat imports, particularly by the **United States**, are expected to rise in 2015, assisted by a strong US dollar and limited domestic supply, due to herd rebuilding. Higher levels of purchases are also anticipated for **Japan, Malaysia, Canada, the Republic of Korea** and the **Philippines**. Meanwhile, **Vietnam, Chile, the Islamic Republic of Iran, the Russian Federation, and Venezuela** are predicted to import less. After registering substantial growth for a number of years, shipments to **China** are projected to be little changed in 2015, as are those to the **EU**.

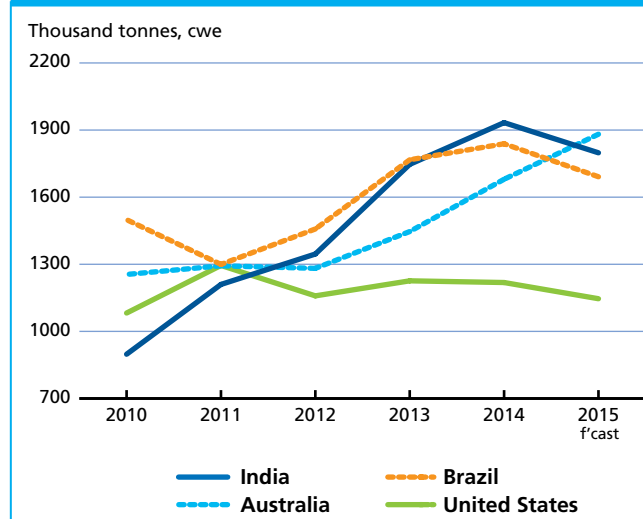
Strong overseas deliveries by **Australia** – in particular to the United States – are projected to see it surpassing **India** and **Brazil** to become the largest international supplier of bovine meat in 2015. Favourable market conditions are expected to boost exports from **New Zealand, Paraguay, Argentina, South Africa** and **Canada**. In the case of New Zealand, a reduced rate of retention within the dairy herd, caused by lower milk payouts, combined with drought-related herd culling at the beginning of the year, have contributed to increased shipments. Sales by **India** are predicted to fall by 7 percent, mainly as a result of a substantial drop off in shipments to Vietnam, its main market. Also, **Brazil** may have to cut sales abroad, due to limited supplies of replacement calves and sustained domestic demand for beef. Shipments to Brazil's three main markets, the Russian Federation, China (Hong Kong, SAR) and Venezuela, all contracted during the first half of 2015. Similarly, herd rebuilding and strong domestic demand are anticipated to curb sales by the **United States**. Exports by the **Belarus, EU** and **Nicaragua** are also forecast to be lower in 2015.

## PIGMEAT

### Production to grow in all regions

World production of pigmeat is forecast to grow by

Figure 2. Bovine meat exports



1.3 percent to 118.8 million tonnes in 2015. This would represent a reduced rate of expansion compared with the average of 2.1 percent recorded in the previous two years. Stagnation in **China**, which accounts for almost half the world output, is the main reason for the slowdown. An unfavourable feed-pork price ratio in the country and new environmental regulations have caused farmers to reduce breeding sows, stalling growth. Production in 2015 is projected at 57.1 million tonnes, down 0.2 percent from the previous year. Elsewhere in Asia, **Vietnam, the Philippines** and **Indonesia** are expected to boost output. Production in **Japan** and the **Republic of Korea** continues to be affected by last year's outbreaks of porcine endemic diarrhoea (PED), which reduced piglet numbers. Both countries may see production rise only during the latter part of 2015 – resulting in little increase in output for the year as a whole. Recovery from the effects of PED has been faster in the **United States**, where production may finish the year 6.1 percent higher, at 11 million tonnes, and **Mexico**, where production is forecast to rise 3.9 percent to 1.3 million tonnes. In both cases, lower feed prices have encouraged growth. Elsewhere in the *Americas*, a fall in feed costs is anticipated to boost production in **Canada** and **Brazil**. The **EU** is expected to maintain the expansion seen last year, based on both augmentation of the breeding sow herd and heavier slaughter weights. In the **Russian Federation**, the pace of growth in pigmeat production is anticipated to increase, due to investment in, and the growing importance of, large-scale production units.

### Pigmeat: Trade to fall for the third year

Trade in pigmeat in 2015 is expected to decline for the third consecutive year, retreating by 0.6 percent to 7 million



tonnes, although the extent of the decrease would be less than in the previous two years. The major factor contributing to the drop is reduced import demand by the **Russian Federation**. In the Russian Federation, increasing domestic production means that the sourcing of external supplies of pigmeat has been declining since 2012, when imports peaked at 1 089 million tonnes. This process was exacerbated in August 2014 by the implementation of country-specific import bans. As a consequence, deliveries to the Federation are projected to be in the order of 297 000 tonnes in 2015, down 45 percent from 2014 and a fall of two-thirds compared with 2012. While overall purchases have been significantly reduced, Russian imports from some countries not subject to the ban have risen, principally Brazil and Belarus, but also Chile and Serbia. Imports by **Japan, Vietnam and Angola** are also

expected to decline. By contrast, a number of countries are anticipated to increase their purchases of pigmeat, including the **United States**, the **Republic of Korea**, **Mexico**, **China** and **Australia**, although not sufficiently to counteract the decline elsewhere.

Apart from the **EU**, all other major exporters – the **United States**, **Canada** and **Brazil** – are forecast to see retrenched shipments in 2015, as a result of an overall weakening of international demand for pigmeat. In the case of the EU, strong growth in production and competitive pricing are anticipated to lead to a 5 percent increase in sale. A more detailed examination of trade data reveals that the affected exporters are adjusting to the ban imposed by the Russian Federation and seeking alternative markets. For example, the EU has reoriented its exports to *Asia*, but also to *Africa*, *Oceania* and *North America*. Similarly, subsequent to the ban, Canada has increased sales to the United States, Mexico, *Oceania* and South Africa.

Figure 3. Pigmeat exports

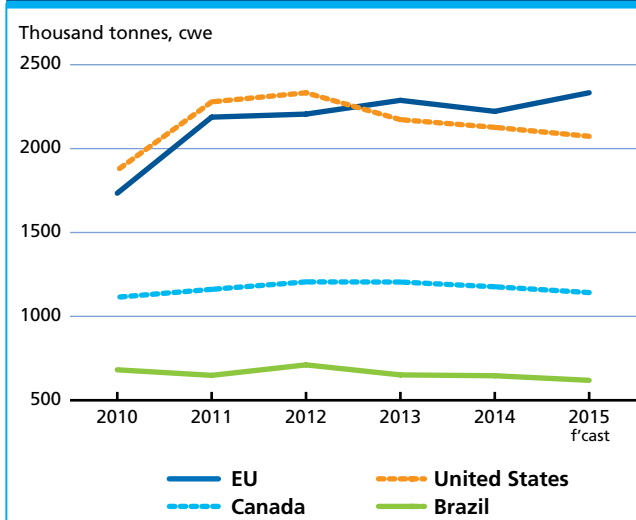
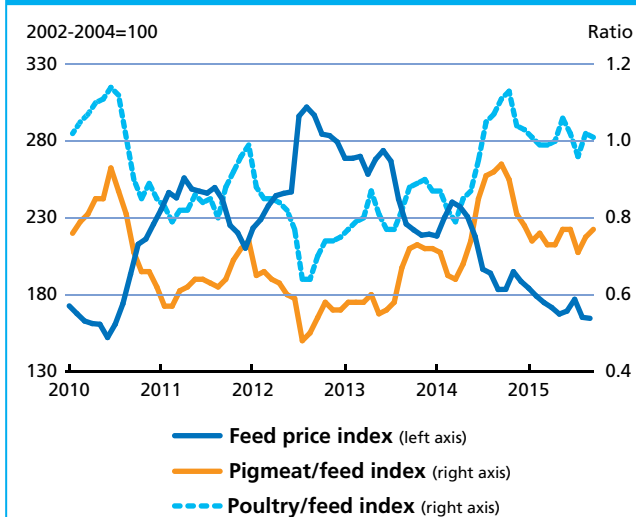


Figure 4. Feed/price relationship relatively stable for pigmeat and poultry producers



## POULTRY

### Production: China weighs on world growth

Modest growth is foreseen for poultry production in 2015, with output expected to rise by 1.5 percent to 112.1 million tonnes, a rate similar to last year but much slower than the 3 percent per year trend of the past decade. While falling feed prices have supported growth in many countries, industry challenges in **China** continue to weigh on the world total. In China, concerns over avian influenza have caused demand for poultry to stagnate. As a consequence, 2015 production in the country is projected to be unchanged, at 18.5 million tonnes. Excluding China, all the other largest producing countries are expected to register growth, including **Brazil**, the **EU**, the **Russian Federation**, **Mexico**, **India**, the **Islamic Republic of Iran** and **Indonesia**. In the **United States**, the principal producer, outbreaks of highly pathogenic avian influenza (HPAI) are expected to dampen the sector's expansion to only 0.7 percent to reach 20.6 million tonnes in 2015.

### Trade: Set to decline

Trade in poultry in 2015 is expected to decline by 1 percent to 12.6 million tonnes. This would represent the first fall registered since 2009, although the rate of trade growth has been waning since 2012. In general, the stalled expansion in trade is a reflection of augmented production in importing countries, which has curtailed their need for external meat supplies. For 2015, however, outbreaks of HPAI in some areas of the United States from January onwards caused numerous countries to suspend

imports. Additionally, sharply reduced purchases by the Russian Federation and Angola, due to changed import regimes, have negatively impacted trade.

The two major poultry meat importers, **China** and **Japan**, are projected to maintain their purchases at similar levels to the previous year, while growth in imports by a number of other major markets is anticipated, including **Mexico, Saudi Arabia, Vietnam** and **South Africa**. Conversely, imports by the **EU**, the **Russian Federation** and **Angola** are anticipated to decline. In the case of Angola, in January 2015, the government revoked import licenses for a number of products, including chicken parts. Furthermore, at the beginning of the year, it imposed a blanket ban on poultry imports from the United States, traditionally its major supplier, following HPAI outbreaks there. As for the Russian Federation, a second year of falling purchases is anticipated, stemming from growth in domestic production and the August 2014 ban on imports from specific countries. In 2013, countries/groupings subject to the ban (mainly the United States and the EU) supplied approximately three-quarters of the Russian Federation's poultry meat imports. As a result, it has been a challenge for the country to identify alternative suppliers. For the first half of 2015, only limited additional sourcing had occurred, mainly from Brazil, Turkey and Belarus. Imports by the EU are also projected to fall, as low feed prices have diminished costs, making external purchases, particularly from Brazil and China, less attractive.

The three leading poultry exporters, **Brazil**, the **United States** and the **EU**, have seen little variation in sales in recent years. This situation is anticipated to change for the United States in 2015, as the HPAI outbreak has caused importers to look for alternative sources of supply. Exports by the United States for the year as a whole are

projected to fall by 8 percent, although much will depend on how soon the disease is contained and eradicated, and normal trade patterns are resumed. Some of the United States' main markets have introduced trade bans only on poultry originating from the 13 US states affected by the disease (or affected counties within these states), while still allowing imports from the rest of the country. The difficulties faced by the US are likely to favour some second-tier exporters, such as **Thailand** and **Turkey**, which are expected to record a strong increase in poultry meat shipments. Conversely, **Argentina**, which has also seen substantial export growth in recent years, is facing a decline in sales to Venezuela, its principal market, which may cause its overall exports to fall in 2015.

## OVINE MEAT

### Production: Limited growth

After stagnating in 2014, production of ovine meat is forecast to show limited growth in 2015, rising by 0.9 percent to 14 million tonnes. Developing countries account for three-quarters of total output, with the largest producers being **China, India, Nigeria, Sudan** and **Pakistan**. Generally satisfactory pasture conditions have set the basis for output expansion in many of the major producing areas of *Asia* and *Africa*. In *Oceania*, drought-imposed herd reduction and subsequent rebuilding are projected to constrain output in **Australia** and **New Zealand**. In the **EU**, a second year of modest production growth is expected, with output particularly increasing in the United Kingdom and Romania.

### Trade: Decline anticipated

World trade in ovine meat is anticipated to contract by almost 5 percent, to 976 000 tonnes, in 2015, reflecting reduced shipments from **Australia** and **New Zealand**, which have entered a phase of flock restocking. As a result of the process, Australia is expected to see exports fall by 4 percent, while New Zealand could experience a 6 percent drop. However, some much smaller-scale exporters, such as **India, Pakistan** and **Ethiopia**, could see sales grow.

Reduced world export availabilities are expected to limit import flows, especially to **China**, the **EU**, **Canada** and **Japan**, although countries in the *Near East* the **United States** and **Malaysia** may increase their purchases of ovine meat.

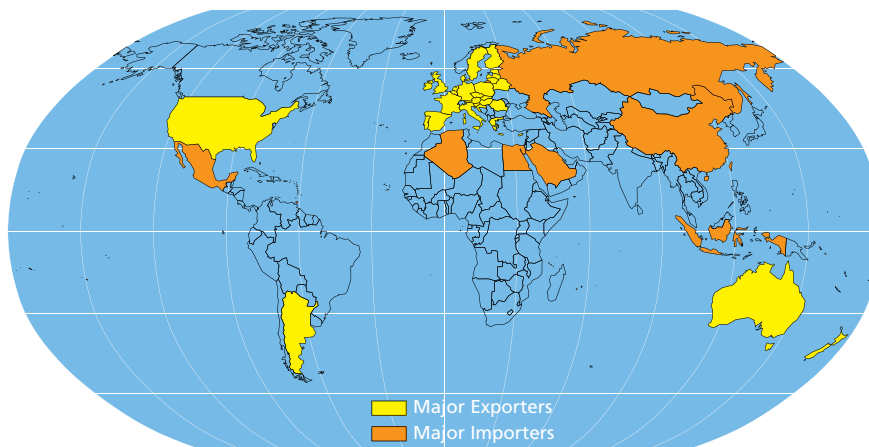
Figure 5. United States: poultry exports





# MILK AND MILK PRODUCTS

Major Dairy Exporters and Importers



## PRICES

### Reduced import demand causes prices to fall

International dairy product prices began 2015 at low levels and, despite some positive movement in February and March, resumed a declining trend from April to August. In September, concerns that milk output in New Zealand would fall during the current June/May dairy year caused *Oceania* prices to rise, although quotations from the EU were little changed. The softening of the international dairy prices, which began in early 2014, was to a large extent the result of reduced import demand from China and, subsequently, the Russian Federation, amid ample world export availabilities.

The **FAO Dairy Price Index** stood at 142.3 in September 2015, up 5 percent from August, but 24.3 percent lower year-on-year. Compared with September 2014, quotations for all dairy products covered in the Index were substantially lower: down 33.8 percent for skimmed milk powder (SMP) to USD 1 838 per tonne; down 27.5 percent for whole milk powder (WMP) to USD 2 148 per tonne; down 24.5 percent for cheddar cheese to USD 3 000 per tonne; and down 12.7 percent for butter to USD 2 882 per tonne.

## PRODUCTION

### Most growth to come from Asia

World milk production is forecast to grow by 1.5 percent

Figure 1. Prices weakened for the year up to September (2002-2004=100)

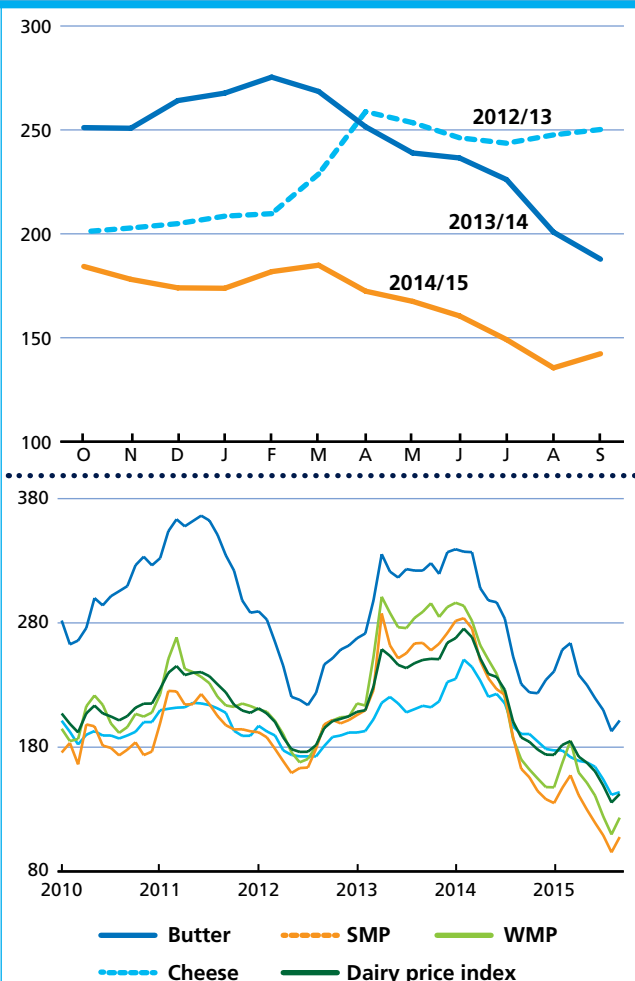


Table 1. World dairy market at a glance

|                                          | 2013  | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i>  | Change:<br>2015<br>over<br>2014                      |
|------------------------------------------|-------|-----------------------|------------------------|------------------------------------------------------|
| <i>million tonnes</i>                    |       |                       |                        | %                                                    |
| WORLD BALANCE                            |       |                       |                        |                                                      |
| Total milk production                    | 767.5 | 789.0                 | 800.7                  | 1.5                                                  |
| Total trade                              | 68.7  | 72.6                  | 71.3                   | -1.7                                                 |
| SUPPLY AND DEMAND INDICATORS             |       |                       |                        |                                                      |
| Per caput food consumption:              |       |                       |                        |                                                      |
| World (kg/yr)                            | 107.2 | 109.0                 | 109.4                  | 0.4                                                  |
| <i>Trade share of prod. (%)</i>          | 9.0   | 9.2                   | 8.9                    | -3.1                                                 |
| FAO DAIRY PRICE INDEX<br>(2002-2004=100) | 2013  | 2014                  | 2015<br><i>Jan-Sep</i> | Change:<br>Jan-Sep 2015<br>over<br>Jan-Sep 2014<br>% |
|                                          | 243   | 224                   | 163                    | -31.8                                                |

to 801 million tonnes in 2015. Output is set to expand in all regions except *Oceania*, with most of the increase expected to come from *Asia*, principally from **India**. Production in the country is expected to expand by 4.3 percent, or 6.1 million tonnes, to 147.8 million tonnes. Herd expansion and improved productivity are important engines underpinning production growth in India, where urbanization and rising incomes are fuelling demand. Increased output is also anticipated in **Pakistan** and **Turkey**. Elsewhere in *Asia*, the **Islamic Republic of Iran**, **Japan** and **Saudi Arabia** are anticipated to record levels slightly above last year, while in **China**, production may decline, as low farm-gate prices for milk have led some smaller scale producers to leave the industry or reduce herd size, in order to stem losses. Similarly, in the **Republic of Korea**, production is expected to fall somewhat, as a result of poor profitability. In *Africa*, most parts of the continent received adequate rainfall during the first part of the year, which led to satisfactory pasture conditions and laid the basis for an anticipated moderate increase in milk production. For instance, increases are forecast for **South Africa**, **Algeria** and **Tanzania**, while dry weather in **Kenya** negatively affected pastures as well as fodder and feed supplies, a situation expected to limit growth in production.

Stagnant consumer demand and low international prices, combined with challenging climatic conditions in some areas, are anticipated to curb growth in dairy production in several countries in *Latin America and the Caribbean*. Countries of the southern cone experienced dry weather at the start of the year, followed by flooding, which impinged on the condition of pastures in many countries. Nevertheless, subregional milk production is projected to rise by a modest 1.2 percent to

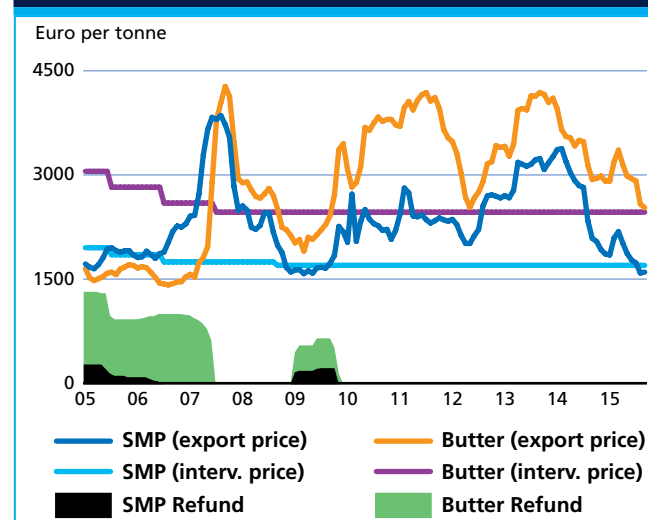
71 million tonnes. Gains are forecast for **Brazil**, **Ecuador**, **Colombia**, **Venezuela**, **Chile**, **Uruguay** and **Paraguay**. In **Argentina**, constrained domestic demand and reduced returns from exports are expected to cause milk production to fall by 3.6 percent, to 11.0 million tonnes. In *Central America*, milk output in **Mexico**, the largest producer in the subregion, is forecast to expand by 1.9 percent, with a moderate increase also anticipated in **Costa Rica**.

In *North America*, output in the **United States** is forecast to register a second year of growth and rise by 1.3 percent to 94.7 million tonnes – assisted by lower feed costs and strong domestic demand. Deliveries in **Canada** are set to remain at 8.5 million tonnes, within the limits established by its milk quota system.

In *Europe*, **EU** milk production is projected to grow by 0.9 percent to 161.4 million tonnes. Reduced farm-gate prices in many member countries have acted as a brake on production, even though feed costs have been reduced and forage has been in good supply. Low prices – both domestically and internationally – dampened the effect of the abolition of the milk quota system at the end of March 2015, although in the longer term several EU Member States, particularly Ireland, the Netherlands and Germany, are expected to boost production. As a result of limited growth in milk output and rising productivity, EU dairy cow numbers are anticipated to move lower. Milk production in the **Russian Federation** is predicted to fall in 2015, as poor profitability has caused a contraction in the dairy herd, in particular in the small farm sector. In neighbouring **Belarus**, production is on an upward trend, stimulated by increased sales to the Russian Federation.

In *Oceania*, **New Zealand's** dependency on the export market has made the country particularly affected by the

Figure 2. EU intervention prices, price and export refund for butter and skim milk powder



prevailing low prices, which have caused a substantial revision in payments to producers. This situation has acted as a disincentive for farmers to raise output via herd expansion or feeding supplements. New Zealand's production in the current dairy year is anticipated to decrease by 2 percent to 21.5 million tonnes, as farmers cull less-productive cows. In **Australia**, lower returns from the export market are likely to limit the rise in output to 1 percent for the current July-June dairy year, fostered by higher milk yields.

## TRADE

### Reduced imports by China and the Russian Federation overshadow the market

Trade is forecast to fall by 1.7 percent in 2015 to 71.3 million tonnes of milk equivalent, due to weakened international demand. While *Asia* would remain the principal destination for trade, the region's import demand is expected to fall for the first time since 2006. A

downturn in **China's** purchases – following several years of exceptional growth – is the main factor behind this change. Elsewhere in *Asia*, most major importers should increase purchases including **Saudi Arabia, Indonesia, Malaysia, Vietnam, the United Arab Emirates, Japan** and the **Republic of Korea**. Lower international prices are expected to stimulate purchases in *Africa* as a whole. The principal importers that could see growth are **Algeria, Egypt** and **Nigeria**. Similarly, in *Latin America and the Caribbean*, the prevailing low prices are forecast to encourage imports by **Mexico, Venezuela** and **Brazil**. Strong domestic demand for butter and cheese are likely to boost total dairy imports by the **United States**. In *Europe*, purchases by the **Russian Federation** are predicted to fall markedly for the second year in a row, reflecting devaluation of the rouble, along with the continuation of the ban introduced in August 2014 on trade with Australia, Canada, the EU, Norway and the United States, which has particularly affected cheese. Imports by the **EU** also are anticipated to fall.

As for exports, the two major sources of supply, **New Zealand** and the **EU**, are predicted to keep deliveries to foreign markets essentially unchanged in 2015, while those of the **United States**, India, **Argentina, Turkey**, and the **Islamic Republic of Iran** could fall substantially. Conversely, **Belarus** and **Australia** are projected to register some growth in exports compared to the previous year.

### Whole milk powder (WMP) – Trade to fall

World trade in WMP is projected to drop by 5.5 percent in 2015 to 2.4 million tonnes, the first decline since 2007. After reaching a peak in January 2014, prices almost continuously declined up until September 2015, dropping 58 percent, from USD 5 158 per tonne to USD 2 148 per tonne. Slashed purchases by **China**, which accounted for nearly 40 percent of world imports in 2014, has been the primary factor overshadowing price developments this year. China's half-year WMP imports were 50 percent down from 2014, stemming from reduced domestic demand and processors utilizing previously imported stock. Elsewhere in *Asia*, low prices have stimulated demand in several major markets, including **United Arab Emirates, Oman, Vietnam, Saudi Arabia, Sri Lanka, Indonesia** and **Malaysia**. In *North Africa* and *Latin America and the Caribbean*, **Algeria, Nigeria** and **Brazil** are also anticipated to boost imports. The sharp fall in purchases by China this year is likely to be reflected in reduced shipments by all the principal exporters, namely **New Zealand**, the **EU, Argentina** and **Australia**, and many smaller scale exporters, such as the **United States** and **Brazil** could also be affected. New Zealand, as the largest exporter of

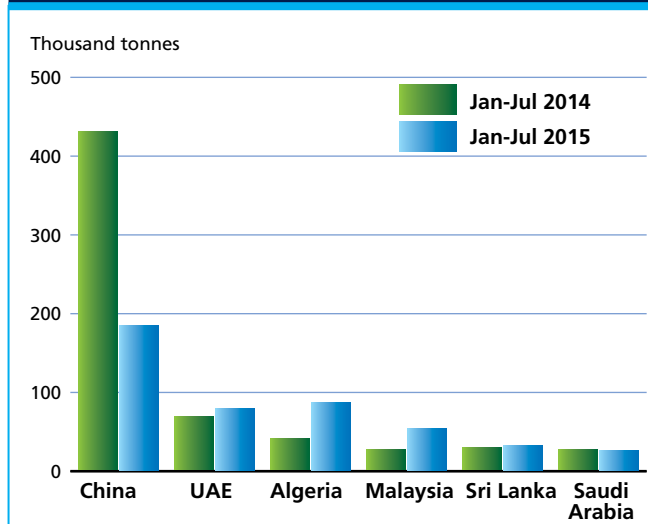
**Table 2. Trade in dairy products: Principal exporting countries**

|                   | Average<br>2011-13               | 2014<br>prelim. | 2015<br>f'cast | Change<br>2015 over<br>2014 |
|-------------------|----------------------------------|-----------------|----------------|-----------------------------|
|                   | thousand tonnes (product weight) |                 |                | %                           |
| WHOLE MILK POWDER |                                  |                 |                |                             |
| World             | 2 389                            | 2 588           | 2 445          | -5.5                        |
| New Zealand       | 1 221                            | 1 424           | 1 373          | -3.6                        |
| European Union*   | 383                              | 389             | 350            | -10.0                       |
| Argentina         | 195                              | 144             | 118            | -17.7                       |
| Australia         | 107                              | 81              | 70             | -13.5                       |
| SKIM MILK POWDER  |                                  |                 |                |                             |
| World             | 1 811                            | 2 131           | 2 194          | 3.0                         |
| European Union*   | 481                              | 646             | 698            | 8.0                         |
| United States     | 478                              | 554             | 504            | -9.0                        |
| New Zealand       | 381                              | 383             | 420            | 9.7                         |
| Australia         | 142                              | 164             | 201            | 23.1                        |
| BUTTER            |                                  |                 |                |                             |
| World             | 878                              | 976             | 921            | -5.6                        |
| New Zealand       | 446                              | 510             | 459            | -10.0                       |
| European Union*   | 127                              | 149             | 172            | 15.2                        |
| Belarus           | 70                               | 69              | 80             | 16.4                        |
| Australia         | 69                               | 43              | 39             | -9.4                        |
| United States     | 48                               | 74              | 30             | -59.3                       |
| CHEESE            |                                  |                 |                |                             |
| World             | 2 388                            | 2 410           | 2 410          | 0.0                         |
| European Union*   | 742                              | 721             | 675            | -6.4                        |
| New Zealand       | 269                              | 278             | 334            | 20.0                        |
| United States     | 278                              | 371             | 315            | -15.0                       |
| Belarus           | 132                              | 166             | 205            | 23.7                        |
| Australia         | 165                              | 151             | 163            | 8.3                         |
| Saudi Arabia      | 134                              | 115             | 120            | 4.3                         |

\* Excluding trade between the EU member countries. From 2013: EU-28



Figure 3. WMP exports: New Zealand major markets



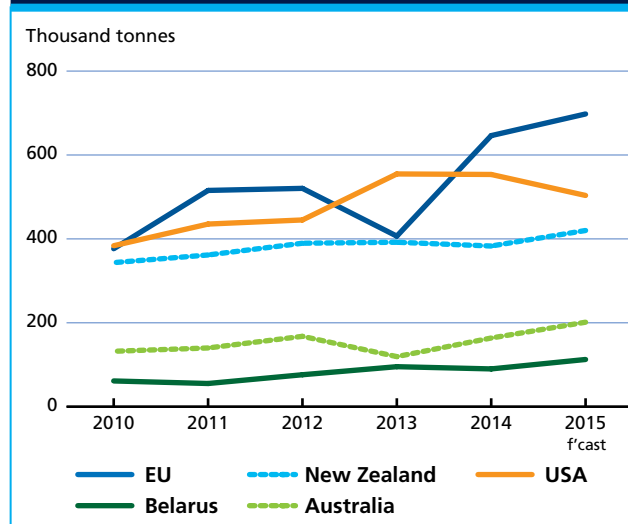
WMP, with a 55 percent world market share, supplying over 80 percent of China's WMP imports in 2014, has had to make the most adjustment. Despite seeing sales to China drop by half in the first seven months of 2015, overall exports of WMP were only 5 percent below the same period in 2014. This was achieved by substantially increasing exports to a wide geographical range of countries, including Algeria, Malaysia, Venezuela, the United Arab Emirates, Vietnam and Nigeria. In some cases, this substituted for shipments by other exporters that traditionally supplied those markets.

### Skim milk powder (SMP) – Market growth

Trade in SMP is predicted to grow by 3 percent in 2015. As with WMP, SMP prices have fallen almost uninterruptedly from early 2014 until September 2015, dropping 62 percent, from USD 4 844 to USD 1 838 per tonne. Despite the similar magnitude of price decrease to that registered by WMP, quotations for butter - SMP's co-product – fell much less, which prompted manufacturers to switch production from WMP to SMP/butter. SMP is central to the milk processing industry in many countries and, as such, demand is more dispersed than that of WMP, with no single importing country predominating. Although **China** is expected to see imports fall by 16 percent, this would be more than compensated for through rising purchases by other countries, principally **Malaysia** and **Mexico**, but also **Brazil**, **Japan**, **Egypt**, **Thailand** and **Vietnam**.

The current absence of the Russian Federation as a market for its cheese encouraged the EU to increase the volume of milk channelled into SMP and butter production from August 2014. As a consequence, the **EU** is anticipated to build on the substantial increment in sales of SMP in 2014, to record further growth in 2015. **Australia's**

Figure 4. SMP: major exporters

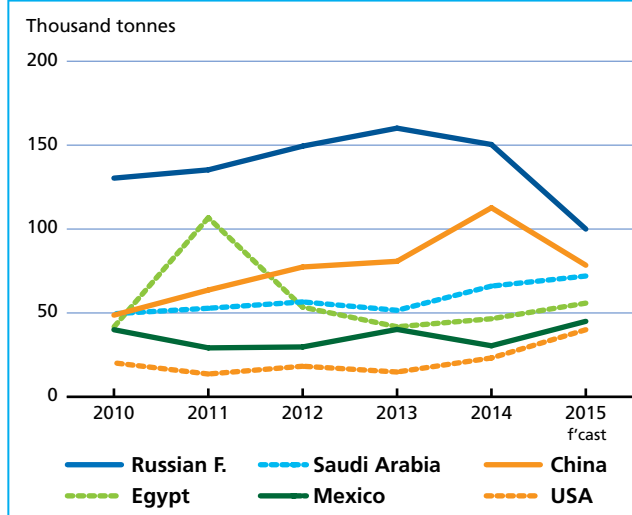


continued focus on SMP production for export should also sustain the country's deliveries, especially to *Southeast Asia*. In the case of **New Zealand**, stymied import demand for WMP has led to greater emphasis on SMP production and export, with *Southeast Asia* again being the principal destination. **Belarus** is projected to see expansion in sales, mainly to the Russian Federation, where it is partly filling the void left by other suppliers subject to the Russian ban. Conversely, exports by the **United States** are forecast to fall, as currency appreciation has reduced its international competitiveness and emphasis is placed on cheese production. Following a surge in 2013, shipments by **India** almost halved in 2014, with an even larger magnitude of decline foreseen for 2015, as the domestic market offers more attractive returns.

### Butter – Import demand to fall

Trade in butter is forecast to drop by 5.6 percent to 921 000 tonnes in 2015, its first decline since 2011. Along with other dairy products, international quotations for butter fell from a peak reached in early 2014, dropping 41 percent (by September 2015), from USD 4 853 to USD 2 882 per tonne. The magnitude of change was less than that for milk powders. The difference is a consequence of major exporters, with the exception of New Zealand, being able to utilize their domestic markets to absorb excess supplies of butter. The drop in trade is projected to stem mainly from the contraction of imports by the **Russian Federation**, **China** and the **EU**. The devaluation of the rouble and the origin-specific import ban are the main causes in the case of the Russian Federation, while in China, it is a reflection of decreased import demand. For the EU, a fall-off in *inward processing* (duty-free imports for re-export) caused by the suspension of sales to the Russian

Figure 5. Butter: major importers



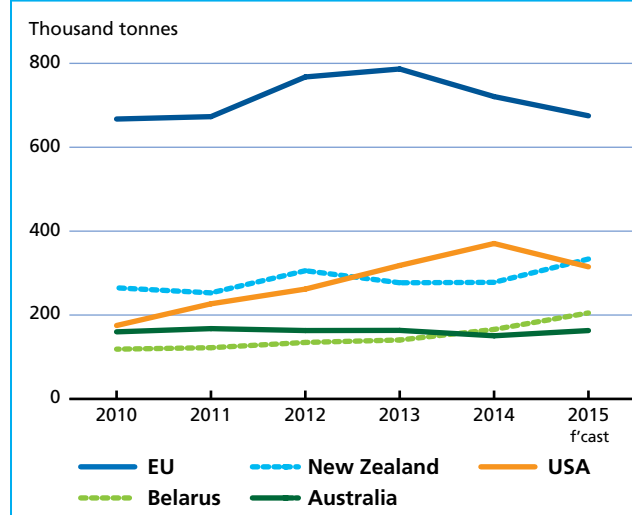
Federation retrenched importation. A number of countries are forecast to raise their level of purchases, including the **United States, Mexico, Egypt** and **Saudi Arabia**. In the United States, high domestic prices and abundant supplies on the world market mean that imports could rise by over two-thirds in 2015.

**New Zealand** is projected to bear the brunt of the fall in world butter imports, due to a sharp drop in sales to China, its principal export market in recent years, and strong competition from the EU in markets in the *Middle East* and *North Africa*. For the **United States**, increased production of cheese and yogurt, and demand from the food industry have kept domestic butter prices high, which is expected to depress exports for the second year in a row. Sales for the year up to July were 70 percent lower than the same period in 2014. Meanwhile, as the devaluation of the euro against several currencies has improved its competitiveness, EU exports are expected to grow beyond last year's substantial level. Elsewhere, **Belarus** and **Uruguay** may gain from access to the Russian Federation's market.

### Cheese – Trade unchanged

Trade in cheese is forecast to remain stable in 2015, at 2.4 million tonnes. International quotations for cheese have experienced a sharp decline from the peak reached in February 2014, falling 43 percent (by September 2015), from USD 5 225 to USD 3 000 per tonne. As with butter,

Figure 6. Cheese: major exporters



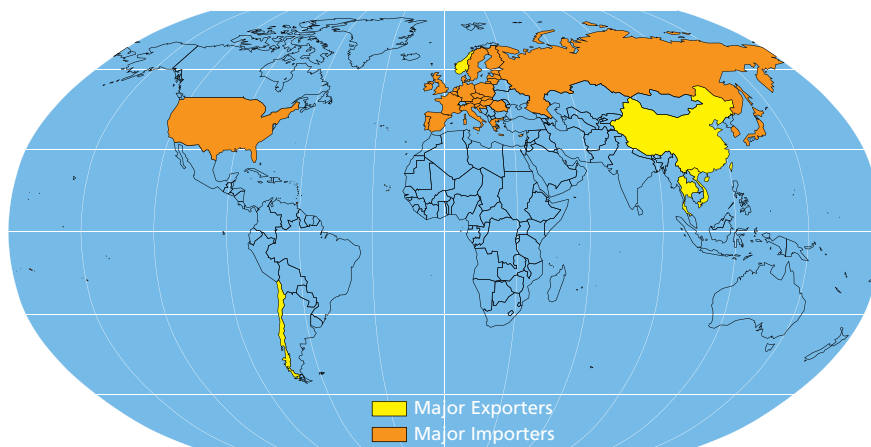
the price dip was less than that of milk powders. Greater stability comes from having a diversified international market but also large domestic markets in many exporting countries, which can absorb excess supplies in times when international prices are low. Rising imports by the **Republic of Korea, Japan**, the **United States, Saudi Arabia, Mexico** and **China** are anticipated to counterbalance a second substantial, annual fall in purchases by the **Russian Federation**.

Amongst the major exporters, a fall in shipments by the **EU** and the **United States** is predicted to be compensated by growth in sales by **New Zealand, Belarus** and **Australia**. New Zealand and Australia are projected to sell more to *Asia* and *North America*, in particular, while a bound in sales by Belarus to the Russian Federation is foreseen. As the cheese exporter principally affected by the Russian Federation's ban on trade with certain countries, the EU is forecast to see its exports fall by 6 percent, despite substantially increased deliveries to *Asia*, in particular Japan and the Republic of Korea, and to the United States. As exports constitute less than 10 percent of total EU cheese production, the ban, while affecting particular member countries more than others, has not had a substantial impact on the Union's overall output. Finally, buoyant domestic demand and currency appreciation are expected to result in exports by the United States falling sharply, especially to markets in *Asia*.



# FISH AND FISHERY PRODUCTS

Major Exporters and Importers of Fish and Fishery Products



## GLOBAL FISH ECONOMY

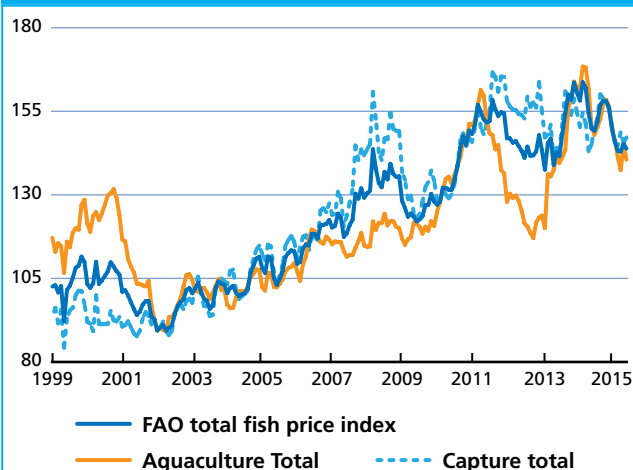
In 2015, global fish production will grow at a faster rate, basically due to the normalization of anchoveta catches in South America after low levels recorded in 2014 related to El Niño. However, for the last quarter of 2015 and for the beginning of 2016, El Niño is expected to continue its negative influence on global fish production, and low production levels should be observed again for some species in specific regions. Taking this caveat into consideration, 2015 production trends are largely as

forecast, with a steadily growing global aquaculture sector and minimal-to-zero increases in wild catches. International trade volumes of fishery products continues to expand, but at a declining rate, reflecting important market issues in many countries, such as currency devaluations, economic slowdowns and an increase in demand for national products.

In recent years, emerging markets, particularly in Asia and especially in China, are having a considerable positive influence on the growth of fish consumption around the world. China's enormous aquaculture and capture fisheries sectors make it by far the world's biggest fish producer. In terms of trade, it is already the world's top exporting country by a significant amount and is also one of the largest importers. However, with China's slowdown and continuing change in consumption pattern in big cities, some trade pattern changes can be expected to occur. Considering that several Chinese fish businesses were built upon the import-processing-export model, namely importing raw material (salmon and cod, particularly) to process it and then re-export it to major markets, they can be highly influenced by a weaker currency. To what extent the RMB devaluation will be sufficient to keep a competitive advantage in the export sector to overcome the increase in costs for inputs is still an open question.

The global picture so far in 2015 is somewhat less positive than last year for producers. Higher shrimp, salmon, cod and cephalopod production is softening prices in many markets and the average fish price index for the

Figure 1. The FAO Fish Price Index (2002-2004=100)



Source of data: Norwegian Seafood Council (NSC)

Table 1. World fish market at a glance

|                                                              | 2013                  | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i>           | Change:<br>2015<br>over<br>2014                                 |
|--------------------------------------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------------------------------------|
|                                                              | <i>million tonnes</i> |                       |                                 | <i>%</i>                                                        |
| <b>WORLD BALANCE</b>                                         |                       |                       |                                 |                                                                 |
| <b>Production</b>                                            | <b>162.8</b>          | <b>164.3</b>          | <b>168.6</b>                    | <b>2.6</b>                                                      |
| Capture fisheries                                            | 92.6                  | 90.0                  | 90.6                            | 0.7                                                             |
| Aquaculture                                                  | 70.2                  | 74.3                  | 78.0                            | 5.0                                                             |
| <b>Trade value (exports USD billion)</b>                     | <b>136.1</b>          | <b>143.5</b>          | <b>129.8</b>                    | <b>-9.6</b>                                                     |
| <b>Trade volume (live weight)</b>                            | <b>58.8</b>           | <b>59.5</b>           | <b>59.8</b>                     | <b>0.5</b>                                                      |
| <b>Total utilization</b>                                     | <b>162.8</b>          | <b>164.3</b>          | <b>168.6</b>                    | <b>2.6</b>                                                      |
| Food                                                         | 141.0                 | 144.6                 | 147.5                           | 2.0                                                             |
| Feed                                                         | 16.8                  | 15.0                  | 16.4                            | 9.7                                                             |
| Other uses                                                   | 5.0                   | 4.8                   | 4.7                             | -2.1                                                            |
| <b>SUPPLY AND DEMAND INDICATORS</b>                          |                       |                       |                                 |                                                                 |
| <b>Per caput food consumption:</b>                           |                       |                       |                                 |                                                                 |
| Food fish (kg/yr)                                            | 19.7                  | 20.0                  | 20.1                            | 0.9                                                             |
| From capture fisheries (kg/year)                             | 9.9                   | 9.7                   | 9.5                             | -2.2                                                            |
| From aquaculture (kg/year)                                   | 9.8                   | 10.3                  | 10.6                            | 3.8                                                             |
|                                                              |                       |                       |                                 |                                                                 |
| <b>FAO FISH PRICE INDEX <sup>1</sup><br/>(2002-2004=100)</b> | <b>2013</b>           | <b>2014</b>           | <b>2015<br/><i>Jan-June</i></b> | <b>Change:<br/>Jan-Jun 2015<br/>over<br/>Jan-Jun 2014<br/>%</b> |
|                                                              | 148                   | 157                   | 145                             | -8.2                                                            |

<sup>1</sup> Norwegian Seafood Council (NSC)  
Totals may not match due to rounding

first six months of 2015 was down some 8 percent from the same period last year. Fishmeal prices have also fallen for now, while low fuel prices and weak demand means tuna prices are still languishing at very low levels following a long decline, despite some signs of recovery earlier in the year. Looking forward to 2016, aquaculture producers concerned with feed costs will be taking note of the El Niño weather pattern forecast for later 2015, which is likely to result in reduced South American anchoveta catches in the second season and can be expected to push fishmeal and fish oil prices up once again.

Despite the rising importance of domestic demand in developing regions, producers and exporters from these countries nevertheless benefitted last year from high prices and strong demand for key traded species in major markets such as the US. Cephalopods from Northern Africa, shrimp from Asia and Latin America, and salmon from Chile were all big earners last year. In Norway, high salmon and cod prices also contributed to record export revenues. A cancelled second anchoveta season in Peru, due to a high proportion of juveniles in the stock, saw fishmeal prices reach record highs.

In the medium term, current demand trends in the major markets of the US, the EU and Japan can be expected to

prevail. The continuing effects of the Russian food import ban must also be considered. It has now been extended for another year, meaning that producers such as Norway will need to rely primarily on the EU to absorb surplus production, or develop further markets elsewhere.

Of the major seafood markets – the EU, Japan and the US – the latter was the clear winner in 2014. A strong dollar and positive economic outlook saw US imports rise by some 15 percent in dollar terms in 2014, compared with the previous year. In the EU, total import value year-on-year increased by 8 percent in dollar terms on the back of slow but steady demand growth, while in Japan, a weak yen and the ongoing shift in the protein preferences of younger consumers towards terrestrial meats saw a 5 percent decline in import values overall.

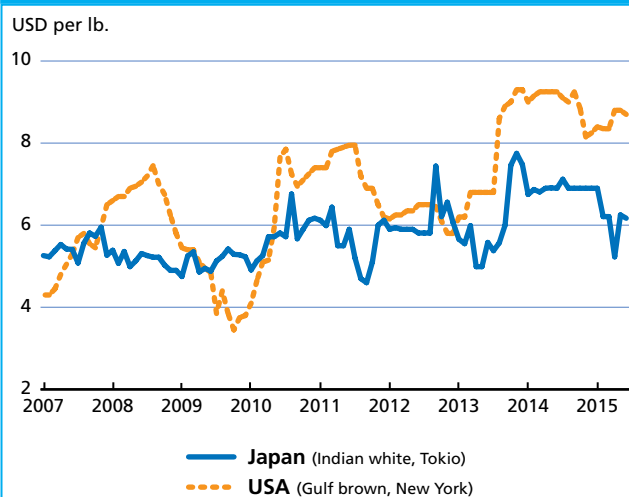
## SHRIMP

Global shrimp prices are down significantly year-on-year, although this is following record price peaks in 2014. Early mortality syndrome continues to result in high mortality in many important producing regions in Thailand and China, but increased production overall can be expected in 2015. In particular, good harvests are forecast in Ecuador and Mexico, while India saw increased production and around 12 percent higher export volume in the first half of this year, despite a large price drop. Lower prices have hit export revenues and negatively impacted margins for producers in many developing regions. Wild-caught gulf shrimp prices have also fallen appreciably. Of the major markets for shrimp, it appears that the US is currently the most attractive destination for exporters, as import volumes rise amid signs that consumer demand is responding to the lower market prices, which are further supported by a strong US dollar. In contrast, reduced purchasing power

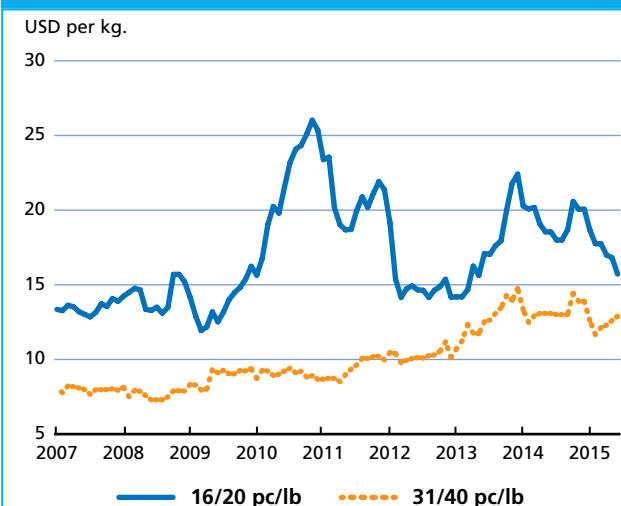
Table 2. USA shrimp imports, by origin

|               | 2010                               | 2011         | 2012         | 2013         | 2014         | 2015         |
|---------------|------------------------------------|--------------|--------------|--------------|--------------|--------------|
|               | <i>Jan-March (thousand tonnes)</i> |              |              |              |              |              |
| Indonesia     | 14.6                               | 16.7         | 19.4         | 17.5         | 24.1         | 28.0         |
| India         | 3.6                                | 7.2          | 10.4         | 17.1         | 21.0         | 24.2         |
| Ecuador       | 14.8                               | 15.2         | 19.2         | 17.7         | 22.4         | 23.4         |
| Thailand      | 39.1                               | 39.0         | 30.5         | 24.0         | 13.7         | 16.6         |
| Viet Nam      | 6.3                                | 7.8          | 8.6          | 7.9          | 16.2         | 12.5         |
| China         | 9.8                                | 8.1          | 7.3          | 6.5          | 8.5          | 7.1          |
| Mexico        | 8.2                                | 4.2          | 8.0          | 5.8          | 3.5          | 6.6          |
| Malaysia      | 4.8                                | 5.9          | 6.4          | 5.6          | 3.7          | 4.4          |
| Peru          | 2.0                                | 2.6          | 2.1          | 2.3          | 3.4          | 2.4          |
| Guyana        | 1.9                                | 2.0          | 3.1          | 2.1          | 2.4          | 2.2          |
| Argentina     | 0.0                                | 0.2          | 0.1          | 0.3          | 1.2          | 1.1          |
| Honduras      | 0.5                                | 0.7          | 0.7          | 0.5          | 1.5          | 1.1          |
| <b>Others</b> | <b>111.0</b>                       | <b>115.2</b> | <b>121.7</b> | <b>111.3</b> | <b>127.1</b> | <b>135.1</b> |

Source: NMFS

**Figure 2. Shrimp prices (16-20 count) in main wholesale markets**

Source: INFOFISH

**Figure 3. Prices of white shrimp on the Japanese market**

Source: INFOFISH

resulting from a weakening currency has prevented EU buyers from taking full advantage of lower international prices. Similarly, in Japan, the weak yen has created a difficult market for importers. For the remainder of 2015, global shrimp prices are likely to stay soft compared with last year.

## TUNA

Despite continuing low prices, demand has not increased in the major canned tuna markets. The price weakening for frozen raw material began in December 2013, as a result of falling demand, and has continued as fuel prices reduced operating costs for the industry. Thailand, the

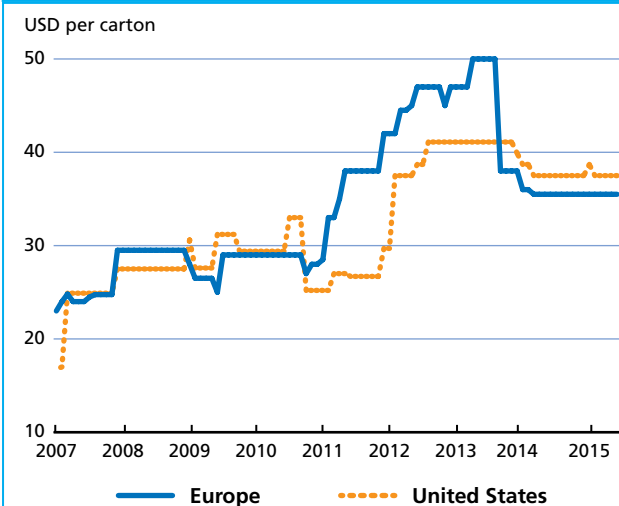
**Table 3. EU-28 shrimp imports, by origin**

|                                    | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Jan-March (thousand tonnes)</i> |              |              |              |              |              |              |
| <b>IMPORTS</b>                     |              |              |              |              |              |              |
| India                              | 14.9         | 16.1         | 14.2         | 16.2         | 19.4         | 19.9         |
| Ecuador                            | 15.8         | 22.4         | 19.5         | 16.3         | 21.7         | 18.6         |
| Argentina                          | 4.9          | 8.7          | 5.9          | 8.3          | 8.3          | 12.4         |
| Greenland                          | 14.4         | 17.1         | 14.4         | 15.0         | 14.6         | 11.5         |
| Viet Nam                           | 7.4          | 10.1         | 7.5          | 7.2          | 7.6          | 10.5         |
| China                              | 9.0          | 11.6         | 9.1          | 8.1          | 5.4          | 10.0         |
| Denmark                            | 12.0         | 11.0         | 9.3          | 10.1         | 10.6         | 9.4          |
| Bangladesh                         | 7.4          | 8.8          | 7.6          | 8.0          | 6.6          | 8.2          |
| Netherlands                        | 8.1          | 10.0         | 9.3          | 8.2          | 7.7          | 7.3          |
| Canada                             | 7.5          | 7.2          | 8.5          | 5.6          | 6.2          | 6.5          |
| Spain                              | 4.7          | 4.9          | 5.2          | 5.2          | 5.5          | 5.4          |
| Belgium                            | 5.4          | 6.9          | 5.6          | 5.0          | 5.6          | 5.2          |
| UK                                 | 2.6          | 2.9          | 2.5          | 2.8          | 2.9          | 4.9          |
| Morocco                            | 3.3          | 3.0          | 3.0          | 2.2          | 3.3          | 3.9          |
| Thailand                           | 12.1         | 13.4         | 10.8         | 9.2          | 3.1          | 2.8          |
| Indonesia                          | 5.9          | 5.2          | 2.9          | 2.3          | 3.3          | 2.7          |
| Germany                            | 4.2          | 5.0          | 3.8          | 2.9          | 2.6          | 2.6          |
| Others                             | 28.8         | 27.4         | 26.0         | 23.8         | 26.8         | 23.6         |
| <b>Grand Total</b>                 | <b>168.4</b> | <b>191.9</b> | <b>165.1</b> | <b>156.4</b> | <b>161.3</b> | <b>165.5</b> |
| <b>Total Intra Imports</b>         | <b>43.2</b>  | <b>47.9</b>  | <b>41.2</b>  | <b>39.4</b>  | <b>40.8</b>  | <b>41.3</b>  |
| <b>Total Extra Imports</b>         | <b>125.1</b> | <b>143.9</b> | <b>124.0</b> | <b>117.1</b> | <b>120.5</b> | <b>124.2</b> |
| <b>EXPORTS</b>                     |              |              |              |              |              |              |
| <b>Grand Total</b>                 | <b>82.1</b>  | <b>87.5</b>  | <b>75.7</b>  | <b>72.6</b>  | <b>67.8</b>  | <b>71.5</b>  |
| <b>Total Intra Exports</b>         | <b>58.9</b>  | <b>67.2</b>  | <b>57.7</b>  | <b>56.6</b>  | <b>52.9</b>  | <b>54.6</b>  |
| <b>Total Extra Exports</b>         | <b>23.2</b>  | <b>20.2</b>  | <b>18.0</b>  | <b>16.0</b>  | <b>14.9</b>  | <b>16.9</b>  |

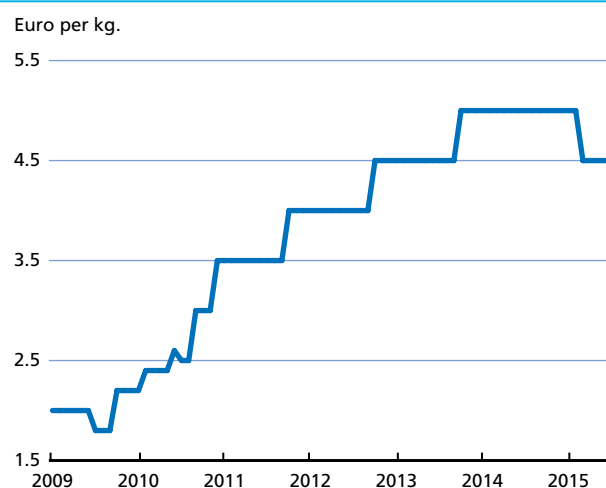
Source: EUROSTAT

major exporter, has seen exports decrease by 4.5 percent in volume to around 280 000 tonnes in the first half of 2015, with developing markets making up some of the demand shortfall from traditional markets. Export revenues have also fallen for other major exporters in Latin America. Imports of fresh tuna and frozen sashimi-quality bigeye and yellowfin in Japan have fallen further in 2015, a continuation of the declining demand trend of the past few years. On the supply side, tuna catches in the Western and Central Pacific have been moderate, following the World Tuna Purse-seiner Organization (WTPPO) decision to implement a 35 percent reduction in the fishing effort from 15 May to 31 December 2015 in an effort to boost prices. A two-month Inter-American Tropical Tuna Commission (IATTC) closure began on 29 July in the Eastern Pacific, during which about 40 percent of vessels were tied up. In addition, fishing in the third quarter has been affected by bad weather in the Indian and Atlantic Oceans. Elsewhere, there have been reports of recovery for Atlantic bluefin resources.



**Figure 4. CFR prices canned tuna (USA and Europe)**

Source: INFOFISH 48X6.5 oz Europe, 48x6 oz USA, chunk, origin Thailand

**Figure 5. Oyster prices, origin: Ireland/France**

Source: GLOBEFISH European Price Report

## GROUND FISH

The cod market is performing well, although prices have been under some pressure lately. Icelandic fishermen have a higher cod total allowable catch (TAC) of 239 000 tonnes in the 2015/2016 quota year, whereas the International Council for the Exploration of the Sea (ICES) has advised that the Barents Sea cod TAC for 2016 should not exceed 805 000 tonnes, the lowest advice for cod since 2012. The ICES advice for the haddock TAC was increased by 35 percent to 223 000 tonnes for 2016. In Russia, the market for groundfish species is currently described as passive due to the high prices for cod and haddock. The outlook for the Alaska pollock B season, which started in June, is optimistic. Stable supplies are expected, with a strong focus on surimi production as Japan's consumption seems to be stabilizing. In Germany, imports of Alaska pollock fillets, coming mainly from China and the US, fell somewhat in 2015 as a weaker euro drove import prices up. Norway, an important producer, exported groundfish worth a total of NOK 6.7 billion (USD 859.5 million) in the first half of 2015. This is NOK 896 million (USD 114.9 million), or 16 percent, more than the same period last year. These increased revenues are the result of strong demand for fresh groundfish and the reduced cod catch last winter, which drove prices upwards.

## CEPHALOPODS

The octopus supply situation has improved this year, with catches significantly higher in Morocco. The major markets of Japan and Spain both imported more in the first half of 2015 compared with last year, although prices in Japan

have been pushed down by the higher volumes. The US is an important growth market for octopus, and imports have risen further this year on the back of strengthening consumer demand, which increased 34 percent in the first half of 2015. In the Falkland Islands, 2015 squid landings have been particularly good as sea temperatures return to normal after three years below normal. In Argentina, however, catches of *Illex argentine* squid are down by 21 percent for the first half of 2015, dropping to 153 349 tonnes. The Spanish market is the major destination, and demand looks firm currently. Squid prices could come under increased pressure if China continues to put more product on the international market. Cuttlefish trade has shown little growth for some time, a trend that does not seem likely to change any time soon.

## SALMON

Appreciation of the Euro versus the krone, and a reduction in harvest volumes at Norwegian farms saw third quarter prices for Norwegian Atlantic salmon reach levels significantly higher than those seen in the same period in 2014. This price increase has been driven by reduced biomass together with currency shifts favouring exporters and slower growth rates. So far, it appears that demand in core markets has not been overly affected by high prices, with the EU as a whole absorbing 373 000 tonnes of salmon worth NOK 16 billion (USD 2.05 billion) in the first half of 2015. The seasonal drop in prices following end-of-summer harvesting can still be expected to occur, but the outlook for the rest of the year is positive for Norwegian prices. The Chilean industry is facing somewhat more challenging conditions, as export prices to the US are now

Table 4. World production farmed salmon

|                 | 2011              | 2012  | 2013  | 2014* | 2015* | 2016* |
|-----------------|-------------------|-------|-------|-------|-------|-------|
|                 | (thousand tonnes) |       |       |       |       |       |
|                 | Jan-Mar           |       |       |       |       |       |
| ATLANTIC SALMON |                   |       |       |       |       |       |
| Norway          | 1 065             | 1 232 | 1 168 | 1 250 | 1 250 | 1 310 |
| Chile           | 264               | 400   | 492   | 620   | 600   | 630   |
| UK              | 158               | 163   | 154   | 165   | 170   | 170   |
| Canada          | 102               | 108   | 100   | 125   | 135   | 140   |
| Faeroe Islands  | 60                | 77    | 76    | 85    | 88    | 88    |
| Australia       | 37                | 44    | 43    | 44    | 44    | 44    |
| Ireland         | 12                | 12    | 9     | 16    | 17    | 18    |
| USA             | 19                | 19    | 20    | 19    | 22    | 22    |
| Others          | 10                | 12    | 24    | 12    | 12    | 12    |
| Total           | 1 728             | 2 067 | 2 087 | 2 187 | 2 338 | 2 434 |
| PACIFIC SALMON  |                   |       |       |       |       |       |
| Chile           | 161               | 164   | 146   | 130   | 170   | 175   |
| New Zealand     | 14                | 12    | 12    | 13    | 13    | 13    |
| Japan           | 0                 | 10    | 12    | 8     | 8     | 8     |
| Total           | 175               | 186   | 170   | 136   | 191   | 196   |
| Grand Total     | 1 903             | 2 252 | 2 257 | 2 323 | 2 529 | 2 630 |

Source: FAO (until 2013)

\*Estimate

significantly down and relatively higher costs are narrowing company margins.

## SMALL PELAGICS

Greenland announced in April that it is cutting its mackerel quota for 2015 by 15 percent, to 85 000 tonnes. The EU, Norway and the Faroe Islands have also lowered their mackerel quotas for 2015. This will likely push mackerel prices up in the medium term, although the long-term trend seems to be a price decline. For herring, tighter supplies are expected to see more of the catch sold for direct human consumption in 2015 compared with 2014, as supplies are tighter and prices higher. Major producer Norway exported herring worth NOK 889 million (USD 114 million) in the first half of 2015, which represents a reduction of 32 percent. In previous years, the Russian Federation was the most important market for Norwegian herring, but the Russian ban on certain food imports has put an end to its dominant market share. In the Pacific herring roe industry, meanwhile, many operators are struggling to make a profit, and the outlook is rather bleak. In Peru, there is considerable uncertainty as to the potential impact of the approaching El Niño on the anchoveta fishery. In the sardine market, European and US imports of canned sardines have stagnated significantly this year as demand has weakened.

## FISHMEAL AND FISH OIL

Prices of fishmeal and fish oil have decreased from their peak in 2014, though pressure on supply will continue with the projection of a strong El Niño phenomenon in the fall 2015. Production of both fishmeal and fish oil from Peru was very low in the first quarter of 2015, due to the cancellation of the second anchoveta fishing quota in 2014, although production of fishmeal in Europe made up some of the supply gap. Since then, markets have remained quiet, as buyers are reluctant to build up stocks while prices remain on a downward trend, but increased volatility can be expected as the second season approaches. El Niño is expected to continue through the Northern Hemisphere in fall 2015, with an 85 percent chance it will last through the 2015–16 winter. Consequently, there will be much uncertainty about the fishing quota set for the second season, as well as the amount of anchoveta that will actually be caught out of that quota. Meanwhile, demand for fishmeal and fish oil will remain strong.

## BIVALVES

Import volumes of fresh mussels into France, the major European market, are stable at 21 140 tonnes, and prices can be expected to rise after the summer in line with typical seasonal trends. In contrast, mussel imports into the US are

Table 5. Production fish meal: Selected countries

|                | 2010              | 2011       | 2012       | 2013       | 2014       | 2015       |
|----------------|-------------------|------------|------------|------------|------------|------------|
|                | (thousand tonnes) |            |            |            |            |            |
|                | Jan-Mar           |            |            |            |            |            |
| Peru/Chile     | 131               | 215        | 201        | 174        | 142        | 72         |
| Denmark/Norway | 82                | 56         | 41         | 76         | 64         | 99         |
| Iceland        | 39                | 49         | 115        | 93         | 44         | 107        |
| <b>Total*</b>  | <b>252</b>        | <b>320</b> | <b>388</b> | <b>399</b> | <b>317</b> | <b>330</b> |

Source: IFFO

\*These figures refer only to IFFO member countries

Table 6. Production fish oil: Selected countries

|                | 2010              | 2011      | 2012       | 2013       | 2014      | 2105      |
|----------------|-------------------|-----------|------------|------------|-----------|-----------|
|                | (thousand tonnes) |           |            |            |           |           |
|                | Jan-Mar           |           |            |            |           |           |
| Peru/Chile     | 21                | 49        | 48         | 40         | 51        | 24        |
| Denmark/Norway | 22                | 18        | 21         | 22         | 14        | 19        |
| Iceland        | 11                | 17        | 41         | 32         | 13        | 32        |
| <b>Total</b>   | <b>54</b>         | <b>84</b> | <b>112</b> | <b>106</b> | <b>89</b> | <b>84</b> |

Source: IFFO

\*These figures refer only to IFFO member countries

down significantly this year. Oyster production stabilized in 2014 after several years of decline, due to severe damage caused by a virus, and demand for oysters is increasing in the US and also in Japan. For scallops, high prices are leading to a general weakening in household demand for scallops in the EU, and imports were also down in the US by some 26 percent in volume terms for the first six months of the year. In general, the market penetration rate for shellfish is still rather low in most countries, including many in Asia, meaning the potential for expansion will be considerable if price levels remain low enough.

## TILAPIA

Despite some sporadic supply hiccups, tilapia remains a popular protein choice. Global tilapia production reached an estimated 4.85 million tonnes in 2014, and is now forecast to grow by 6 percent, reaching 5 million tonnes in 2015. Balancing high production, quality and sustainability is challenging for the tilapia industry in China. Chinese volumes are slowing, as the nation's exporters are looking to diversify and enlarge their markets. In other regions, however, tilapia farming is expanding. Many pangasius farmers in Viet Nam who have been forced out of business are starting to farm tilapia, and there is also growth in supply in India. In Latin America, tilapia production is expected to increase in 2015 as demand remains strong in the US and neighboring markets, as well as in the growing domestic market. Meanwhile, imports of tilapia into the EU have continued on a downward trend.

## PANGASIOUS

The most recent FAO figures report global pangasius production in 2013 at 1.67 million tonnes with Viet Nam accounting for a substantial 71 percent of the total. Nearly 98 percent of this comes from aquaculture. Indonesia has significantly increased its production over the years, and now ranks as the second largest producer, making up 25 percent of the global pangasius supply. Other production trends include increases from Cambodia and Myanmar, with the latter beginning exports to the US market. US imports of frozen pangasius fillets rebounded strongly this year, up 17 percent for the first half of 2015 to 58 000 tonnes. Meanwhile, demand for frozen pangasius remains reasonably firm in EU markets although imports during the first half of this year fell substantially to 54 000 tonnes, pressured by the weakening euro. Following the recent round of negotiations on the EU-Viet Nam Free Trade Agreement (FTA), it was agreed to cut the tax on pangasius significantly, which could promote

future export volume growth. Pangasius will continue to be a top choice of affordable fish protein, and demand remains steady in most markets.

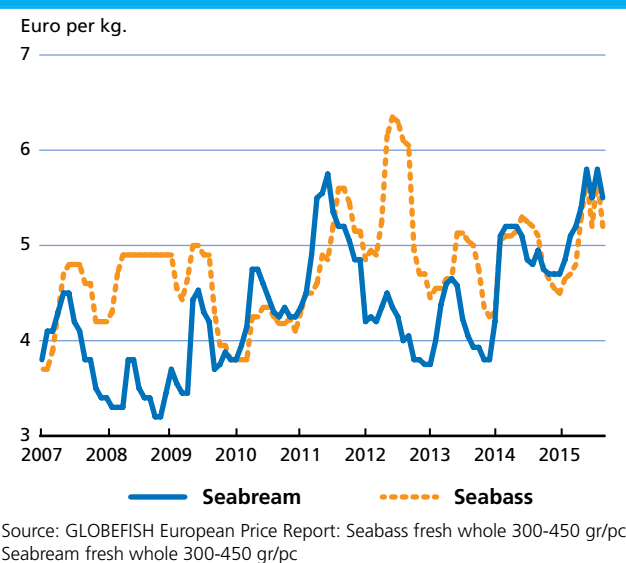
## GILTHEAD SEABREAM AND EUROPEAN SEABASS

Greek aquaculture companies have recently been struggling with a range of difficulties related to the unstable economic situation, while Turkish producers have been benefitting from favourable exchange rates, rapid expansion in old and new markets, and the recent firming of prices. Greek exports of bass and bream for the first half of 2015 were down around 10 percent in volume terms, as farm production levels were throttled back. This had an overall positive effect on prices in core markets going into the second quarter, particularly for bream. Supply in Turkey is also expected to tighten in the second half of 2015 following relatively high export volumes in the first six months, and should see prices remain seasonally high, taking into account the typical post-summer drop in demand.

## LOBSTER

Over the past five years, total lobster landings have increased by about 15 percent, reaching about 290 000 tonnes per year. However, lobster supplies have still fallen short of demand that is stimulated by good economic prospects in the US. In contrast, in the EU, the economic situation is more unstable, which may dampen its demand. Increased lobster landings have put pressure

**Figure 6. Prices of seabass and seabream in Italy, origin Greece**



on some markets but, at the same time, new markets for lobster are growing. In particular, producers in the US and Canada have seen increasing demand from Asia.

## CRAB

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International trade of crab products has been on a slightly declining trend over the past decade, and is now at about 340 000 tonnes per year. The main importers are the US, which accounts for about 25 percent of global imports, and China, which accounts for about 15 percent. Currently, crab supplies are increasing, mainly as a result of increased Russian production, which may push prices further down. In Japan, the unfavorable yen exchange rate has prevented Japanese buyers from being active in the market, although the crab market in northern Europe has benefitted from the high prices of coldwater shrimp.



# SPECIAL FEATURES



# THE PRICE OF FEEDING THE WORLD IS FALLING, WILL IT CONTINUE?

*Contributed by Adam Prakash and Friederike Greb, Economists, FAO*

*Feeding the Planet, Energy for Life* is the central theme of Expo Milano 2015, a universal exposition underway in Milan, Italy. Guaranteeing healthy, safe and sufficient food for everyone, while respecting the equilibrium between resource availability and usage is the paramount challenge the exposition advocates. Understanding food price movements helps us address this challenge, as decisions on what, how, and how much to produce depend on price signals.

Large price swings in international food markets over the past decade remain vivid. Domestic policies to contain the risks of higher food prices remain in force today, as do measures to improve policy coordination and increase vigilance at the global level, as evidenced by the G20's establishment of the Agricultural Market Information System (AMIS). The manner in which international food prices rose and were subsequently sustained led many to believe that the world had entered a new era of not just high but also rising and volatile food prices – in stark contrast to previous decades characterized by low and subdued prices. But, prices of food commodities have started to decline since the beginning of 2011.

Do recent price falls prompt a rethink? Should low prices be a matter for concern? Are the falls just part of ongoing volatility? Is the apparent reversal in prices here to stay? This note attempts to shed light on these issues with statistical analysis of the FAO Food Price Index, a trade-weighted index tracking international market prices for five major food commodity groups: cereals, meat, dairy products, vegetable oils and sugar.

## WHAT HAS HAPPENED TO THE FAO FOOD PRICE INDEX?

The (nominal) FAO Food Price Index (FPI)<sup>1</sup> has fallen, almost uninterruptedly, for the past 18 months, with the pace

<sup>1</sup> The FPI is a measure of the monthly change in the international prices of a basket of food commodities. It consists of the average of five commodity group price indices, weighted by the average export shares of each group for 2002–2004. See <http://www.fao.org/worldfoodsituation/foodpricesindex/en/> for more information.

of decline gathering momentum. For instance, the FPI lost around 50 points (a quarter of its value) in the past 12 months alone and recently slumped to a 6-year low of 155 points in August 2015. Figure 1 shows the spikes of 2008 and 2011. In early 2011, the FPI had risen to a historic high of some 240 points, meaning that the cost of the (traded) food basket was 1.4 times higher than during the base 2002–04 period. Today, food is certainly cheaper than in the recent past.

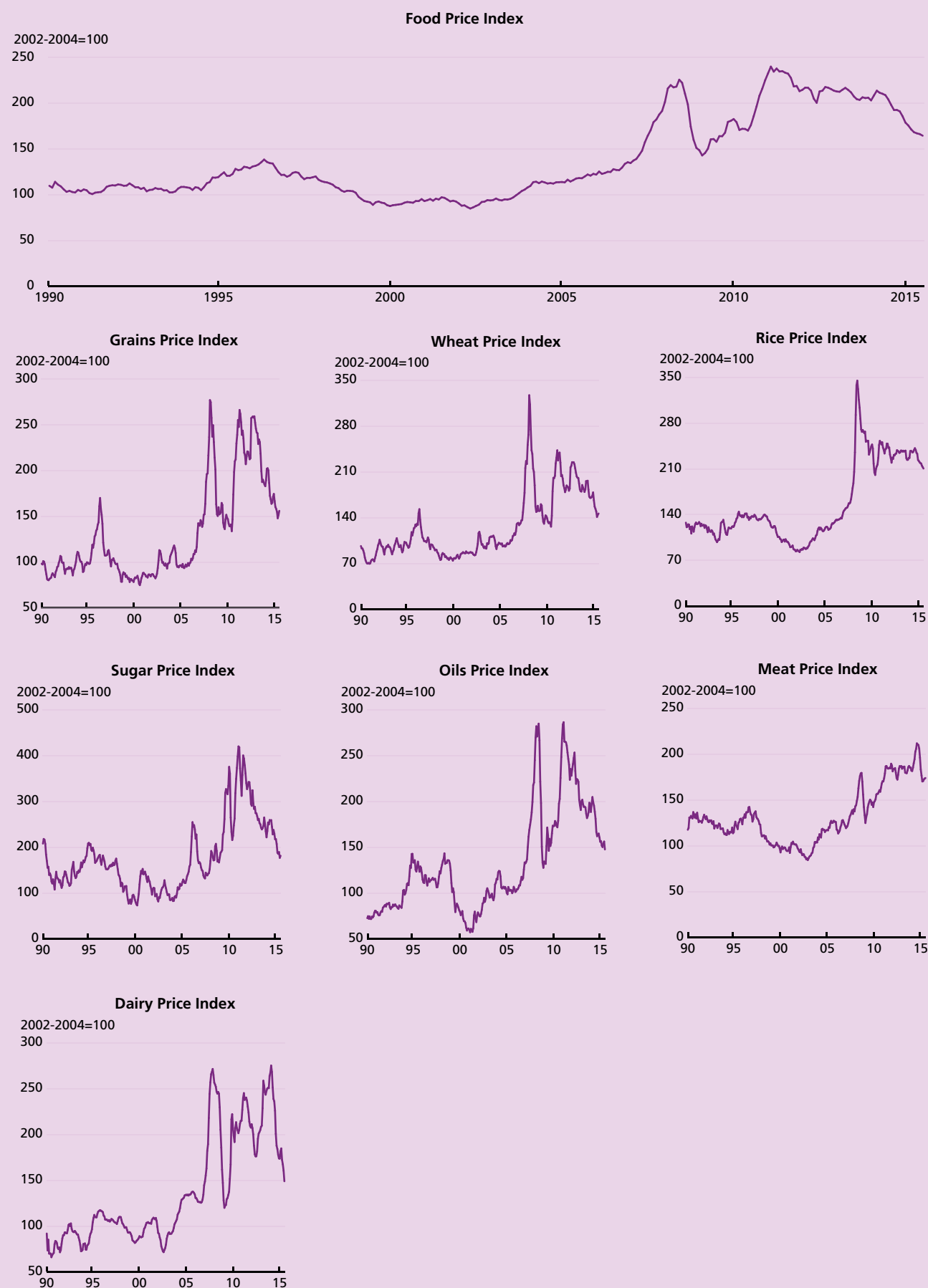
The fall in the FPI is the result of sharp declines in the prices of rice, grains, sugar and vegetable oils, but not all foodstuffs have followed these trends. Figure 1 shows the evolution of the FPI and its major constituents. As the rice price index tends to move independently of the other cereals (e.g. the global benchmark quotations for rice did not peak again in 2011 as with other cereals), grains and rice are shown separately. The other major constituents of the FPI are sugar, vegetable oils, meat and dairy products. While sugar quotations have undergone considerable volatility, sugar price spikes do not coincide with those observed in other commodities. On the other hand, meat exhibits the least variability – it did not contribute significantly to the food price spikes of 2008 and 2011. Meat prices peaked at record high levels in 2015, as the prices of most other commodities fell.

## WHAT DOES STATISTICAL ANALYSIS TELL US?

Statistical analysis can be used to confirm whether the behaviour of international food prices has changed fundamentally since 2008, which can manifest in changes to their trends, or variations in the magnitude of the fluctuations around these trends. The standard approach is to ascertain whether index levels have undergone some form of “structural break” – namely, did the point at which prices began falling represent a fundamental departure from past behaviour? Has there been a reversal in trend? This would indeed imply that prices are on a downward trajectory. However, even if there is no evidence of a break in the overall price trend, it may be possible to identify changes in price dynamics by looking at the variability of the index's “returns”, namely the volatility of the index (see Box).

The statistical framework detects different change points in the FPI's 25-year history, which seemingly coincide with the onset and end of turmoil. More specifically, the Index underwent statistically significant changes both in trend and volatility: a period of higher volatility between 2006 and 2011 coincides with an upward trend, followed by a downward trend and lower volatility starting in 2011. Rice

**Figure 1. The evolution of the Food Price Index and its components**



is the only commodity showing a comparable change in trend. In terms of variability, both grains and rice exhibit behaviour similar to the FPI, but with an additional change point during the period of elevated volatility. Notably, since the initial “surprise” in 2008, the cereal indices have exhibited progressively lower volatility after each successive change point. The latest of these points indicates that price behaviour has reverted to that prior to the 2008 episode, in which prices were widely regarded as falling and with lower volatility.

The vegetable oil index also demonstrates a similar propensity in volatility, with change since 2011. The subsequent vegetable oil index price movements are reminiscent of the time before 2000, when vegetable oil quotations were close to base values. As for sugar, no

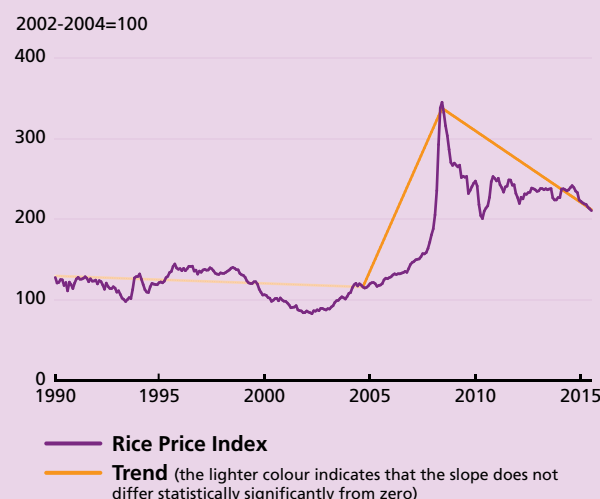
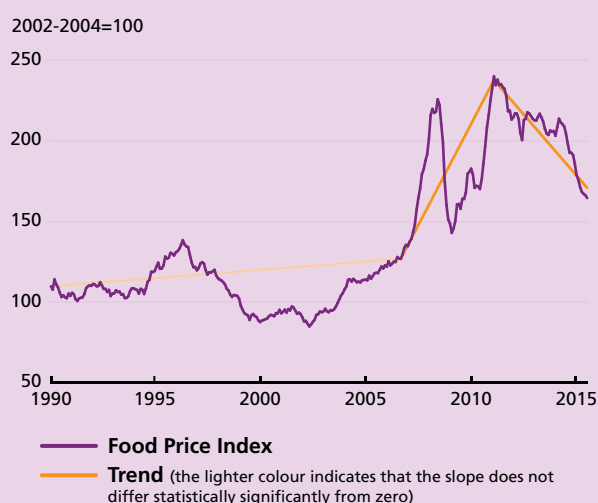
change was detected, as international prices have been notoriously volatile over the life of the index. Indeed, the sugar index has lost and gained well over half of its value more than 12 times since 1990. While no statistical evidence for a change point was detected for sugar, its index has been in retreat since 2011, as with most other commodities. Also, in common with other commodities, sugar prices have been much more stable on their downward trajectory compared with when they were rising.

Livestock indices – dairy and meat – provide notable exceptions to the findings for other commodities. Despite the dairy index losing almost half its value in the past 18 months, the fall seems part of a prolonged episode of heightened volatility. Meat is also difficult to explain, as a change point was detected when the index began rising to

### Box. Quantifying structural change in price behaviour

Assuming that the index series follow random walks with a potential drift, i.e. around a time trend, we estimate an appropriate model and identify change-points, at which estimates of the drift parameter change<sup>a</sup>. The results show no statistically significant time trend or change thereof for all but two of the index series: in the FPI we see a statistically significant upward shift in trend from August 2006 to January 2011 and a downward shift from January 2011 to the present. Similarly, a downward trend in the rice price index appears significant from 2008.

In order to capture changes in the dynamics of a series beyond the trend, we analyze the variability of its logarithmic returns. We first specify a model for the logarithmic index returns and then search for variations in the parameters governing its behaviour. A weighted Ljung-Box statistic<sup>b</sup> provides evidence of nonlinearities. Assuming that these are of the ARCH-type, which captures the typical characteristics of logarithmic returns of prices, we apply a novel method<sup>c</sup> to detect change-points in the ARCH series. At these change-points model parameters switch and remain the same until the consecutive change-point. Variations in volatility, as indicated by the horizontal lines in the graphs, reflect these variations in parameters and, consequently, in price dynamics.<sup>d</sup>

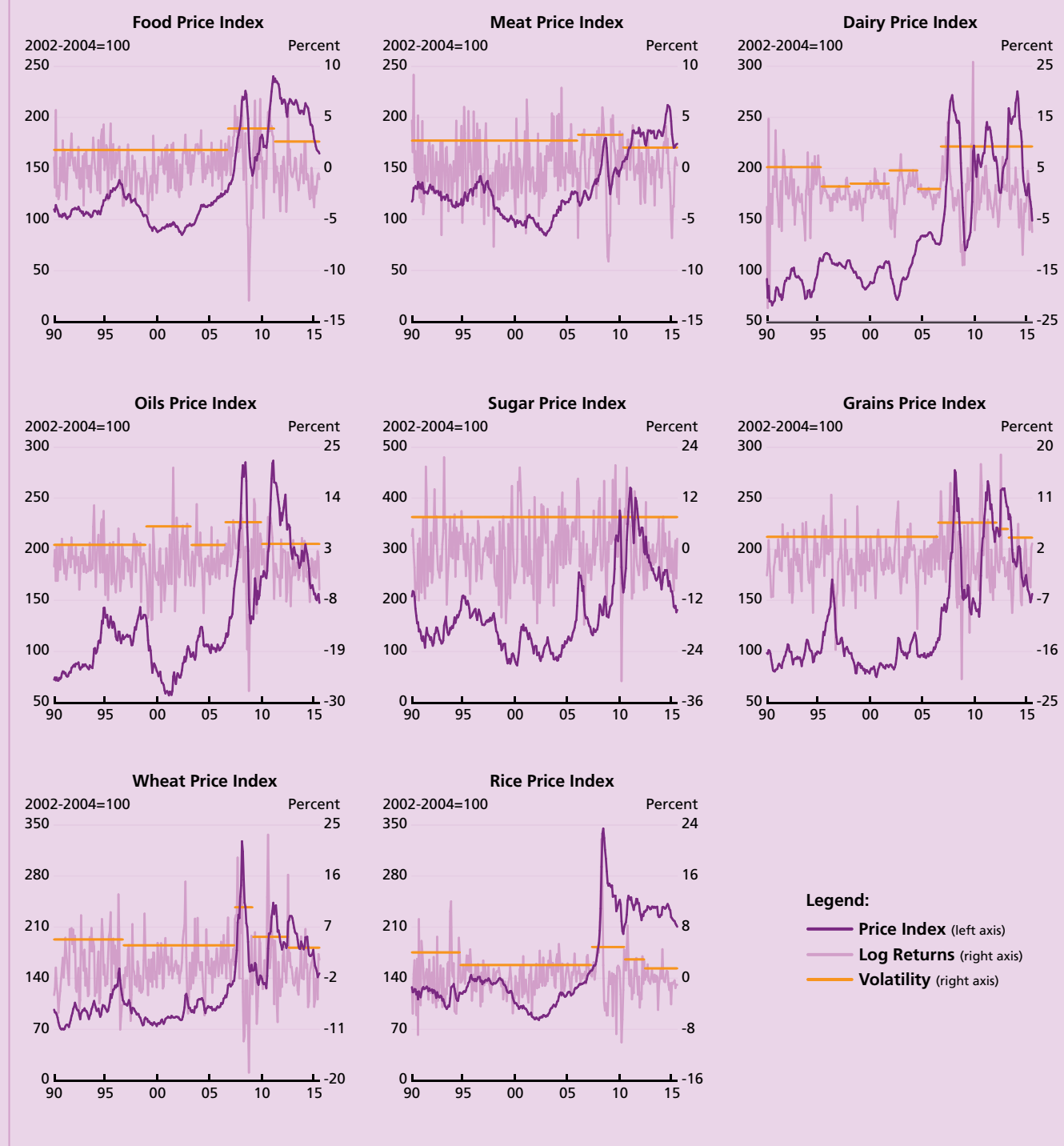


<sup>a</sup> Bai, J. and Perron, P. 2003. Computation and Analysis of Multiple Structural Change Models, *Journal of Applied Econometrics*.

<sup>b</sup> Fisher, T. and Gallagher, C. 2012. New Weighted Portmanteau Statistics for Time Series Goodness of Fit Testing, *Journal of the American Statistical Association*.

<sup>c</sup> Fryzlewicz, P. and Suhasini, S. 2014. Multiple-change-point detection for auto-regressive conditional heteroscedastic processes, *Journal of the Royal Statistical Society, Series B*.

<sup>d</sup> While the most clearly visible aspect of the behavior of an index series might be its movement around a trend, its dynamic, however, is characterized by more than just the mean. This is because the trajectory is governed by the entire distribution of the underlying random variable or stochastic process. Hence, it is important to not just focus on the mean, but to also take higher moments, especially volatility, into account.



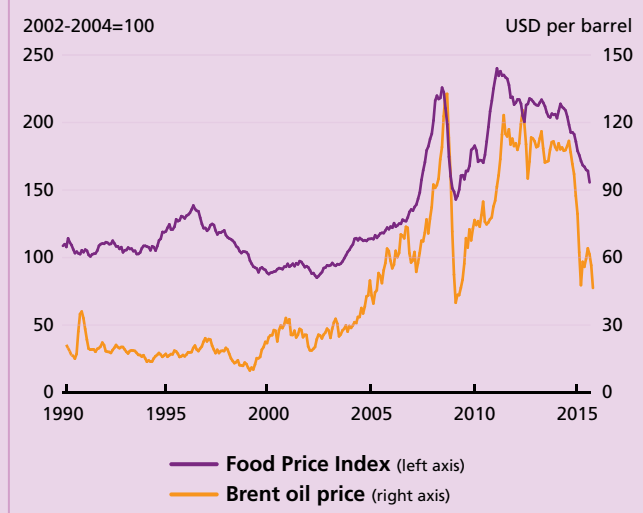
a historic high, but with significantly lower volatility, even prior to 2008.

The takeaway message here is that statistically, the most recent shifts in behaviour foresee downward price momentum with lower volatility. This is particularly evident for predominantly storable commodities such as cereals, but less so for more perishable commodities such as meat and dairy products. Even though livestock products carry large weight in the FPI, the FPI also appears to be on a descending path similar to its pre-turmoil trend.

## WHAT IS DRIVING THE FALLS?

As with the prices of other commodities, food prices are driven by demand and supply. With storable foods, such as cereals, inventory levels play a major part in determining price outcomes. Past episodes of high price levels and volatility have been characterized by low stocks. When levels reach a critical low (below what is required for adequate supply chain functioning), stocks can no longer play their buffering role. Hence, if unexpected rises in demand or harvest shortfalls take place, prices tend to

Figure 2. FPI versus Brent oil price



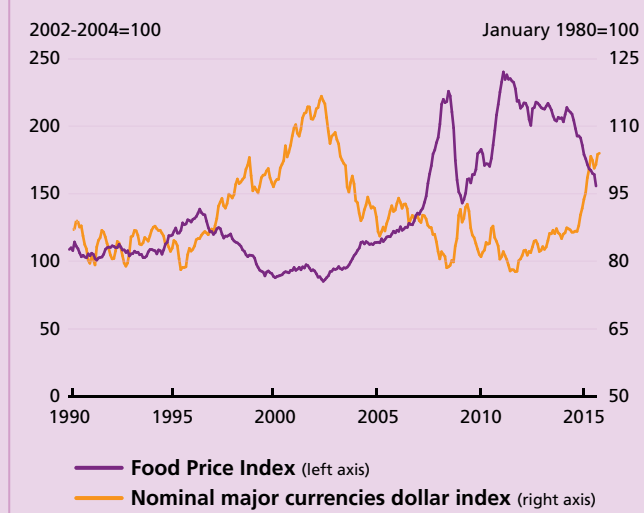
move rapidly upwards as supply cannot adjust quickly, at least within a crop season.

Importantly, storage induces a significant nonlinearity in market demand, implying two different regimes of price volatility, one in which ample reserves can buffer the effects of negative shocks in supply, and another in which low stock levels leave the market particularly vulnerable to shocks in supply or demand.<sup>2</sup> It is for this reason that when stocks are low, prices are much more volatile than when stocks are ample. It is also why higher price levels coincide with high price volatility and low price levels with low price volatility.

Abundant stocks, lower prices and lower volatility characterize global food markets today, reinforcing the theory on the role of stocks. However, large supplies are not the only reason for recent price falls across all food commodities. What other factors could explain outcomes?

That agricultural commodity prices are interconnected with energy prices has long been established. Sharply falling fossil fuel prices in the past 12 months have seen a decline by more than half. Their interconnection with agricultural prices derives from both demand and supply sides. Commodities, particularly maize and sugar, and to some extent wheat, are used as feedstocks for biofuel production. Also, the growing mechanization of agriculture has increased the influence of energy prices on production costs, and hence, output prices. Figure 2 plots the world benchmark oil price with the FPI. The correlation between the two series, especially since 2007, is very pronounced. Falling oil prices are likely to have subdued the competitive demand for biofuels and, consequently, the derived

Figure 3. FPI versus USD Major Currency Index



demand for agricultural feedstocks, which, in turn, reduced their own prices. While oil prices are undoubtedly an important factor, could there be wider factors at play?

The appreciation of the United States dollar (USD) against major currencies has been highly prominent, reaching a 13-year high in September 2015. International commodity prices have typically had an inverse relationship with the value of the USD. When the USD strengthens against other major currencies, commodity prices typically fall. On the other hand, when the value of the USD weakens against other major currencies, the prices of commodities increase. The relationship is chiefly a result of commodities being priced in USD and of international buyers being required to purchase them with USD. When the value of the dollar rises (falls), buyers have less (more) purchasing power and so demand typically weakens (strengthens). Hence, changes in exchange rates reallocate purchasing power and price incentives for buyers and sellers. Being a major world supplier of agricultural commodities, the United States has been particularly affected by the recent strength of the USD, with notable drops in demand as a result of reduced competitiveness.

## SHOULD WE BE CONCERNED WITH FALLING FOOD PRICES?

Lower food prices relative to incomes seem to be a boon to food security – by making food acquisition more affordable. This is particularly pronounced in developing countries where food purchases typically account for a significant share of overall household income of the poor. Overall benefits would, however, be contingent on whether households are net buyers of food as lower prices also diminish producers' returns. At the country level, low

<sup>2</sup> Cafiero, C., Bobenrieth, E. and Bobenrieth, J. 2011. "Storage arbitrage and commodity price volatility", in Prakash, A. (editor). Safeguarding food security in volatile global markets. FAO, Rome.

international food prices would also benefit those countries that rely to a large extent on imported food products, so long as their currencies do not fall so much as to wipe out the gains from low prices.

At the same time, however, falling output prices may well impinge on farmers' profitability, reducing on-farm investments and unsustainable agricultural practices, e.g. overly intensive resource use. Low returns could also reduce incentives for wider investment in agriculture, including rural infrastructure (e.g., roads, warehouses and port facilities), credit availability, input services, research and extension. Paradoxically, underinvestment in agriculture has often been cited<sup>3</sup> as one of the main causes for the sharp price hikes of the last decade, as it had lowered the capacity of world agriculture to respond when most needed.

## FEEDING THE WORLD AND FOOD PRICES GO HAND-IN-HAND

Current market fundamentals do not suggest a reversal in the downward price trends witnessed in most food markets, at least for the time being. The appreciation of the USD against major currencies is showing no sign of abating, underscored by the strength of the US economy relative to elsewhere. Energy price prospects remain subdued and, with economic uncertainty in major importing countries such as China, there is little sign of an upturn in global demand prospects. However, food prices remain susceptible to major swings, as weather events can easily turn abundance into scarcity. Other factors may also suddenly impinge on current price trends, as the sources of shocks are many and commodity prices are intertwined with macro-economic events.

Economists see prices as contributing to the functioning and stability of food markets. But unlike other markets, food prices affect one of the most fundamental rights: the *Right to Food*. This makes continued vigilance necessary in today's world.

<sup>3</sup> E.g., World Development Report. 2008: Agriculture for development. World Bank, Washington, DC.





# MARKET POLICY DEVELOPMENTS

# GRAINS:

## MAJOR POLICY DEVELOPMENTS: MAY TO MID-SEPTEMBER 2015\*

| COUNTRY   | PRODUCT          | DATE       | POLICY CATEGORY/<br>INSTRUMENT | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|------------------|------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Algeria   | Feed ingredients | Jun-15     | Import tariff                  | Suspended import duties applied to animal feed ingredients, including maize and soybeans until 31 December 2015, in an effort to ensure domestic market stability.                                                                                                                                                                                                                              |
|           | Wheat            | Jun-15     | Export Quota                   | Approved the export of an additional 1.0 million tonnes of 2014/15 wheat and 100 000 tonnes of wheat flour, bringing the total volume approved for shipment to 4.7 million.                                                                                                                                                                                                                     |
| Argentina | Wheat            | Jul-15     | Export Quota                   | Authorized additional maize exports of 7 million tonnes from the 2014/15 crop, taking total approvals to 18.5 million tonnes.                                                                                                                                                                                                                                                                   |
|           | Wheat            | Jul/Aug-15 | Export Quota                   | Issued export licenses for 500 000 tonnes of low quality wheat.                                                                                                                                                                                                                                                                                                                                 |
|           | Wheat            | Aug-15     | Marketing measure              | Established a National Register of Wheat Supply. The Register is for small agricultural entrepreneurs who produce up to 1 600 tonnes of wheat in 2014/15 and are located in La Pampa and some areas in southern Buenos Aires.                                                                                                                                                                   |
| Brazil    | Ethanol          | Jun-15     | Import tariff                  | Raised a tariff on ethanol imports to 11.75 percent (instead of current 9.25 percent), replacing a system under which foreign ethanol was taxed at 9.25 percent, but with an offsetting credit for importers. Most of the imported ethanol comes from the US.                                                                                                                                   |
|           | Wheat            | Jul-15     | Procurement price              | Increased the minimum price for wheat by 4.6 percent to BRL 34.98 per 60 kg (USD 186 per tonne). Under the Producer's Equalization Payment Programme (PEPRO), the Government would pay farmers or cooperatives the difference between the market price and the minimum price.                                                                                                                   |
| Canada    | Wheat            | May-15     | Import ban                     | Reported that the Canadian Food Inspection Agency would detain all incoming shipments of maize from India intended for use as livestock feed, until tested for aflatoxins. The action follows the detection of high level of aflatoxins in earlier shipments.                                                                                                                                   |
| China     | Maize            | Jun-15     | Production support             | Announced that the provincial government of Heilongjiang would double subsidies to some local maize processors to CNY 400 per tonne (USD 64.43) to reduce public inventory levels.                                                                                                                                                                                                              |
|           | Grains           | Aug-15     | Trade measure                  | Announced that importers of barley, dried distillers grains (DDGs) and sorghum would be required to register details of their purchases, effective from 1 September 2015.                                                                                                                                                                                                                       |
|           | Maize            | Sep-15     | Government procurement         | Announced the continuation of maize stockpile policy during 2015-16, but at a lower price than last year. The Government will pay CNY 2 000 (USD314.3) per tonne to farmers in the northeast, the country's main maize planting region, with the scheme lasting from 30 November to 30 April 2016. The price is about 10 percent lower than in 2014/15, ranging from CNY 2 220-2 260 per tonne. |
| Colombia  | Wheat            | May-15     | Safeguard measures             | Eased its import requirements for wheat sourced from Canada, including improved access for supplies from western and eastern growing areas.                                                                                                                                                                                                                                                     |
| Egypt     | Wheat            | Aug-15     | Bilateral trade agreement      | Agreed to import wheat from Ukraine in exchange for cotton.                                                                                                                                                                                                                                                                                                                                     |
|           | Wheat            | Aug-15     | Government procurement         | Announced initiation of a new wheat procurement system from April 2016 which should provide subsidies directly to farmers.                                                                                                                                                                                                                                                                      |
|           | Wheat            | Aug-15     | Import policy                  | Announced that the official moisture content limit for wheat sourced in government tenders will be maintained at 13.5 percent, until 31 August 2016.                                                                                                                                                                                                                                            |

| COUNTRY            | PRODUCT       | DATE       | POLICY CATEGORY/<br>INSTRUMENT        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|---------------|------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| European Union     | Grains        | Apr-15     | Import policy                         | Authorized the import of 10 new types of genetically modified crops, including maize, soybeans, cotton and oilseed rape, as either human food or animal feed for 10 years.                                                                                                                                                                                                |
|                    | Wheat         | Jun-15     | Import quota                          | Awarded 48 674 tonnes of wheat imports under its main tariff-rate quota open to all countries except Canada and the United States.                                                                                                                                                                                                                                        |
|                    | Wheat         | Jul-15     | Import quota, licenses                | Awarded licenses to import 37 800 tonnes of Ukrainian wheat under an annual duty-free quota.                                                                                                                                                                                                                                                                              |
|                    | Wheat         | Sep-15     | Import quota, licenses                | Awarded licenses to import 85 308 tonnes of low- and medium-quality wheat under its main reduced-tariff quota for wheat.                                                                                                                                                                                                                                                  |
| India              | Maize         | Jun-15     | Procurement price                     | Approved increases in the minimum support price for various summer-sown (kharif) crops in 2015/16.                                                                                                                                                                                                                                                                        |
|                    | Wheat         | Aug-15     | Import tariff                         | Imposed an import duty of 10 percent on good quality wheat until 31 March 2016.                                                                                                                                                                                                                                                                                           |
|                    | Maize         | Jul/Aug-15 | Import policy, government procurement | In an effort to support local farmers and promote self-sufficiency, the government stopped issuing new import permits for maize. Reported plans to introduce temporary rules allowing only Bulog, the state procurement agency, to import maize from 2016.                                                                                                                |
| Iran               | Wheat, barley | Jul-15     | Import tariff                         | Imposed a 1-year import duty on wheat of Rial 1 500 per kilo (USD 50 a tonne), as well as an import duty on barley until September 2015.                                                                                                                                                                                                                                  |
|                    | Wheat, barley | Aug/Sep-15 | Import tariff                         | Canceled import duties on wheat and barley before the originally announced dates. The import duties ended on 6 September for wheat and on 22 August for barley. The government had originally said the wheat duty would last till next spring and the barley until 22 September.                                                                                          |
| Japan              | Wheat         | Sep-15     | Government procurement                | The price of imported wheat sold to domestic millers during October 2015 - March 2016 was cut by 5.6 percent to JPY 56 640 per tonne (USD 470) compared to prices in April - September 2015.                                                                                                                                                                              |
| Russian Federation | Wheat         | May-15     |                                       | Decreased the prices at which intervention purchases of the 2015 wheat crop would occur. Depending on the origin of the crop, the price of Class 3 wheat decreased by 3 to 5 percent, the price of Class 4 by 4.3 to 5.4 percent, and the price of Class 5 by 4.4 to 7.7 percent. The new prices entered into force on 1 July 2015 and will remain in place for one year. |
|                    | Wheat         | May-15     | Export tariff                         | Canceled the customs duties on wheat exports which had been in force since 1 February 2015.                                                                                                                                                                                                                                                                               |
|                    | Wheat         | May-15     | Export tariff                         | Approved a new wheat export tax from 1 July which is set at 50 percent of the customs price per tonne minus RUB 5 500 (USD 105), but not less than RUB 50 per tonne.                                                                                                                                                                                                      |
|                    | Maize         | Jun-15     | Procurement price                     | Increased the price at which intervention purchases of the 2015 maize crop would occur by 23.2 percent, compared with the 2014 price. The new price entered into force on 1 July 2015 and will remain in place for one year.                                                                                                                                              |
|                    | Wheat         | Aug-15     | Government procurement                | Reported that 2015/16 grain intervention purchases were to commence on 11 August 2015, with the aim of securing 2 million tonnes. However, it was subsequently announced that operations would be subject to a slight delay. On 19 August 2015, the Minister of Agriculture noted that grain had been purchased in Crimea to replenish stocks.                            |
|                    | Wheat         | Sep-15     | Export tariff                         | Changed wheat export tax which was approved on 1 July. The new tax is set at 50 percent of the customs price per tonne minus RUB 6 500 (USD 99), but not less than RUB 10 per tonne.                                                                                                                                                                                      |
| South Africa       | Wheat         | Sep-15     | Import tariff                         | Increased the import tariff on wheat by 78 percent to ZAR911.20 (USD 65.7) per tonne to protect local producers. That is the highest tariff applied since the government introduced the regime in January 2002.                                                                                                                                                           |

| COUNTRY       | PRODUCT | DATE   | POLICY CATEGORY/<br>INSTRUMENT | DESCRIPTION                                                                                                                                                                               |
|---------------|---------|--------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sudan         | Wheat   | Jul-15 | Import policy                  | Raised the US dollar exchange rate at which wheat imports are purchased, which is seen likely to increase import prices by as much as 35 percent.                                         |
|               | Wheat   | Jul-15 | Import policy                  | Announced it will no longer subsidize wheat imports.                                                                                                                                      |
| Vietnam       | Maize   | Apr-15 | GMO policy                     | Announced it will allow use of GMO seed for maize production.                                                                                                                             |
| United States | Biofuel | May-15 | Renewable energy               | Announced that the Department of Agriculture would invest up to USD 100 million in the Biofuels Infrastructure Partnership to make more renewable fuel options available to US consumers. |
| Zambia        | Wheat   | Sep-15 | Import ban                     | Banned the importation of wheat. Government said the importation of the commodity will only be allowed if local supply is exhausted.                                                      |

\* A collection of major grain policy developments starting in July 2010 is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/7/groupANDcommodity=grains>

## RICE: MAJOR POLICY DEVELOPMENTS: MAY TO MID SEPTEMBER 2015\*

| COUNTRY                    | PRODUCT | DATE      | POLICY CATEGORY/INSTRUMENT                                                        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|---------|-----------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Argentina                  | Rice    | July 2015 | Export taxes                                                                      | Lowered the export tax levied on non-parboiled rice, unpolished and not glazed (MERCOSUR Common Nomenclature code 10063029) to 5 percent, down from 10 percent previously. The measure was effective 11 August 2015.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Bangladesh                 | Rice    | May 15    | Import tariff                                                                     | Imposed a 10 percent import duty on semi/wholly milled rice, in an effort to protect the local farmers from competition with imports.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                            |         | Jun 15    | Budgetary allocations, production support, Government procurement, food subsidies | Announced that it would keep allotments to agricultural subsidies unvaried at BDT 90 billion (USD 1.1 billion), as part of its 2015/2016 budgetary allocations, while continuing credit and input support programmes. Additional measures are to include infrastructural improvements and training and extension services, as well as continued support to research initiatives, including those related to breeding of improved rice varieties. The government has set a target to import 100 000 tonnes in 2015/2016 (July-June), with an additional 1.5 million tonnes to be procured from local markets. Around 2.8 million tonnes of grain (of which 1.7 million tonnes correspond to rice) are to be distributed under existing welfare schemes, up 9 percent from a revised 2014/15 target. |
|                            |         | Aug 15    | Export ban                                                                        | Extended the ban on non-aromatic rice exports until 31 December 2015. Exports of aromatic varieties are to remain exempted from the prohibition over the period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Bilateral/<br>Multilateral | Rice    | Jul 15    | Trade agreement                                                                   | Reached a government-to-government agreement – between Venezuela and Uruguay – under which the Uruguay will export five staples to Venezuela, having its payment deducted from its oil arrears to Venezuela. The accord, formally concluded in September, includes 90 000 tonnes of rice and paddy to be shipped to Venezuela by year's end.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                            |         | Jul 15    | Trade agreement                                                                   | Announced by Guyanese officials that Venezuelan authorities had informed them that they did not intend to renew the PetroCaribe rice-for-oil barter agreement with Guyana beyond 2015.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Brazil                     | Rice    | Jul 15    | Minimum support prices                                                            | Adjusted minimum support prices (MSPs) for the 2016/17 season (2015/16 season for Brazil) to be effective from February 2016 to January 2017. In the case of fine long grain paddy, these were raised to a standardized rate of Reals 593 (USD 153) per tonne for all regions, representing a year-on-year increase of 7.9 percent–8.9 percent. MSPs for long-grain paddy were raised by 14.8 percent to Reals 408 (USD 105) per tonne for the Southeast, Northeast, and Centre West regions (excepting Mato Grosso) and the state of Paraná, and left unchanged for both the Northern Region and Mato Grosso at Reals 408 (USD 105) per tonne and at Reals 378 (USD 98) per tonne for the Southern region (except Paraná).                                                                        |
| China (Mainland)           | Rice    | Sep 15    | Import agreement                                                                  | Agreed to import 1.0 million tonnes of white and fragrant rice from Thailand on a government-to-government basis. According to Thai officials, the deal, to be finalized in September, falls under the memorandum of understanding for China's purchase of up to 2.0 million tonnes of rice from the Thai Government signed in late 2014. Shipments are to begin in December 2015.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Colombia                   | Rice    | Sep 15    | Support prices, warehouse receipts program                                        | Decided to implement the storage incentive programme for second semester crops. The programme will run from 4 September to 30 December 2015 and cover up to 350 000 tonnes of paddy during the period. Reference paddy prices paid to producers under the scheme will range between COP 125 000–154 000 per 125 kgs (USD 330–407 per tonne) depending on the producing regions.                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Cuba                       | Rice    | May 15    | Producer prices                                                                   | Established new retail prices for a wide set of agricultural inputs, tools and equipment as part of its efforts to boost domestic production and cut reliance on imports, while also setting purchasing prices of various agricultural products. In the case of paddy, these were set at Pesos 190–250 per quintal (USD 178–235 per tonne) and at Pesos 330–335 (USD 310–315 per tonne) for rice purchased by state entities, effective 1 June 2015.                                                                                                                                                                                                                                                                                                                                               |
| East African Community     | Rice    | Jun 15    | Import tariff                                                                     | Raised the specific duty levied on rice imports under the Common External Tariff to USD 345 per tonne, up from USD 200 per tonne previously. The duty is to be applied when an ad valorem rate of 75 percent of CIF value falls below this level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| COUNTRY | PRODUCT | DATE   | POLICY CATEGORY/INSTRUMENT              | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------|---------|--------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecuador | Rice    | May 15 | Production support, support prices      | Set paddy producer prices at USD 34.5 per 200 pounds (USD 380 per tonne) for the 2015 season, unchanged from the levels of the previous two years.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|         |         | Aug 15 | Export ban, export licenses             | Announced that, effective 1 September 2015, the ban on milled rice exports would be re-introduced so as to ensure sufficient availabilities for domestic needs. Export licenses issued prior to this decision would remain valid, provided export commitments are met within a 3-month period.                                                                                                                                                                                                                                                                                             |
|         |         | Sep 15 | Export ban, export tax                  | Based on statements issued by officials of the Agricultural Export Council, a Cabinet decision rescinded an earlier decision to re-introduce the ban on milled rice exports, as of 1 September 2015. Instead, up to 1.0 million tonnes of rice would be allowed to be shipped abroad, free of the previously applicable obligation to furnish the General Authority for Supply Commodities with a tonne of rice for every tonne exported, but still subject to an export tax, yet to be determined.                                                                                        |
| Guyana  | Rice    | Aug 15 | Budgetary allocations, export promotion | Announced that GYD 23 billion (USD 107 million) had been set aside to settle outstanding payments to rice farmers, as part of its 2015 budgetary allocations. Further to pursuing new markets abroad, officials would also sustain the development and use of new varieties and technology, and provide incentives for value addition.                                                                                                                                                                                                                                                     |
| India   | Rice    | Jun 15 | Support prices, Government procurement  | Raised minimum support prices by 4 percent to Rupees 14 100 (USD 212) per tonne of common varieties and to Rupees 14 500 (USD 218) per tonne of Grade A paddy. It further announced that provisions would be made to strengthen government procurement operations in eastern states.                                                                                                                                                                                                                                                                                                       |
|         |         | Aug 15 | Production support                      | Decided to implement the diesel subsidy scheme and raise ceilings on seed subsidies, as part of its efforts to aid farmers coping with damages incurred as a result of rainfall deficits. According to the decision, INR 1 billion (USD 15 million) are to be allocated to provide a 50 percent subsidy on diesel costs to farmers in areas affected by unseasonable dryness, for up to 2 ha per farmer and until 30 September 2015. Ceilings on seed subsidies will instead be raised by 50 percent to Rupees 1 500–7 500 (USD 23–113) per 100 kilograms, valid through 31 December 2015. |
|         |         | Sep 15 | Food subsidies                          | Announced that the State Logistics Agency (Bulog) would distribute two additional monthly rations of rice to 15.5 million beneficiary households of the state's rice-for-the-poor (Raskin) programme in 2015. The initiative forms part of an economic stimulus package announced on 9 September 2015 and is meant to ease the impact of drought conditions on vulnerable groups.                                                                                                                                                                                                          |
| Kenya   | Rice    | Jun 15 | Import tariff                           | Renewed exemptions to the 75 percent rice import duty applicable under the Common External Tariff of the East African Community. According to the decisions, rice imports will continue to accrue a tariff of 35 percent (or USD 200 per tonne, whichever is higher) for a period of one year, effective 1 July 2015.                                                                                                                                                                                                                                                                      |
| Liberia | Rice    | Jun 15 | Import tariff                           | Renewed import tariff exemptions on semi/wholly milled and broken rice in an effort to keep local prices from rising. The suspension will go into effect immediate.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Mali    | Rice    | Jun 15 | Import tariffs                          | Announced that, in order to avert price increases in the month of Ramadan, duties on imported rice would be assessed against a lower value of FCFA 130 000 (USD 225) per tonne.                                                                                                                                                                                                                                                                                                                                                                                                            |
|         |         | Jul 15 | Import tariff                           | Suspended import duties and charges on 120 000 tonnes of rice, effective for a 3-month period ending on 24 September 2015. The measure is geared at ensuring a stable supply of rice during the traditional lean months.                                                                                                                                                                                                                                                                                                                                                                   |
|         |         | Aug 15 | Production support                      | Announced that, as part of its efforts to stimulate continued growth in the local rice industry, it planned to put in place a crop insurance programme, purchase 40 000 tonnes of rice from the local market, or an equivalent paddy amount, and re-habilitate 1 500 hectares for cultivation. These efforts would be further to ongoing support programmes and a planned imposition of greater border protective measures.                                                                                                                                                                |



| COUNTRY  | PRODUCT | DATE   | POLICY CATEGORY/INSTRUMENT                                  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|---------|--------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Myanmar  | Rice    | Aug 15 | Export ban                                                  | Announced that, in order to avert further increases in domestic quotations in the aftermath of damages inflicted by floods, the Myanmar Rice Federation and member companies would halt all rice exports with immediate effect. Shipments abroad are not expected to be resumed until mid-September, or when new supplies arrive into the market from main-crop harvests.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|          | Rice    | Aug 15 | Export ban                                                  | Decided to resume rice exports in mid-September, as originally foreseen. The Myanmar Rice Federation made the decision, given that pressure on domestic quotations had eased. Subsequent official statements to the press confirmed that the suspension would be lifted, but that restrictions on overland shipments would not be rescinded until mid-October 2015. Moreover, exporters would be required to keep the equivalent of 2 percent of shipments on reserve until that date in order to meet any foreseeable domestic need.                                                                                                                                                                                                                                                                                                                                 |
|          | Rice    | Jul 15 | Budgetary allocations, production support                   | Allotted NPR 26.68 billion (USD 248 million) to the agricultural sector, as part of its 2015/16 budgetary allocations. Further support to the sector would come in the form of investments in rural infrastructure, steps to enhance access to credit, agricultural extension services and research, with NPR 6.1 billion (USD 57 million) for the provision of fertilizers and seeds. NPR 20.22 billion (USD 188 million) were set aside for irrigation programmes, including a plan to expand irrigation over all agricultural lands in the Terai over a 5-year period. A 3-year programme to boost paddy production over 670 000 hectares across 12 districts in the Terai would also be launched, with the aim of raising productivity and reducing reliance on imports.                                                                                          |
| Nigeria  | Rice    | Jun 15 | Import restrictions                                         | Announced that importers of rice and 39 other products would be barred from accessing Nigerian foreign exchange markets and would instead have to rely on their own funds to bring in these goods from abroad. The measure is geared at stabilizing the local currency and encouraging greater domestic production of these commodities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Pakistan | Rice    | Jun 15 | Budgetary allocations, production support, export promotion | As part of its 2015/2016 budgetary allocations, announced that in order to aid farmers facing irrigation costs associated with reliance on fuel or electricity powered tube wells, credit incentives will be provided to enable agricultural producers to substitute them with solar tube wells. Additional provisions include tax exemptions to rice processor facing losses arising from subdued export demand, further to the continuation of schemes facilitating access to credit, and reductions on levies and taxes on imported agricultural machinery and equipment.                                                                                                                                                                                                                                                                                          |
|          |         | Sep 15 | Production support                                          | Announced that it would extend a PKR 341 billion (USD 3.2 billion) support package to the agricultural sector. The initiative will include PKR 194 billion (USD 1.8 billion) to enhance agricultural credit, with the remainder of the funds going towards direct payments to producers and measures to lower production costs. The latter would include PKR 40 billion (USD 381 million) to issue a PKR 5 000 per acre direct payment to rice and cotton farmers for up to 12.5 acres (USD 118 per hectare) and be further to steps taken to lower the costs of importing agricultural machinery as well as approved tax exemptions. Additional funds will go to cut the costs of phosphate and potassium fertilizers, extend crop insurance to farmers, subsidize the cost of electricity associated with running tubewells and promote the use of solar tubewells. |
|          |         | Jun 15 | Import quota                                                | Approved a shortage import quota of 45 360 tonnes of paddy, to be imported free of tariffs by mid-August and on top of the 14 520 tonnes duty-free quota set out under the US-Panama Trade Promotion Agreement for the year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Panama   | Rice    | Jun 15 | Import quota                                                | Extended the period until which 45 360 tonnes of paddy are permitted to arrive in the country to 31 December 2015. The volume had been approved as a shortage import quota in June 2015.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



| COUNTRY     | PRODUCT | DATE             | POLICY CATEGORY/INSTRUMENT | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|---------|------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Philippines | Rice    | May 15           | Import quota               | Authorized the National Food Authority to import up to 250 000 tonnes of rice in order to refurbish inventories for the lean season. The National Food Authority is also to retain the option to import a further 250 000 tonnes should the need arise.                                                                                                                                                                                               |
|             |         | Jun 15           | Import quota               | Conducted a tender to import 250 000 tonnes of 25 percent broken rice for delivery by mid-August 2015. Of this volume, 150 000 tonnes were awarded to Viet Nam on that occasion. The outstanding volume was re-tendered on 16 June 2015 and awarded to Viet Nam the following day.                                                                                                                                                                    |
|             |         | Jun 15           | Import quota               | Announced that applications to import 805 200 tonnes of rice under Minimum Access Volume (MAV) country-specific and omnibus quotas, subject to a 35 percent duty, would be opened to the private sector on 1 July 2015. Imported volumes are to comprise specialty rice and/or well-milled rice with less than 25 percent broken and are to arrive no later than 30 November 2015.                                                                    |
|             |         | Sep 15           | Import quota               | Decided to import 750 000 tonnes of rice, on a government-to-government basis, through a tender held on 17 September 2015. The import drive is meant to mitigate potential supply shortages arising from ongoing El Niño conditions. Of the total import volume to be imported, 250 000 tonnes are to be delivered by the year's end, with remaining quantities to arrive by the end of the first quarter of 2016.                                    |
| Rwanda      | Rice    | Jun 15           | Import tariff              | Renewed exemptions to the 75 percent rice import duty applicable under the Common External Tariff of the East African Community. Rice imports will continue to accrue a tariff of 45 percent for a period of one year, effective 1 July 2015.                                                                                                                                                                                                         |
| Sri Lanka   | Rice    | May 15           | Import tariff              | Lifted import duties levied on paddy, husked, semi/wholly milled and/or broken rice to LKR 35 per kilo (USD 246 per tonne), up from a previous level of LKR 20 per kilo (USD 141 per tonne), effective 06 May 2015.                                                                                                                                                                                                                                   |
|             |         | Jul 15           | Consumer prices            | Announced that, effective 15 July 2015, Lak Sathosa outlets would sell rice at lower rates of LKR 69 (USD 0.5) per kilo in the case of Samba varieties, and LKR 60 (USD 0.6) per kilo of Nadu rice.                                                                                                                                                                                                                                                   |
|             |         | Jul 15           | Government procurement     | Announced that it had allocated LKR 6 billion (USD 42 million) to purchase 120 000 tonnes of paddy from the 2015 Yala harvest. Under the procurement programme, farmers will receive Rupees 50 per kilo of Samba paddy (USD 352 per tonne) and Rupees 45 per kilo (USD 317 per tonne) of Nadu paddy sold to the Paddy Marketing Board.                                                                                                                |
| Thailand    | Rice    | May 15           | Stock release              | Decided to resume the release of supplies from Government stockpiles by putting 2.0 million tonnes of rice to auction between June and July 2015.                                                                                                                                                                                                                                                                                                     |
|             |         | Jun 15 to Sep 15 | Stock release              | Sold 2.6 million tonnes of rice from Government stocks for domestic use and export, out of a total of 3.9 million tonnes offered through four tenders. A further 460 000 tonnes of rice from Government reserves will be auctioned off on 28 September 2015.                                                                                                                                                                                          |
|             |         | Jul 15           | Production support         | Approved a budget of THB 60 billion (USD 1.7 billion) to assist one million drought-hit farmers. The funds will be disbursed through the Bank of Agriculture and Agricultural Cooperatives (BAAC) as short-term credit for emergency and drought rehabilitation needs and as longer term credit facility to aid farmers raise productivity levels. The terms of repayment of existing loans from the BAAC is to also be extended for up to 12 months. |
|             |         | Jul 15           | Water rationing            | Decided to cut the discharge of water from dams serving the Chao Phraya Basin from 28 million cubic meters to 18 million cubic meters per day, effective 16 July 2015. The move comes in light of the critically low supply of water in major reservoirs and is meant to preserve supplies for household consumption, until rainfall performance improves.                                                                                            |
|             |         | Jul 15           | Stock release              | Announced that it would put off plans to release 1.29 million tonnes of deteriorated rice from Government stocks for use as feed and industrial purposes, in order to allow time for inspections needed to ascertain that supplies released do not include food-grade rice that could eventually be resold to consumers.                                                                                                                              |
|             |         |                  |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| COUNTRY   | PRODUCT | DATE             | POLICY CATEGORY/INSTRUMENT | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|---------|------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Venezuela | Rice    | Jul 15           | Import tariff              | Decided to exempt 46 goods designated as basic necessities, including non-parboiled paddy and parboiled rice, from customs duties, valid for a year starting from 1 July 2015. Entities seeking to import these products will need to secure a certificate of non-production or insufficient production and provide information concerning the origin and purpose of the intended purchases, among others, to benefit from the suspension. |
| Viet Nam  | Rice    | May 15 to Sep 15 | Minimum export prices      | Adjusted minimum export prices for 25 percent broken rice four times, last setting them at USD 340 per tonne.                                                                                                                                                                                                                                                                                                                              |

\* The full collection starting in January 2011 is available at: [http://www.fao.org/economic/est/est\\_commodities/commodity\\_policy\\_archive/en/7groupANDcommodity=rice](http://www.fao.org/economic/est/est_commodities/commodity_policy_archive/en/7groupANDcommodity=rice)

# OILCROPS: MAJOR POLICY DEVELOPMENTS: MID APRIL TO MID SEPTEMBER 2015 \*

| COUNTRY        | PRODUCT               | DATE            | POLICY CATEGORY/INSTRUMENT | DESCRIPTION                                                                                                                                                                                                                                    |
|----------------|-----------------------|-----------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Algeria        | Soybean meal          | Jun-15          | Import policy              | Extended the zero import duty on animal feed, including soybean meal, until the end of 2015.                                                                                                                                                   |
| Brazil         | Arable crops          | Jun-15          | Agricultural policy        | Renewed and raised funding for agricultural support programmes in 2015/16, focusing on marketing support measures, assistance to medium-sized producers, agricultural equipment loans, storage facility expansion, and farm insurance schemes. |
|                | Soybeans              | Jun to Sep 2015 | Phytosanitary measures     | Expanded the policy on mandatory soybean-free periods meant to check the spread of diseases.                                                                                                                                                   |
|                | Soybeans              | Apr-15          | Nutrition policy           | Approved the use of health claims linking the consumption of protein-rich soy food products to lower cholesterol levels.                                                                                                                       |
| Canada         | Rapeseed              | Jun-15          | Environmental policy       | Introduced regulations aimed at reducing the use of neonicotinoid-based pesticides proven to be toxic to bees.                                                                                                                                 |
|                | Soybeans              | Apr and Jun 15  | Sector development         | Allocated funds to promote domestic soybean production, with a view to help producers take advantage of growing domestic and global market opportunities.                                                                                      |
|                | Oilseeds              | Jul-15          | Sector development         | Allocated funds to improve the quality and output of oilseeds and grains in the country's three Maritime provinces.                                                                                                                            |
| China          | GM crops              | Sep-15          | GMO policy                 | Launched investigation over suspected illegal cultivation GM crops.                                                                                                                                                                            |
| Egypt          | Edible oils           | Jul-15          | Import policy              | Replaced public tenders for the importation of cooking oil and other foods with direct order agreements, in an effort to reduce transaction costs.                                                                                             |
| Ethiopia       | Edible oils           | Jul-15          | Import policy              | Lifted ban on edible oil imports by the private sector.                                                                                                                                                                                        |
|                | Soybeans              | May-15          | GMO policy                 | Authorized importation of six new GM soybean strains destined for animal/human consumption in the Union's internal market.                                                                                                                     |
|                | Oilseeds, edible oils | May-15          | Marketing support          | Approved new programmes promoting selected agricultural products, including oilcrops and edible oils, in the EU and in third country markets, in particular in Eastern Europe, the CIS and China.                                              |
| European Union | Coconut               | May-15          | International cooperation  | Funded projects to boost productivity, quality and value addition in the coconut sector in the Caribbean and Pacific region.                                                                                                                   |
|                | Olive tree            | May-15          | Disease control            | Adopted measures aimed at preserving Italian olive trees threatened by disease ( <i>Xylella fastidiosa</i> ) and preventing the spread of the disease within the Union.                                                                        |
|                | Biofuel               | Jul-15          | Renewable energy policy    | Adopted revised EU rules on the use of biofuels as transport fuel, including an upper limit on the contribution of crop-based/first-generation biofuels.                                                                                       |
|                | Biodiesel             | Sep-15          | Import policy              | Extended anti-dumping and anti-subsidy duties applied to US biodiesel imports for five additional years, until September 2020.                                                                                                                 |
| Ghana          | Groundnut             | Jun-15          | Sector development         | Funded a project targeting groundnut production, with a view to improve local food supply and create opportunities for foreign exchange earnings.                                                                                              |
|                | Oil palm              | Jun-15          | Sector development         | Launched strategic export development plan aimed at diversifying exports, in particular by increasing the share of non-traditional exports, including palm oil.                                                                                |

| COUNTRY   | PRODUCT                        | DATE            | POLICY CATEGORY/INSTRUMENT                   | DESCRIPTION                                                                                                                                                                                                              |
|-----------|--------------------------------|-----------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| India     | Oilmeals                       | Apr-15          | Export policy                                | Streamlined, under the new Foreign Trade Policy for 2015-2020, the country's reward programme for specific merchandise exports, including higher support payments for oilmeal exports.                                   |
|           | Arable crops                   | Jun-15          | Producer support                             | Introduced subsidies on diesel, power and seed for farmers whose crops have been affected by insufficient monsoon rainfall.                                                                                              |
|           | Oilseeds, oil palm, olive tree | Aug-15          | Sector development                           | Introduced measures aimed at making the country self-sufficient in vegetable oils within the next five years, including a new oilseed procurement scheme, and programmes to encourage oil palm and olive tree plantings. |
|           | Oils/fats                      | Aug-15          | Nutrition policy                             | Limited the content of trans fatty acids in vegetable fats and hydrogenated vegetable oils to maximum 5 percent (by weight).                                                                                             |
|           | Edible oils                    | Sep-15          | Import policy                                | Raised import tariffs on both crude and refined edible oils by 5 percentage points, in an effort to check the surge in imports of low-priced palm oil.                                                                   |
| Indonesia | Oil palm                       | May-15          | Environmental policy                         | Approved 2-year extension of a country-wide ban on clearing primary rain forest and carbon-rich peatland, thereby slowing down the establishment of new plantations.                                                     |
|           | Palm oil, biodiesel            | Jul-15          | Sector development & renewable energy policy | Introduced a new levy on exports of crude and processed palm oil, with proceeds earmarked for oil palm sector development measures, including the promotion of palm oil-based biodiesel production.                      |
|           | Palm oil                       | Jul-15          | Export taxation                              | Modified the way the country's progressive export tax on palm oil is calculated, replacing local currency price percentages with US dollar amounts.                                                                      |
|           | Palm oil                       | Aug-15          | Bilateral cooperation                        | Agreed with Malaysia to coordinate policies in the palm oil sector, with a view to pursue common interests concerning supply management, product image, farm incomes, and technical assistance.                          |
|           | Biodiesel                      | Sep-15          | Trade policy                                 | Requested World Trade Organization to set up a dispute settlement panel assessing whether EU anti-dumping duties on biodiesel imports from Indonesia conform with international trade agreements.                        |
|           | Palm oil                       | May to Sep 2015 | Export tax                                   | Left in place sliding export tax regime used to protect the interests of palm oil producers and consumers; during April–Sept 2015, a zero export tax was applied.                                                        |
|           | Palm oil                       | Apr-15          | Sector development                           | Allocated funds to promote the establishment of a high-value palm oil-based bio-refinery industry in East Malaysia.                                                                                                      |
| Malaysia  | Palm oil                       | May to Sep 2015 | Export tax                                   | Left in place sliding export tax regime used to protect the interests of palm oil producers and consumers; during May–Sept 2015, a zero export tax was applied.                                                          |
|           | Palm oil                       | Jun-15          | Renewable energy policy                      | Announced raise mandatory blending rate of palm oil-based biodiesel into transport diesel fuel from 7 percent to 10 percent, effective October 2015.                                                                     |
|           | Palm oil                       | Jul-15          | Bilateral trade agreement                    | Negotiated preferential access for Malaysian palm oil exports into Turkey.                                                                                                                                               |
|           | Palm oil                       | Aug-15          | Bilateral cooperation                        | Agreed with Indonesia to coordinate policies in the palm oil sector, with a view to pursue common interests concerning supply management, product image, farm incomes, and technical assistance.                         |
| Mexico    | Soybeans                       | Apr-15          | Agricultural policy                          | Granted one-time support payments for selected crops, including soybeans, to compensate farmers affected by the decline in commodity prices during 2012–2014.                                                            |
| Nepal     | Oilseeds, edible oils          | Jul-15          | Import policy                                | Suspended national taxes and lowered import duties on selected foodstuffs, including oilseeds and edible oils, in an effort to bring down consumer prices.                                                               |

| COUNTRY                  | PRODUCT                           | DATE   | POLICY CATEGORY/INSTRUMENT | DESCRIPTION                                                                                                                                                  |
|--------------------------|-----------------------------------|--------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pakistan                 | Soymeal                           | Jul-15 | Import policy              | Further raised the import tariff on soymeal, with a view to encourage imports of whole soybeans for domestic crushing.                                       |
|                          | Olive tree                        | Sep-15 | Sector development         | Promoted olive culture throughout the country, with a view to reduce the country's dependence on vegetable oil imports.                                      |
| Peru                     | Biodiesel                         | Jul-15 | Import policy              | Initiated local anti-dumping investigations about imports of biodiesel from Argentina.                                                                       |
| Russian Federation       | Soybeans, sunflowerseed, rapeseed | Sep-15 | Trade policy               | Reduced export duties on a number of products, including oilseeds, in accordance with the country's WTO commitments.                                         |
|                          | Biodiesel                         | Apr-15 | Renewable energy policy    | Reinstated 7 percent mandatory blending of transportation diesel with palm oil-based biodiesel.                                                              |
| Thailand                 | Oil palm                          | Sep-15 | Market regulation          | Lowered the reference farmgate price millers are expected to pay when buying oil palm fruit, with a view to prevent further accumulation of domestic stocks. |
|                          | Sunflowerseed, sunflower oil      | Apr-15 | Import policy              | Lowered the duty charged on sunflower seed imports while raising that of sunflower seed oil, with a view to promote domestic value adding.                   |
| Turkey                   | Palm oil                          | Jul-15 | Bilateral trade agreement  | Granted preferential access to palm oil imports from Malaysia.                                                                                               |
|                          | Soybeans                          | Aug-15 | GMO policy                 | Approved two GM soybean varieties and their products for domestic feed use.                                                                                  |
| United States of America | Edible oils                       | Jun-15 | Nutrition policy           | Ordered food manufacturers to remove trans fatty acids from their products within three years.                                                               |

\* A collection of major policy developments starting in January 2011 is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/7groupANDcommodity=Oilseeds,%20oil%20and%20meals>

## MEAT: MAJOR POLICY DEVELOPMENTS: MAY TO MID SEPTEMBER 2015\*

| Argentina          | Bovine meat | Jun-15 | Market Access             | Lifted 2012 ban on imports of bovine meat from Brazil. The ban was imposed in response to cases of atypical bovine spongiform encephalopathy (BSE) in Brazil.                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
|--------------------|-------------|--------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Australia          | All         | Jun-15 | Free Trade Agreement      | Signed free trade agreement with China. Key outcomes include: elimination of tariffs on bovine meat (currently ranging from 12 to 25 percent) within 9 years; elimination of the 12 percent tariff on bovine offal within 4 to 7 years; elimination of the tariffs on sheepmeat (currently ranging from 12 to 23 percent) within 8 years; elimination of the 18 percent tariff on frozen sheepmeat offal within 7 years; elimination of the 20 percent tariff on goat meat within 8 years; tariffs of up to 20 percent on pork eliminated within 4 years. |  |  |
|                    | Bovine meat | Jul-15 | Health Certification      | Signed the Australia-China Live Cattle Export Health Certification Agreement, a health protocol which will enable the export of slaughter cattle to China.                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
| Belarus            | Poultry     | May-15 | Import ban                | Banned the import of poultry from parts of the United States and Kazakhstan, following outbreaks highly pathogenic avian influenza (HPAI) in these countries.                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
| Canada             | Bovine meat | Jul-15 | Free Trade Agreement      | Concluded free trade negotiations with the Ukraine which included access for bovine meat and for cattle under 30 months old.                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |
| Chile              | Bovine meat | May-15 | Market Access             | Recognized the United States as being a country of negligible risk from BSE. The new classification opens the possibility of negotiating new access for US products in Chile, specifically live cattle.                                                                                                                                                                                                                                                                                                                                                   |  |  |
| China              | Bovine meat | May-15 | Import ban lifted         | Lifted a ban on importation of bovine meat from Canada, imposed in February 2015, after Canada reported a case of BSE.                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                    | Bovine meat | May-15 | Import ban lifted         | Lifted a ban on imports of bovine meat from Brazil, imposed in December 2012 after cases of BSE were discovered there. Importation is allowed only from certified meat processing plant. Eight plants have been approved and more are awaiting approval.                                                                                                                                                                                                                                                                                                  |  |  |
|                    | Poultry     | May-15 | Import ban                | Banned importation of all poultry products from the United States, following outbreaks of HPAI in the US.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
| Indonesia          | Bovine meat | Jun-15 | Tariff rate quota         | Announced that it would issue a quota for the importation of 50 000 head of cattle for slaughter during the third quarter of the year – substantially down from the 250 000-head quota issued for the same period in 2014.                                                                                                                                                                                                                                                                                                                                |  |  |
| Kazakhstan         | All         | May-15 | Tariff rate quota         | Announced the second stage of the 2015 tariff quota allocation, encompassing frozen meat (HS 0202), pigmeat (HS 0203) and poultry meat (HS 0207).                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
| Myanmar            | All         | Jul-15 | Import ban lifted         | Approved importation of bovine meat, cattle and poultry meat from Brazil.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
| Russian Federation | All         | May-15 | Import ban lifted         | Lifted ban of bovine meat, sheepmeat and pigmeat imports from the southern district of Narino in Colombia – imposed in 2009, following an outbreak of FMD.                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
|                    | Bovine meat | May-15 | Import ban                | Banned the import of bovine meat from 10 processing plants in Brazil as of 9 June, citing phytosanitary concerns.                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
|                    | All         | Jun-15 | Import ban                | Extended ban on the importation of agricultural products from the EU, the United States, Canada, Australia and Norway until 5 August 2016.                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
|                    | All         | Aug-15 | State market intervention | Approved USD 176 million subsidy on interest payments for short-term loans to develop dairy cattle breeding facilities and livestock production in support of import-substitution goals.                                                                                                                                                                                                                                                                                                                                                                  |  |  |
| Saudi Arabia       | Poultry     | Jun-15 | Import ban                | Banned the importation of poultry from an additional 5 US states (Montana, North Dakota, South Dakota, Wisconsin and Iowa) following outbreaks of HPAI. Imports from a further 8 states (Oregon, California, Washington, Idaho, Minnesota, Missouri, Kansas and Arkansas) had been banned earlier in the year for the same reason.                                                                                                                                                                                                                        |  |  |
| South Africa       | Poultry     | Jun-15 | Import quota              | Agreed to a 65 000-tonne annual quota for the importation of chicken parts from the USA. The quota has not been applied as yet, due to concerns about the presence of HPAI in the USA.                                                                                                                                                                                                                                                                                                                                                                    |  |  |
| United States      | Bovine meat | Jul-15 | Import ban lifted         | Announced the lifting of a ban on bovine meat imports from northern Argentina and 14 states in Brazil.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                    | All         | Sep-15 | Import ban lifted         | The ban had been introduced subsequent to an outbreak of FMD in the area in 2001. Opened its market to imports of bovine meat, pigmeat, sheepmeat and goatmeat from Lithuania.                                                                                                                                                                                                                                                                                                                                                                            |  |  |

\* A collection of major meat policy developments starting in January 2011 is available at: <http://www.fao.org/economic/es/est-commodities/policy-archive/en/?groupANDcommodity=Meat>



## DAIRY: MAJOR POLICY DEVELOPMENTS: MAY TO MID SEPTEMBER 2015\*

| COUNTRY            | PRODUCT        | DATE   | POLICY CATEGORY/INSTRUMENT | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|----------------|--------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia          | Dairy products | Jul-15 | Free trade agreement       | Signed a free trade agreement with China which will progressively eliminate tariffs across all dairy products. Australia will receive unlimited preferential access, although a discretionary safeguard will be imposed on whole milk powder. Key outcomes include: elimination of the 15 percent tariff on infant formula within 4 years; elimination of the 10–19 percent tariff on ice cream, lactose, casein and milk albumins within 4 years; elimination of the 15 percent tariff on liquid milk within 9 years; elimination of the 10 to 15 percent tariff on cheese, butter and yogurt within 9 years; and elimination of the 10 percent tariff on milk powders within 11 years. |
| China              | Milk           | Jul-15 | Import ban lifted          | Lifted ban on importation of fresh milk from the Republic of Korea, in place since May 2014, following revision of the sanitary standards for imported products.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| European Union     | Dairy products | Aug-15 | Free trade agreement       | Announced that it had reached agreement in principle on a free trade agreement with Vietnam, opening potential for additional dairy exports.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| India              | Dairy products | Jun-15 | Import ban extended        | Extended the 2008 ban on milk and dairy product imports from China until June 23, 2016 or until further notice, whichever is earlier. The extension also prohibits the importation of chocolate and chocolate products, confectionary and food preparations that contain fluid milk or dairy solids as ingredients.                                                                                                                                                                                                                                                                                                                                                                      |
| Lithuania          | Cheese         | May-15 | Market Access              | Received confirmation from Brazil's Ministry of Agriculture, Livestock and Food Supply regarding permission to export Džiugas cheese to Brazil.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Russian Federation | Dairy products | Aug-15 | State market regulation    | Approved a USD 176 million subsidy to interest payments on short-term loans to develop dairy cattle breeding facilities and livestock production, in support of import-substitution goals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                    | Dairy products | Jun-15 | Import ban extended        | Extended the ban on the importation of agricultural products from the EU, the United States, Canada, Australia and Norway until 5 August 2016.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                    | Dairy products | Aug-15 | Import ban lifted          | Lifted its ban on imports of some dairy products from 29 dairy plants in New Zealand. The ban – imposed in 2013 when New Zealand's main dairy exporter, Fonterra, mistakenly detected a botulism-causing toxin in one of its products – originally included approximately 60 dairy plants. Products authorized for importation include anhydrous milk fat, whey and whey concentrates, while some other dairy products produced by the plants remain subject to the ban. Butter was not included in the ban.                                                                                                                                                                             |
|                    | Dairy products | Aug-15 | Market access              | The government concluded an agreement with companies in Uruguay to supply 260 000 tonnes of foodstuffs, including 40 000 tonnes of whole milk powder and 12 000 tonnes of cheese.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Venezuela          | Dairy products | Aug-15 | Market access              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

\* A collection of major dairy policy developments starting in January 2012 is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/7groupANDcommodity=Milk,%20Dairy%20products>



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## NOTES

### General

- **FAO estimates and forecasts** are based on official and unofficial sources.
- Unless otherwise stated, all charts and tables refer to FAO data as source.
- Estimates of world imports and exports may not always match, mainly because shipments and deliveries do not necessarily occur in the same marketing year.
- Tonnes refer to metric tonnes.
- All totals are computed from unrounded data.
- Regional totals may include estimates for countries not listed. The countries shown in the tables were chosen based on their importance of either production or trade in each region. The totals shown for Central America include countries in the Caribbean.
- Estimates for China also include those for the Taiwan Province, Hong Kong SAR and Macao SAR, unless otherwise stated.
- Up to 2012/13, the European Union includes 27 member states. From 2013/14, the European Union includes 28 member states.
- ‘-’ means nil or negligible.

### Production

- **Cereals:** Data refer to the calendar year in which the whole harvest or bulk of harvest takes place.
- **Sugar:** Figures refer to centrifugal sugar derived from sugar cane or beet, expressed in raw equivalents. Data relate to the October/September season.

### Utilization

- **Cereals:** Data are on individual country's marketing year basis.

- **Sugar:** Figures refer to centrifugal sugar derived from sugar cane or beet, expressed in raw equivalents. Data relate to the October/September season.

### Trade

- Trade between **European Union** member states is excluded, unless otherwise stated.
- **Wheat:** Trade data include wheat flour in wheat grain equivalent. The time reference period is July/June, unless otherwise stated.
- **Coarse grains:** The time reference period is July/June, unless otherwise stated.
- **Rice, dairy and meat products:** The time reference period is January/December.
- **Oilseeds, oils and fats and meals and sugar:** The time reference period is October/September, unless otherwise stated.

### Stocks

- **Cereals:** Data refer to carry-overs at the close of national crop seasons ending in the year shown.

### Price indices

- The FAO price indices are calculated using the Laspeyres formula; the weights used are based on the average export value of each commodity for the 2002-2004 period.

## COUNTRY CLASSIFICATION

In the presentation of statistical material, countries are subdivided according to geographical location as well as into the following two main

economic groupings: “developed countries” (including the developed market economies and the transition markets) and “developing countries” (including the developing market economies and the Asia centrally planned countries). The designation “Developed” and “Developing” economies is intended for statistical convenience and does not necessarily express a judgement about the stage reached by a particular country or area in the development process.

References are also made to special country groupings: Low-Income Food-Deficit Countries (LIFDCs), Least Developed Countries (LDCs). The LIFDCs include 54 countries that are net importers of basic foodstuffs with per caput income below the level used by the World Bank to determine eligibility for International Development Aid (IDA) assistance (i.e. USD 1 945 in 2011). The LDCs group currently includes 48 countries with low income as well as weak human resources and low level of economic diversification. The list is reviewed every three years by the Economic and Social Council of the United Nations.

## DISCLAIMER

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

## APPENDIX TABLE 1(A): CEREAL STATISTICS

|                             | Production           |                       |                       | Imports                |                          |                          | Exports                |                          |                          |
|-----------------------------|----------------------|-----------------------|-----------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                             | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| (..... million tonnes.....) |                      |                       |                       |                        |                          |                          |                        |                          |                          |
| <b>ASIA</b>                 | <b>1 095.2</b>       | <b>1 118.9</b>        | <b>1 134.7</b>        | <b>162.1</b>           | <b>197.0</b>             | <b>188.6</b>             | <b>61.4</b>            | <b>54.9</b>              | <b>56.2</b>              |
| Bangladesh                  | 37.4                 | 38.5                  | 38.6                  | 2.7                    | 4.8                      | 4.5                      | -                      | -                        | -                        |
| China                       | 475.0                | 494.1                 | 509.1                 | 23.8                   | 36.4                     | 34.2                     | 1.1                    | 0.8                      | 0.9                      |
| India                       | 239.2                | 242.6                 | 235.4                 | -                      | 0.1                      | 0.6                      | 21.0                   | 15.0                     | 14.1                     |
| Indonesia                   | 61.6                 | 63.5                  | 65.8                  | 10.7                   | 12.2                     | 12.2                     | 0.1                    | 0.2                      | 0.2                      |
| Iran, Islamic Republic of   | 20.7                 | 20.1                  | 20.2                  | 11.3                   | 16.2                     | 11.3                     | 0.2                    | 0.5                      | 0.2                      |
| Iraq                        | 4.1                  | 4.9                   | 4.1                   | 5.0                    | 4.7                      | 5.2                      | -                      | -                        | -                        |
| Japan                       | 8.9                  | 8.9                   | 8.8                   | 24.7                   | 23.4                     | 24.3                     | 0.3                    | 0.3                      | 0.3                      |
| Kazakhstan                  | 18.7                 | 16.5                  | 17.5                  | -                      | -                        | -                        | 8.7                    | 6.1                      | 6.5                      |
| Korea, Republic of          | 4.4                  | 4.5                   | 4.3                   | 13.9                   | 14.3                     | 15.0                     | 0.1                    | 0.1                      | 0.1                      |
| Myanmar                     | 18.9                 | 19.6                  | 19.5                  | 0.2                    | 0.3                      | 0.3                      | 1.7                    | 2.4                      | 2.5                      |
| Pakistan                    | 35.5                 | 38.2                  | 39.2                  | 0.3                    | 0.8                      | 0.2                      | 4.2                    | 4.6                      | 4.8                      |
| Philippines                 | 19.0                 | 20.1                  | 19.6                  | 4.6                    | 6.4                      | 6.9                      | -                      | -                        | -                        |
| Saudi Arabia                | 1.2                  | 0.9                   | 0.4                   | 15.1                   | 16.6                     | 17.5                     | -                      | -                        | -                        |
| Thailand                    | 30.0                 | 27.7                  | 26.4                  | 2.8                    | 3.9                      | 3.0                      | 8.7                    | 10.1                     | 10.9                     |
| Turkey                      | 35.0                 | 32.4                  | 38.0                  | 5.4                    | 8.9                      | 5.7                      | 3.2                    | 3.3                      | 3.6                      |
| Viet Nam                    | 33.2                 | 34.4                  | 34.4                  | 4.9                    | 7.7                      | 7.5                      | 8.2                    | 7.8                      | 8.3                      |
| <b>AFRICA</b>               | <b>159.0</b>         | <b>172.3</b>          | <b>163.9</b>          | <b>74.4</b>            | <b>79.6</b>              | <b>81.1</b>              | <b>9.2</b>             | <b>9.4</b>               | <b>7.2</b>               |
| Algeria                     | 4.7                  | 3.3                   | 3.9                   | 10.6                   | 12.3                     | 12.2                     | -                      | -                        | -                        |
| Egypt                       | 20.1                 | 19.7                  | 19.9                  | 17.2                   | 18.9                     | 19.3                     | 0.4                    | 0.4                      | 0.4                      |
| Ethiopia                    | 20.3                 | 23.6                  | 22.0                  | 1.0                    | 0.6                      | 0.5                      | 1.8                    | 2.4                      | 2.0                      |
| Morocco                     | 7.9                  | 7.0                   | 11.7                  | 6.1                    | 6.3                      | 4.7                      | 0.1                    | 0.1                      | 0.1                      |
| Nigeria                     | 20.2                 | 22.5                  | 22.2                  | 7.8                    | 7.9                      | 8.1                      | 0.7                    | 0.7                      | 0.7                      |
| South Africa                | 14.5                 | 17.3                  | 12.8                  | 3.1                    | 3.1                      | 3.8                      | 2.4                    | 2.1                      | 1.1                      |
| Sudan                       | 3.6                  | 7.9                   | 4.6                   | 2.6                    | 2.8                      | 3.1                      | -                      | 0.5                      | -                        |
| <b>CENTRAL AMERICA</b>      | <b>38.9</b>          | <b>42.0</b>           | <b>43.6</b>           | <b>26.2</b>            | <b>27.8</b>              | <b>27.5</b>              | <b>1.6</b>             | <b>1.7</b>               | <b>1.7</b>               |
| Mexico                      | 32.1                 | 35.7                  | 37.3                  | 15.8                   | 16.7                     | 16.3                     | 1.4                    | 1.5                      | 1.6                      |
| <b>SOUTH AMERICA</b>        | <b>159.8</b>         | <b>178.3</b>          | <b>183.9</b>          | <b>27.6</b>            | <b>28.1</b>              | <b>28.1</b>              | <b>57.9</b>            | <b>56.7</b>              | <b>61.2</b>              |
| Argentina                   | 46.7                 | 54.9                  | 53.5                  | -                      | 0.1                      | 0.1                      | 29.5                   | 27.0                     | 26.9                     |
| Brazil                      | 85.9                 | 96.5                  | 103.0                 | 9.1                    | 7.4                      | 7.9                      | 21.6                   | 23.1                     | 28.1                     |
| Chile                       | 3.6                  | 3.3                   | 3.6                   | 2.4                    | 2.5                      | 2.4                      | 0.1                    | 0.1                      | 0.1                      |
| Colombia                    | 3.2                  | 2.4                   | 3.0                   | 6.0                    | 7.3                      | 7.0                      | 0.1                    | 0.1                      | 0.1                      |
| Peru                        | 4.1                  | 4.0                   | 4.3                   | 4.1                    | 4.4                      | 4.5                      | -                      | -                        | -                        |
| Venezuela                   | 3.1                  | 3.4                   | 3.2                   | 4.2                    | 4.7                      | 4.8                      | -                      | 0.1                      | 0.1                      |
| <b>NORTH AMERICA</b>        | <b>444.7</b>         | <b>490.9</b>          | <b>478.2</b>          | <b>9.6</b>             | <b>10.0</b>              | <b>10.5</b>              | <b>94.5</b>            | <b>111.8</b>             | <b>107.3</b>             |
| Canada                      | 55.5                 | 51.3                  | 48.1                  | 1.4                    | 2.4                      | 2.2                      | 24.0                   | 29.0                     | 23.0                     |
| United States of America    | 389.3                | 439.6                 | 430.2                 | 8.2                    | 7.6                      | 8.3                      | 70.5                   | 82.8                     | 84.3                     |
| <b>EUROPE</b>               | <b>452.6</b>         | <b>519.8</b>          | <b>490.5</b>          | <b>22.5</b>            | <b>21.5</b>              | <b>26.6</b>              | <b>81.8</b>            | <b>116.8</b>             | <b>105.7</b>             |
| European Union              | 290.5                | 328.9                 | 305.6                 | 18.4                   | 17.4                     | 22.3                     | 30.4                   | 48.2                     | 39.2                     |
| Russian Federation          | 82.8                 | 102.1                 | 100.5                 | 0.8                    | 0.6                      | 0.7                      | 22.9                   | 30.6                     | 30.2                     |
| Serbia                      | 8.0                  | 9.6                   | 8.9                   | 0.1                    | 0.1                      | 0.1                      | 2.2                    | 3.1                      | 3.0                      |
| Ukraine                     | 54.8                 | 63.6                  | 60.3                  | 0.1                    | 0.2                      | 0.2                      | 25.6                   | 34.1                     | 32.4                     |
| <b>OCEANIA</b>              | <b>39.9</b>          | <b>36.2</b>           | <b>39.4</b>           | <b>1.6</b>             | <b>1.7</b>               | <b>1.7</b>               | <b>28.1</b>            | <b>23.8</b>              | <b>24.8</b>              |
| Australia                   | 39.0                 | 35.3                  | 38.5                  | 0.2                    | 0.2                      | 0.2                      | 28.1                   | 23.8                     | 24.8                     |
| <b>WORLD</b>                | <b>2 390.0</b>       | <b>2 558.4</b>        | <b>2 534.3</b>        | <b>324.1</b>           | <b>365.7</b>             | <b>364.0</b>             | <b>334.4</b>           | <b>375.0</b>             | <b>364.0</b>             |
| Developing countries        | 1 395.7              | 1 453.8               | 1 471.3               | 252.6                  | 295.2                    | 286.4                    | 117.7                  | 113.4                    | 117.5                    |
| Developed countries         | 994.3                | 1 104.6               | 1 063.0               | 71.5                   | 70.5                     | 77.6                     | 216.7                  | 261.7                    | 246.5                    |
| LIFDCs                      | 416.2                | 432.1                 | 418.0                 | 48.7                   | 53.1                     | 54.6                     | 27.2                   | 21.9                     | 19.7                     |
| LDCs                        | 158.1                | 171.2                 | 163.4                 | 26.5                   | 29.6                     | 29.1                     | 8.5                    | 9.6                      | 8.6                      |

# APPENDIX TABLE 1(B): CEREAL STATISTICS

|                           | Total Utilization            |                   |                   | Stocks ending in     |                |                | Per caput food use     |                   |                   |
|---------------------------|------------------------------|-------------------|-------------------|----------------------|----------------|----------------|------------------------|-------------------|-------------------|
|                           | 11/12-13/14<br>average       | 2014/15<br>estim. | 2015/16<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast | 11/12-13/14<br>average | 2014/15<br>estim. | 2015/16<br>f'cast |
|                           | (..... million tonnes .....) |                   |                   |                      |                |                | (..... Kg/year .....)  |                   |                   |
| <b>ASIA</b>               | <b>1 169.6</b>               | <b>1 245.3</b>    | <b>1 264.4</b>    | <b>371.2</b>         | <b>409.8</b>   | <b>412.1</b>   | <b>157.4</b>           | <b>158.2</b>      | <b>158.3</b>      |
| Bangladesh                | 40.1                         | 42.5              | 43.2              | 9.8                  | 11.0           | 10.7           | 204.1                  | 206.0             | 206.7             |
| China                     | 480.3                        | 519.9             | 526.6             | 213.8                | 244.4          | 258.2          | 151.9                  | 152.2             | 151.9             |
| India                     | 216.3                        | 225.9             | 229.4             | 52.5                 | 53.6           | 46.4           | 147.8                  | 148.6             | 149.1             |
| Indonesia                 | 72.5                         | 75.5              | 76.6              | 11.1                 | 11.4           | 12.1           | 185.0                  | 185.4             | 186.4             |
| Iran, Islamic Republic of | 30.2                         | 32.4              | 32.5              | 5.5                  | 10.5           | 9.4            | 205.2                  | 205.6             | 205.5             |
| Iraq                      | 8.8                          | 9.3               | 9.5               | 2.1                  | 2.8            | 2.6            | 199.7                  | 199.4             | 199.8             |
| Japan                     | 33.2                         | 32.5              | 32.7              | 5.8                  | 5.4            | 5.8            | 104.3                  | 101.7             | 101.0             |
| Kazakhstan                | 10.2                         | 10.6              | 10.8              | 5.2                  | 2.9            | 3.2            | 159.8                  | 158.8             | 158.1             |
| Korea, Republic of        | 18.4                         | 18.9              | 18.9              | 3.5                  | 3.8            | 4.2            | 133.5                  | 129.6             | 128.3             |
| Myanmar                   | 17.7                         | 17.9              | 17.6              | 3.3                  | 2.5            | 2.2            | 207.5                  | 210.9             | 211.4             |
| Pakistan                  | 31.4                         | 33.8              | 34.7              | 4.2                  | 4.4            | 4.1            | 146.8                  | 147.6             | 147.8             |
| Philippines               | 23.6                         | 25.3              | 26.4              | 2.8                  | 3.8            | 3.9            | 159.4                  | 161.7             | 163.5             |
| Saudi Arabia              | 15.7                         | 16.9              | 17.6              | 5.3                  | 6.3            | 6.5            | 140.6                  | 141.7             | 129.9             |
| Thailand                  | 20.4                         | 23.1              | 24.4              | 17.0                 | 17.8           | 13.0           | 118.9                  | 121.7             | 122.4             |
| Turkey                    | 36.4                         | 38.4              | 39.9              | 4.7                  | 4.9            | 5.2            | 238.4                  | 238.4             | 239.0             |
| Viet Nam                  | 30.1                         | 33.6              | 34.1              | 4.6                  | 4.4            | 4.3            | 178.7                  | 178.1             | 178.5             |
| <b>AFRICA</b>             | <b>222.5</b>                 | <b>239.2</b>      | <b>241.2</b>      | <b>40.6</b>          | <b>43.0</b>    | <b>37.5</b>    | <b>148.8</b>           | <b>150.1</b>      | <b>149.7</b>      |
| Algeria                   | 14.4                         | 16.4              | 16.6              | 5.5                  | 5.8            | 5.4            | 230.6                  | 229.9             | 229.4             |
| Egypt                     | 36.7                         | 38.5              | 39.2              | 6.8                  | 6.1            | 5.5            | 274.6                  | 274.3             | 274.4             |
| Ethiopia                  | 19.3                         | 21.4              | 21.1              | 1.9                  | 2.3            | 1.7            | 167.6                  | 171.4             | 170.0             |
| Morocco                   | 13.3                         | 14.0              | 14.9              | 4.6                  | 5.3            | 6.7            | 254.6                  | 254.7             | 254.3             |
| Nigeria                   | 26.9                         | 29.3              | 29.5              | 1.7                  | 1.9            | 1.4            | 119.3                  | 120.5             | 120.3             |
| South Africa              | 15.8                         | 16.1              | 16.2              | 2.2                  | 3.3            | 2.4            | 170.3                  | 169.0             | 168.6             |
| Sudan                     | 6.8                          | 8.6               | 7.9               | 0.8                  | 1.5            | 0.7            | 170.0                  | 174.8             | 173.9             |
| <b>CENTRAL AMERICA</b>    | <b>63.5</b>                  | <b>67.5</b>       | <b>69.6</b>       | <b>5.9</b>           | <b>6.8</b>     | <b>7.0</b>     | <b>158.0</b>           | <b>158.7</b>      | <b>158.8</b>      |
| Mexico                    | 46.6                         | 50.3              | 52.0              | 2.8                  | 3.6            | 3.8            | 183.8                  | 184.8             | 184.1             |
| <b>SOUTH AMERICA</b>      | <b>128.7</b>                 | <b>144.3</b>      | <b>148.2</b>      | <b>20.9</b>          | <b>31.8</b>    | <b>33.0</b>    | <b>119.8</b>           | <b>119.6</b>      | <b>119.7</b>      |
| Argentina                 | 17.3                         | 24.5              | 26.0              | 4.3                  | 8.5            | 7.9            | 133.2                  | 134.7             | 135.4             |
| Brazil                    | 72.3                         | 78.4              | 80.4              | 8.8                  | 13.8           | 15.5           | 113.3                  | 112.1             | 111.8             |
| Chile                     | 6.0                          | 6.2               | 6.2               | 0.8                  | 0.9            | 0.9            | 150.4                  | 150.9             | 151.2             |
| Colombia                  | 9.3                          | 10.2              | 10.3              | 0.6                  | 0.8            | 0.8            | 103.0                  | 103.9             | 104.3             |
| Peru                      | 8.0                          | 8.4               | 8.5               | 1.4                  | 1.6            | 1.5            | 148.1                  | 149.2             | 150.0             |
| Venezuela                 | 7.3                          | 7.9               | 8.0               | 0.6                  | 0.8            | 0.7            | 135.7                  | 136.4             | 136.0             |
| <b>NORTH AMERICA</b>      | <b>357.6</b>                 | <b>377.5</b>      | <b>380.7</b>      | <b>59.2</b>          | <b>78.8</b>    | <b>75.5</b>    | <b>108.6</b>           | <b>109.3</b>      | <b>109.4</b>      |
| Canada                    | 29.1                         | 30.5              | 29.4              | 10.9                 | 9.9            | 6.2            | 96.1                   | 96.0              | 96.9              |
| United States of America  | 328.5                        | 347.0             | 351.3             | 48.3                 | 69.0           | 69.3           | 110.0                  | 110.8             | 110.8             |
| <b>EUROPE</b>             | <b>397.0</b>                 | <b>410.8</b>      | <b>410.1</b>      | <b>52.2</b>          | <b>64.8</b>    | <b>65.8</b>    | <b>136.1</b>           | <b>136.8</b>      | <b>136.8</b>      |
| European Union            | 278.1                        | 288.4             | 289.2             | 30.7                 | 43.0           | 42.3           | 136.7                  | 137.7             | 137.8             |
| Russian Federation        | 65.6                         | 70.7              | 69.6              | 9.2                  | 6.7            | 8.1            | 126.9                  | 126.9             | 126.9             |
| Serbia                    | 6.1                          | 6.6               | 6.0               | 0.9                  | 0.8            | 0.8            | 160.5                  | 161.7             | 163.4             |
| Ukraine                   | 28.5                         | 28.3              | 28.3              | 8.3                  | 9.7            | 9.4            | 157.3                  | 156.1             | 155.8             |
| <b>OCEANIA</b>            | <b>15.1</b>                  | <b>14.5</b>       | <b>15.3</b>       | <b>8.0</b>           | <b>7.0</b>     | <b>7.0</b>     | <b>90.9</b>            | <b>90.6</b>       | <b>91.3</b>       |
| Australia                 | 12.8                         | 12.1              | 12.9              | 7.6                  | 6.5            | 6.5            | 98.2                   | 97.7              | 98.9              |
| <b>WORLD</b>              | <b>2 354.0</b>               | <b>2 498.9</b>    | <b>2 529.6</b>    | <b>557.9</b>         | <b>642.0</b>   | <b>637.8</b>   | <b>148.9</b>           | <b>149.8</b>      | <b>149.8</b>      |
| Developing countries      | 1 501.7                      | 1 612.4           | 1 638.8           | 419.2                | 472.8          | 470.6          | 153.9                  | 154.8             | 154.8             |
| Developed countries       | 852.3                        | 886.5             | 890.7             | 138.7                | 169.2          | 167.2          | 128.5                  | 128.8             | 128.7             |
| LIFDCs                    | 435.6                        | 459.7             | 463.9             | 92.2                 | 93.7           | 81.9           | 146.5                  | 147.9             | 147.9             |
| LDCs                      | 176.1                        | 188.2             | 188.1             | 34.2                 | 36.4           | 31.4           | 154.1                  | 156.5             | 156.3             |

# APPENDIX TABLE 2(A): WHEAT STATISTICS

|                                      | Production           |                       |                       | Imports                |                          |                          | Exports                |                          |                          |
|--------------------------------------|----------------------|-----------------------|-----------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                                      | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| (..... million tonnes .....) (.....) |                      |                       |                       |                        |                          |                          |                        |                          |                          |
| <b>ASIA</b>                          | <b>314.4</b>         | <b>322.6</b>          | <b>324.6</b>          | <b>68.8</b>            | <b>75.4</b>              | <b>71.8</b>              | <b>20.0</b>            | <b>14.3</b>              | <b>13.9</b>              |
| Bangladesh                           | 1.2                  | 1.3                   | 1.4                   | 2.1                    | 3.8                      | 3.7                      | -                      | -                        | -                        |
| China                                | 120.1                | 126.2                 | 129.9                 | 6.0                    | 3.9                      | 3.7                      | 0.4                    | 0.3                      | 0.3                      |
| of which Taiwan Prov.                | -                    | -                     | -                     | 1.3                    | 1.6                      | 1.6                      | -                      | -                        | -                        |
| India                                | 91.8                 | 95.9                  | 88.9                  | -                      | 0.1                      | 0.6                      | 5.2                    | 1.7                      | 0.7                      |
| Indonesia                            | -                    | -                     | -                     | 7.0                    | 7.5                      | 7.8                      | 0.1                    | 0.1                      | 0.1                      |
| Iran, Islamic Republic of            | 13.4                 | 14.0                  | 14.0                  | 4.6                    | 5.8                      | 3.3                      | 0.2                    | 0.5                      | 0.2                      |
| Iraq                                 | 2.8                  | 3.5                   | 2.8                   | 3.4                    | 3.0                      | 3.4                      | -                      | -                        | -                        |
| Japan                                | 0.8                  | 0.9                   | 0.9                   | 6.1                    | 5.7                      | 6.0                      | 0.3                    | 0.2                      | 0.3                      |
| Kazakhstan                           | 15.5                 | 13.0                  | 14.0                  | -                      | -                        | -                        | 8.1                    | 5.5                      | 6.0                      |
| Korea, Republic of                   | -                    | -                     | -                     | 4.8                    | 3.7                      | 4.5                      | 0.1                    | 0.1                      | 0.1                      |
| Pakistan                             | 24.3                 | 26.0                  | 27.0                  | 0.3                    | 0.7                      | 0.2                      | 0.6                    | 0.8                      | 0.8                      |
| Philippines                          | -                    | -                     | -                     | 3.0                    | 4.0                      | 4.3                      | -                      | -                        | -                        |
| Saudi Arabia                         | 0.8                  | 0.5                   | -                     | 2.8                    | 3.5                      | 3.8                      | -                      | -                        | -                        |
| Thailand                             | -                    | -                     | -                     | 2.2                    | 3.5                      | 2.5                      | 0.2                    | 0.2                      | 0.2                      |
| Turkey                               | 21.3                 | 19.0                  | 22.5                  | 3.8                    | 5.9                      | 3.5                      | 3.1                    | 3.3                      | 3.5                      |
| <b>AFRICA</b>                        | <b>25.8</b>          | <b>25.1</b>           | <b>27.7</b>           | <b>41.2</b>            | <b>43.7</b>              | <b>43.0</b>              | <b>1.2</b>             | <b>1.0</b>               | <b>0.9</b>               |
| Algeria                              | 3.2                  | 2.0                   | 2.4                   | 6.8                    | 7.2                      | 7.2                      | -                      | -                        | -                        |
| Egypt                                | 8.7                  | 8.8                   | 9.0                   | 10.2                   | 11.0                     | 11.2                     | -                      | -                        | -                        |
| Ethiopia                             | 3.5                  | 4.2                   | 4.0                   | 0.8                    | 0.5                      | 0.5                      | -                      | -                        | -                        |
| Morocco                              | 5.6                  | 5.1                   | 8.0                   | 3.9                    | 3.5                      | 2.2                      | 0.1                    | 0.1                      | 0.1                      |
| Nigeria                              | 0.1                  | 0.1                   | 0.1                   | 4.2                    | 4.7                      | 4.7                      | 0.5                    | 0.5                      | 0.5                      |
| South Africa                         | 1.9                  | 1.8                   | 1.7                   | 1.6                    | 1.7                      | 1.8                      | 0.3                    | 0.2                      | 0.1                      |
| Tunisia                              | 1.5                  | 1.5                   | 1.0                   | 1.7                    | 1.6                      | 1.8                      | 0.1                    | 0.1                      | 0.1                      |
| <b>CENTRAL AMERICA</b>               | <b>3.4</b>           | <b>3.7</b>            | <b>3.8</b>            | <b>8.5</b>             | <b>8.5</b>               | <b>8.5</b>               | <b>1.0</b>             | <b>1.1</b>               | <b>1.2</b>               |
| Cuba                                 | -                    | -                     | -                     | 0.8                    | 0.8                      | 0.8                      | -                      | -                        | -                        |
| Mexico                               | 3.4                  | 3.7                   | 3.8                   | 4.6                    | 4.6                      | 4.5                      | 0.9                    | 1.0                      | 1.1                      |
| <b>SOUTH AMERICA</b>                 | <b>20.3</b>          | <b>24.7</b>           | <b>22.6</b>           | <b>14.1</b>            | <b>13.0</b>              | <b>13.4</b>              | <b>10.1</b>            | <b>7.4</b>               | <b>9.1</b>               |
| Argentina                            | 10.6                 | 13.9                  | 11.0                  | -                      | -                        | -                        | 6.8                    | 4.0                      | 5.5                      |
| Brazil                               | 5.3                  | 6.2                   | 7.2                   | 7.1                    | 5.8                      | 6.5                      | 1.2                    | 1.7                      | 1.8                      |
| Chile                                | 1.4                  | 1.4                   | 1.5                   | 0.9                    | 0.7                      | 0.7                      | -                      | -                        | -                        |
| Colombia                             | -                    | -                     | -                     | 1.5                    | 1.8                      | 1.7                      | -                      | 0.1                      | 0.1                      |
| Peru                                 | 0.2                  | 0.2                   | 0.2                   | 1.8                    | 1.7                      | 1.7                      | -                      | -                        | -                        |
| Venezuela                            | -                    | -                     | -                     | 1.8                    | 1.8                      | 1.9                      | -                      | -                        | -                        |
| <b>NORTH AMERICA</b>                 | <b>87.9</b>          | <b>84.4</b>           | <b>82.8</b>           | <b>3.4</b>             | <b>3.6</b>               | <b>4.3</b>               | <b>48.4</b>            | <b>47.3</b>              | <b>43.0</b>              |
| Canada                               | 30.0                 | 29.3                  | 24.6                  | 0.2                    | 0.2                      | 0.3                      | 19.4                   | 24.8                     | 18.5                     |
| United States of America             | 57.9                 | 55.1                  | 58.1                  | 3.2                    | 3.4                      | 4.0                      | 29.0                   | 22.5                     | 24.5                     |
| <b>EUROPE</b>                        | <b>214.1</b>         | <b>248.5</b>          | <b>247.7</b>          | <b>7.5</b>             | <b>7.9</b>               | <b>8.1</b>               | <b>47.8</b>            | <b>68.1</b>              | <b>64.5</b>              |
| European Union                       | 137.9                | 157.0                 | 154.5                 | 5.4                    | 5.7                      | 5.7                      | 22.7                   | 34.1                     | 29.0                     |
| Russian Federation                   | 48.7                 | 59.7                  | 59.8                  | 0.1                    | 0.3                      | 0.3                      | 17.1                   | 21.8                     | 22.5                     |
| Ukraine                              | 20.1                 | 24.1                  | 25.8                  | -                      | -                        | -                        | 7.2                    | 11.2                     | 12.0                     |
| <b>OCEANIA</b>                       | <b>26.3</b>          | <b>24.0</b>           | <b>25.6</b>           | <b>0.9</b>             | <b>0.9</b>               | <b>0.9</b>               | <b>20.9</b>            | <b>16.6</b>              | <b>17.5</b>              |
| Australia                            | 26.0                 | 23.7                  | 25.3                  | -                      | -                        | -                        | 20.9                   | 16.6                     | 17.5                     |
| <b>WORLD</b>                         | <b>692.2</b>         | <b>732.9</b>          | <b>734.8</b>          | <b>144.3</b>           | <b>153.0</b>             | <b>150.0</b>             | <b>149.3</b>           | <b>155.8</b>             | <b>150.0</b>             |
| Developing countries                 | 333.8                | 348.4                 | 349.5                 | 117.1                  | 125.4                    | 121.1                    | 22.8                   | 17.1                     | 17.8                     |
| Developed countries                  | 358.4                | 384.5                 | 385.3                 | 27.3                   | 27.6                     | 28.9                     | 126.6                  | 138.7                    | 132.2                    |
| LIFDCs                               | 115.8                | 121.3                 | 114.5                 | 26.9                   | 30.6                     | 31.0                     | 6.5                    | 3.0                      | 2.0                      |
| LDCs                                 | 12.3                 | 14.3                  | 14.0                  | 15.4                   | 18.0                     | 17.5                     | 0.1                    | 0.1                      | 0.1                      |

# APPENDIX TABLE 2(B): WHEAT STATISTICS

|                           | Total Utilization                    |                          |                          | Stocks ending in     |                       |                       | Per caput food use            |                          |                          |
|---------------------------|--------------------------------------|--------------------------|--------------------------|----------------------|-----------------------|-----------------------|-------------------------------|--------------------------|--------------------------|
|                           | 11/12-13/14<br>average               | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 2012-2014<br>average | 2015<br><i>estim.</i> | 2016<br><i>f'cast</i> | 11/12-13/14<br>average        | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
|                           | (. . . . . million tonnes . . . . .) |                          |                          |                      |                       |                       | (. . . . . Kg/year . . . . .) |                          |                          |
| <b>ASIA</b>               | <b>359.6</b>                         | <b>377.0</b>             | <b>383.3</b>             | <b>111.5</b>         | <b>119.7</b>          | <b>118.3</b>          | <b>64.2</b>                   | <b>64.7</b>              | <b>64.8</b>              |
| Bangladesh                | 3.7                                  | 4.3                      | 4.8                      | 2.5                  | 3.1                   | 3.4                   | 21.0                          | 21.3                     | 21.4                     |
| China                     | 125.8                                | 131.1                    | 132.0                    | 50.9                 | 51.3                  | 52.5                  | 63.8                          | 63.9                     | 64.0                     |
| of which Taiwan Prov.     | 1.3                                  | 1.4                      | 1.5                      | 0.4                  | 0.5                   | 0.5                   | 45.1                          | 45.8                     | 45.7                     |
| India                     | 84.9                                 | 89.7                     | 91.1                     | 23.2                 | 26.8                  | 24.3                  | 58.8                          | 59.4                     | 59.5                     |
| Indonesia                 | 6.7                                  | 7.5                      | 7.8                      | 1.2                  | 1.6                   | 1.5                   | 20.9                          | 21.4                     | 21.7                     |
| Iran, Islamic Republic of | 16.4                                 | 17.7                     | 17.8                     | 3.1                  | 8.3                   | 7.3                   | 168.1                         | 168.3                    | 168.1                    |
| Iraq                      | 5.9                                  | 6.2                      | 6.4                      | 1.9                  | 2.6                   | 2.5                   | 145.4                         | 145.3                    | 145.5                    |
| Japan                     | 6.5                                  | 6.6                      | 6.6                      | 1.0                  | 0.8                   | 0.8                   | 42.5                          | 42.1                     | 42.0                     |
| Kazakhstan                | 7.5                                  | 7.7                      | 7.8                      | 5.0                  | 2.7                   | 2.9                   | 145.0                         | 143.9                    | 143.3                    |
| Korea, Republic of        | 4.8                                  | 4.1                      | 4.3                      | 0.9                  | 0.6                   | 0.8                   | 47.2                          | 47.5                     | 47.5                     |
| Pakistan                  | 24.0                                 | 25.6                     | 26.3                     | 2.1                  | 2.1                   | 2.1                   | 125.5                         | 125.6                    | 125.7                    |
| Philippines               | 3.0                                  | 3.6                      | 4.1                      | 0.4                  | 0.5                   | 0.7                   | 23.0                          | 23.3                     | 23.8                     |
| Saudi Arabia              | 3.8                                  | 3.8                      | 3.7                      | 2.3                  | 2.6                   | 2.7                   | 94.7                          | 95.5                     | 83.4                     |
| Thailand                  | 2.1                                  | 2.7                      | 2.6                      | 0.5                  | 1.0                   | 0.8                   | 15.5                          | 15.6                     | 16.1                     |
| Turkey                    | 21.6                                 | 22.0                     | 22.8                     | 2.6                  | 2.6                   | 2.3                   | 209.5                         | 209.0                    | 209.1                    |
| <b>AFRICA</b>             | <b>64.3</b>                          | <b>67.9</b>              | <b>69.1</b>              | <b>18.1</b>          | <b>18.2</b>           | <b>17.5</b>           | <b>51.1</b>                   | <b>50.7</b>              | <b>50.1</b>              |
| Algeria                   | 9.2                                  | 9.9                      | 10.1                     | 4.4                  | 4.5                   | 4.0                   | 208.3                         | 208.0                    | 208.0                    |
| Egypt                     | 18.9                                 | 20.0                     | 20.5                     | 4.9                  | 4.1                   | 3.7                   | 188.3                         | 188.7                    | 188.5                    |
| Ethiopia                  | 4.2                                  | 4.7                      | 4.6                      | 0.3                  | 0.4                   | 0.2                   | 39.7                          | 40.0                     | 39.4                     |
| Morocco                   | 8.6                                  | 9.0                      | 9.4                      | 3.4                  | 4.2                   | 4.9                   | 200.1                         | 200.5                    | 200.7                    |
| Nigeria                   | 3.8                                  | 4.0                      | 4.0                      | 0.2                  | 0.2                   | 0.2                   | 19.8                          | 20.1                     | 19.6                     |
| South Africa              | 3.2                                  | 3.2                      | 3.2                      | 0.6                  | 0.6                   | 0.6                   | 57.9                          | 57.9                     | 57.3                     |
| Tunisia                   | 3.0                                  | 3.0                      | 3.0                      | 0.7                  | 0.8                   | 0.5                   | 211.1                         | 211.1                    | 211.0                    |
| <b>CENTRAL AMERICA</b>    | <b>10.8</b>                          | <b>10.9</b>              | <b>11.0</b>              | <b>1.6</b>           | <b>1.9</b>            | <b>2.0</b>            | <b>44.0</b>                   | <b>44.2</b>              | <b>44.2</b>              |
| Cuba                      | 0.8                                  | 0.8                      | 0.8                      | -                    | -                     | -                     | 55.4                          | 54.6                     | 54.7                     |
| Mexico                    | 7.0                                  | 7.1                      | 7.2                      | 0.5                  | 0.8                   | 0.8                   | 47.4                          | 47.9                     | 48.0                     |
| <b>SOUTH AMERICA</b>      | <b>25.9</b>                          | <b>26.9</b>              | <b>27.1</b>              | <b>4.1</b>           | <b>6.5</b>            | <b>6.1</b>            | <b>59.6</b>                   | <b>59.8</b>              | <b>59.7</b>              |
| Argentina                 | 5.4                                  | 5.9                      | 5.8                      | 1.0                  | 2.9                   | 2.2                   | 116.8                         | 117.5                    | 117.5                    |
| Brazil                    | 11.0                                 | 11.2                     | 11.3                     | 1.1                  | 0.8                   | 1.2                   | 51.5                          | 51.4                     | 51.5                     |
| Chile                     | 2.3                                  | 2.4                      | 2.4                      | 0.2                  | 0.2                   | 0.2                   | 119.8                         | 120.6                    | 120.7                    |
| Colombia                  | 1.4                                  | 1.5                      | 1.5                      | 0.3                  | 0.5                   | 0.5                   | 28.1                          | 28.4                     | 28.3                     |
| Peru                      | 1.9                                  | 2.0                      | 2.0                      | 0.4                  | 0.6                   | 0.5                   | 59.8                          | 60.2                     | 59.6                     |
| Venezuela                 | 1.8                                  | 1.9                      | 1.9                      | 0.2                  | 0.2                   | 0.1                   | 58.3                          | 59.0                     | 59.2                     |
| <b>NORTH AMERICA</b>      | <b>43.6</b>                          | <b>41.5</b>              | <b>42.4</b>              | <b>25.7</b>          | <b>27.2</b>           | <b>27.5</b>           | <b>81.7</b>                   | <b>82.1</b>              | <b>82.2</b>              |
| Canada                    | 8.9                                  | 10.0                     | 8.7                      | 7.1                  | 6.7                   | 3.7                   | 80.3                          | 80.1                     | 80.7                     |
| United States of America  | 34.7                                 | 31.5                     | 33.7                     | 18.6                 | 20.5                  | 23.8                  | 81.9                          | 82.3                     | 82.4                     |
| <b>EUROPE</b>             | <b>178.1</b>                         | <b>180.8</b>             | <b>185.7</b>             | <b>21.0</b>          | <b>24.2</b>           | <b>29.5</b>           | <b>110.4</b>                  | <b>110.4</b>             | <b>110.3</b>             |
| European Union            | 121.0                                | 123.8                    | 128.5                    | 9.5                  | 13.5                  | 16.0                  | 112.2                         | 112.5                    | 112.4                    |
| Russian Federation        | 36.0                                 | 36.9                     | 36.3                     | 5.7                  | 3.8                   | 5.0                   | 100.3                         | 100.0                    | 99.9                     |
| Ukraine                   | 12.8                                 | 12.1                     | 12.8                     | 3.9                  | 4.4                   | 5.4                   | 123.3                         | 122.6                    | 122.5                    |
| <b>OCEANIA</b>            | <b>7.5</b>                           | <b>7.9</b>               | <b>8.4</b>               | <b>5.3</b>           | <b>4.9</b>            | <b>5.0</b>            | <b>67.2</b>                   | <b>66.7</b>              | <b>67.0</b>              |
| Australia                 | 6.4                                  | 6.7                      | 7.2                      | 4.9                  | 4.5                   | 4.6                   | 78.6                          | 78.3                     | 79.3                     |
| <b>WORLD</b>              | <b>689.8</b>                         | <b>712.9</b>             | <b>727.0</b>             | <b>187.3</b>         | <b>202.6</b>          | <b>205.9</b>          | <b>67.1</b>                   | <b>67.2</b>              | <b>67.0</b>              |
| Developing countries      | 425.0                                | 446.4                    | 453.7                    | 123.4                | 136.5                 | 133.3                 | 59.9                          | 60.1                     | 60.0                     |
| Developed countries       | 264.8                                | 266.5                    | 273.3                    | 63.9                 | 66.1                  | 72.5                  | 96.7                          | 96.8                     | 96.8                     |
| LIFDCs                    | 135.0                                | 142.4                    | 144.6                    | 38.4                 | 42.1                  | 39.9                  | 47.4                          | 47.6                     | 47.4                     |
| LDCs                      | 28.1                                 | 30.2                     | 30.9                     | 7.8                  | 9.0                   | 9.0                   | 28.5                          | 28.7                     | 28.5                     |

# APPENDIX TABLE 3(A): COARSE GRAIN STATISTICS

|                                      | Production           |                |                | Imports                |                   |                   | Exports                |                   |                   |
|--------------------------------------|----------------------|----------------|----------------|------------------------|-------------------|-------------------|------------------------|-------------------|-------------------|
|                                      | 2011-2013<br>average | 2014<br>estim. | 2015<br>f'cast | 11/12-13/14<br>average | 2014/15<br>estim. | 2015/16<br>f'cast | 11/12-13/14<br>average | 2014/15<br>estim. | 2015/16<br>f'cast |
| (. . . . . million tonnes . . . . .) |                      |                |                |                        |                   |                   |                        |                   |                   |
| <b>ASIA</b>                          | <b>337.5</b>         | <b>349.0</b>   | <b>363.8</b>   | <b>73.0</b>            | <b>99.3</b>       | <b>94.2</b>       | <b>7.5</b>             | <b>4.5</b>        | <b>5.0</b>        |
| China                                | 214.7                | 225.2          | 236.0          | 12.3                   | 26.3              | 24.5              | 0.2                    | 0.1               | 0.2               |
| of which Taiwan Prov.                | 0.1                  | 0.1            | 0.1            | 4.5                    | 4.8               | 4.8               | -                      | -                 | -                 |
| India                                | 41.7                 | 42.0           | 42.6           | -                      | -                 | -                 | 4.9                    | 2.1               | 2.6               |
| Indonesia                            | 18.5                 | 19.0           | 20.0           | 2.6                    | 3.8               | 3.1               | -                      | 0.1               | 0.1               |
| Iran, Islamic Republic of            | 5.7                  | 4.5            | 4.6            | 5.2                    | 9.2               | 6.7               | -                      | -                 | -                 |
| Japan                                | 0.2                  | 0.2            | 0.2            | 17.9                   | 17.1              | 17.6              | -                      | -                 | -                 |
| Korea, D.P.R.                        | 2.3                  | 2.7            | 2.3            | 0.3                    | 0.1               | 0.2               | -                      | -                 | -                 |
| Korea, Republic of                   | 0.2                  | 0.2            | 0.2            | 8.7                    | 10.2              | 10.1              | -                      | -                 | -                 |
| Malaysia                             | 0.1                  | 0.1            | 0.1            | 3.2                    | 3.7               | 3.7               | -                      | -                 | -                 |
| Pakistan                             | 5.1                  | 5.2            | 5.4            | -                      | -                 | -                 | -                      | -                 | -                 |
| Philippines                          | 7.2                  | 7.8            | 7.6            | 0.3                    | 0.6               | 0.5               | -                      | -                 | -                 |
| Saudi Arabia                         | 0.4                  | 0.4            | 0.4            | 10.9                   | 11.5              | 12.1              | -                      | -                 | -                 |
| Thailand                             | 5.1                  | 5.0            | 5.1            | 0.2                    | 0.2               | 0.2               | 0.5                    | 0.1               | 0.2               |
| Turkey                               | 13.1                 | 12.9           | 15.0           | 1.3                    | 2.8               | 1.9               | 0.1                    | 0.1               | 0.1               |
| Viet Nam                             | 4.9                  | 5.2            | 5.4            | 2.2                    | 5.0               | 4.6               | -                      | -                 | -                 |
| <b>AFRICA</b>                        | <b>115.6</b>         | <b>128.4</b>   | <b>117.7</b>   | <b>18.6</b>            | <b>21.8</b>       | <b>23.4</b>       | <b>7.4</b>             | <b>7.9</b>        | <b>5.8</b>        |
| Algeria                              | 1.6                  | 1.3            | 1.5            | 3.7                    | 5.0               | 4.9               | -                      | -                 | -                 |
| Egypt                                | 7.4                  | 6.6            | 6.8            | 6.9                    | 7.9               | 8.1               | -                      | -                 | -                 |
| Ethiopia                             | 16.8                 | 19.2           | 17.9           | 0.1                    | -                 | -                 | 1.8                    | 2.4               | 2.0               |
| Kenya                                | 3.8                  | 3.0            | 3.4            | 0.6                    | 1.0               | 1.1               | -                      | -                 | -                 |
| Morocco                              | 2.3                  | 1.9            | 3.7            | 2.3                    | 2.8               | 2.5               | -                      | -                 | -                 |
| Nigeria                              | 17.4                 | 19.5           | 19.2           | 0.2                    | 0.2               | 0.2               | 0.3                    | 0.3               | 0.3               |
| South Africa                         | 12.6                 | 15.6           | 11.1           | 0.3                    | 0.3               | 0.9               | 2.1                    | 2.0               | 1.0               |
| Sudan                                | 3.3                  | 7.4            | 4.2            | 0.4                    | 0.3               | 0.4               | -                      | 0.5               | -                 |
| Tanzania, United Rep. of             | 6.1                  | 6.2            | 6.0            | -                      | -                 | -                 | 0.3                    | 0.3               | 0.2               |
| <b>CENTRAL AMERICA</b>               | <b>33.5</b>          | <b>36.4</b>    | <b>38.0</b>    | <b>15.7</b>            | <b>17.1</b>       | <b>16.6</b>       | <b>0.5</b>             | <b>0.5</b>        | <b>0.5</b>        |
| Mexico                               | 28.5                 | 31.8           | 33.4           | 10.6                   | 11.5              | 11.2              | 0.5                    | 0.5               | 0.5               |
| <b>SOUTH AMERICA</b>                 | <b>122.9</b>         | <b>136.8</b>   | <b>143.9</b>   | <b>12.0</b>            | <b>13.7</b>       | <b>13.3</b>       | <b>44.5</b>            | <b>46.3</b>       | <b>49.2</b>       |
| Argentina                            | 35.0                 | 39.9           | 41.5           | -                      | 0.1               | 0.1               | 22.1                   | 22.7              | 20.9              |
| Brazil                               | 72.2                 | 82.1           | 87.3           | 1.2                    | 1.3               | 1.1               | 19.5                   | 20.7              | 25.5              |
| Chile                                | 2.1                  | 1.9            | 2.1            | 1.5                    | 1.7               | 1.6               | 0.1                    | 0.1               | 0.1               |
| Colombia                             | 1.8                  | 1.1            | 1.6            | 4.4                    | 5.2               | 5.1               | 0.1                    | 0.1               | 0.1               |
| Peru                                 | 1.9                  | 1.8            | 1.9            | 2.2                    | 2.5               | 2.6               | -                      | -                 | -                 |
| Venezuela                            | 2.5                  | 2.5            | 2.5            | 2.1                    | 2.6               | 2.6               | -                      | 0.1               | 0.1               |
| <b>NORTH AMERICA</b>                 | <b>350.7</b>         | <b>399.4</b>   | <b>389.5</b>   | <b>5.1</b>             | <b>5.2</b>        | <b>4.9</b>        | <b>42.9</b>            | <b>61.1</b>       | <b>61.0</b>       |
| Canada                               | 25.5                 | 22.0           | 23.5           | 0.8                    | 1.8               | 1.5               | 4.6                    | 4.2               | 4.5               |
| United States of America             | 325.3                | 377.4          | 366.0          | 4.3                    | 3.4               | 3.5               | 38.3                   | 56.9              | 56.5              |
| <b>EUROPE</b>                        | <b>235.8</b>         | <b>268.9</b>   | <b>240.2</b>   | <b>13.2</b>            | <b>11.4</b>       | <b>16.2</b>       | <b>33.6</b>            | <b>48.2</b>       | <b>40.6</b>       |
| European Union                       | 150.8                | 170.2          | 149.3          | 11.6                   | 10.0              | 14.8              | 7.5                    | 13.8              | 9.9               |
| Russian Federation                   | 33.4                 | 41.7           | 40.0           | 0.4                    | 0.1               | 0.1               | 5.7                    | 8.5               | 7.5               |
| Serbia                               | 5.8                  | 7.2            | 6.5            | -                      | -                 | -                 | 1.6                    | 2.3               | 2.2               |
| Ukraine                              | 34.6                 | 39.5           | 34.4           | 0.1                    | 0.1               | 0.1               | 18.4                   | 22.9              | 20.4              |
| <b>OCEANIA</b>                       | <b>12.9</b>          | <b>11.6</b>    | <b>13.3</b>    | <b>0.3</b>             | <b>0.3</b>        | <b>0.3</b>        | <b>6.7</b>             | <b>6.8</b>        | <b>6.9</b>        |
| Australia                            | 12.3                 | 11.1           | 12.8           | -                      | -                 | -                 | 6.7                    | 6.8               | 6.9               |
| <b>WORLD</b>                         | <b>1 209.0</b>       | <b>1 330.6</b> | <b>1 306.5</b> | <b>137.8</b>           | <b>168.7</b>      | <b>169.0</b>      | <b>143.1</b>           | <b>175.2</b>      | <b>169.0</b>      |
| Developing countries                 | 590.8                | 628.9          | 646.1          | 98.9                   | 131.7             | 126.4             | 57.2                   | 56.6              | 59.0              |
| Developed countries                  | 618.1                | 701.6          | 660.3          | 38.9                   | 37.1              | 42.6              | 85.9                   | 118.6             | 110.0             |
| LIFDCs                               | 141.1                | 151.0          | 145.0          | 6.9                    | 7.2               | 8.0               | 9.6                    | 7.4               | 6.7               |
| LDCs                                 | 73.4                 | 82.9           | 75.8           | 2.5                    | 2.5               | 2.7               | 5.6                    | 6.5               | 5.4               |



# APPENDIX TABLE 3(B): COARSE GRAIN STATISTICS

|                           | Total Utilization           |                   |                   | Stocks ending in     |                |                | Per caput food use     |                   |                   |
|---------------------------|-----------------------------|-------------------|-------------------|----------------------|----------------|----------------|------------------------|-------------------|-------------------|
|                           | 11/12-13/14<br>average      | 2014/15<br>estim. | 2015/16<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast | 11/12-13/14<br>average | 2014/15<br>estim. | 2015/16<br>f'cast |
|                           | (..... million tonnes.....) |                   |                   |                      |                |                | (..... Kg/year.....)   |                   |                   |
| <b>ASIA</b>               | <b>393.6</b>                | <b>435.5</b>      | <b>443.4</b>      | <b>110.4</b>         | <b>128.8</b>   | <b>137.4</b>   | <b>14.6</b>            | <b>14.6</b>       | <b>14.6</b>       |
| China                     | 218.4                       | 247.5             | 252.4             | 86.2                 | 100.4          | 106.7          | 11.0                   | 11.0              | 11.0              |
| of which Taiwan Prov.     | 4.6                         | 4.7               | 4.8               | 0.3                  | 0.2            | 0.2            | 6.7                    | 7.1               | 7.0               |
| India                     | 37.0                        | 38.4              | 39.0              | 4.2                  | 6.3            | 7.6            | 20.1                   | 19.7              | 19.7              |
| Indonesia                 | 21.1                        | 22.1              | 22.4              | 2.8                  | 3.5            | 4.1            | 29.0                   | 29.3              | 29.6              |
| Iran, Islamic Republic of | 10.7                        | 11.7              | 11.6              | 1.9                  | 2.0            | 2.0            | 1.3                    | 1.3               | 1.3               |
| Japan                     | 18.4                        | 17.6              | 17.7              | 1.3                  | 0.9            | 1.3            | 10.3                   | 10.0              | 10.0              |
| Korea, D.P.R.             | 2.6                         | 2.7               | 2.5               | 0.1                  | -              | -              | 77.3                   | 84.0              | 81.6              |
| Korea, Republic of        | 8.9                         | 10.3              | 10.2              | 1.5                  | 2.0            | 2.1            | 4.3                    | 4.3               | 4.3               |
| Malaysia                  | 3.3                         | 3.7               | 3.8               | 0.1                  | 0.1            | 0.1            | 1.6                    | 1.6               | 1.5               |
| Pakistan                  | 4.8                         | 5.3               | 5.5               | 1.7                  | 1.4            | 1.1            | 9.4                    | 9.5               | 9.5               |
| Philippines               | 7.4                         | 8.2               | 8.3               | 0.4                  | 0.8            | 0.6            | 17.8                   | 18.4              | 18.0              |
| Saudi Arabia              | 10.6                        | 11.8              | 12.5              | 2.8                  | 3.6            | 3.6            | 3.3                    | 3.1               | 3.0               |
| Thailand                  | 4.9                         | 4.6               | 5.1               | 0.3                  | 0.6            | 0.6            | 2.8                    | 2.7               | 2.7               |
| Turkey                    | 14.1                        | 15.7              | 16.3              | 2.0                  | 2.2            | 2.7            | 19.8                   | 19.9              | 19.9              |
| Viet Nam                  | 7.1                         | 9.9               | 10.2              | 0.6                  | 0.9            | 0.7            | 5.6                    | 5.8               | 5.6               |
| <b>AFRICA</b>             | <b>127.5</b>                | <b>138.5</b>      | <b>138.9</b>      | <b>17.8</b>          | <b>20.3</b>    | <b>16.6</b>    | <b>72.9</b>            | <b>74.0</b>       | <b>73.9</b>       |
| Algeria                   | 5.1                         | 6.4               | 6.3               | 1.1                  | 1.3            | 1.4            | 19.2                   | 18.7              | 18.4              |
| Egypt                     | 14.0                        | 14.6              | 14.8              | 1.3                  | 1.5            | 1.6            | 47.2                   | 46.3              | 46.4              |
| Ethiopia                  | 14.9                        | 16.6              | 16.3              | 1.6                  | 1.9            | 1.5            | 126.2                  | 129.9             | 129.0             |
| Kenya                     | 4.3                         | 4.3               | 4.4               | 0.6                  | 0.4            | 0.4            | 84.5                   | 82.8              | 83.3              |
| Morocco                   | 4.6                         | 4.9               | 5.5               | 1.2                  | 1.1            | 1.8            | 53.2                   | 53.2              | 52.5              |
| Nigeria                   | 17.4                        | 19.3              | 19.4              | 0.4                  | 0.7            | 0.5            | 70.2                   | 70.7              | 71.0              |
| South Africa              | 11.5                        | 11.8              | 11.9              | 1.5                  | 2.7            | 1.8            | 93.1                   | 92.3              | 91.8              |
| Sudan                     | 4.0                         | 6.2               | 5.4               | 0.2                  | 1.1            | 0.3            | 94.4                   | 113.8             | 113.3             |
| Tanzania, United Rep. of  | 5.7                         | 6.0               | 6.0               | 0.8                  | 0.8            | 0.5            | 88.7                   | 88.4              | 87.9              |
| <b>CENTRAL AMERICA</b>    | <b>48.8</b>                 | <b>52.5</b>       | <b>54.4</b>       | <b>3.8</b>           | <b>4.5</b>     | <b>4.6</b>     | <b>96.3</b>            | <b>96.4</b>       | <b>96.3</b>       |
| Mexico                    | 38.8                        | 42.4              | 44.0              | 2.2                  | 2.9            | 3.1            | 130.2                  | 130.6             | 129.7             |
| <b>SOUTH AMERICA</b>      | <b>87.8</b>                 | <b>102.2</b>      | <b>105.6</b>      | <b>14.5</b>          | <b>23.6</b>    | <b>25.0</b>    | <b>26.9</b>            | <b>27.2</b>       | <b>27.1</b>       |
| Argentina                 | 11.4                        | 18.1              | 19.6              | 3.3                  | 5.4            | 5.4            | 7.2                    | 7.2               | 7.1               |
| Brazil                    | 53.1                        | 59.0              | 60.9              | 6.4                  | 12.5           | 13.9           | 24.4                   | 24.8              | 24.9              |
| Chile                     | 3.5                         | 3.6               | 3.6               | 0.6                  | 0.7            | 0.7            | 18.7                   | 18.4              | 18.4              |
| Colombia                  | 6.3                         | 7.2               | 7.2               | 0.2                  | 0.2            | 0.2            | 43.8                   | 45.1              | 44.5              |
| Peru                      | 3.9                         | 4.2               | 4.2               | 0.6                  | 0.7            | 0.6            | 24.6                   | 24.3              | 23.7              |
| Venezuela                 | 4.5                         | 5.0               | 5.0               | 0.4                  | 0.5            | 0.5            | 51.4                   | 50.7              | 50.0              |
| <b>NORTH AMERICA</b>      | <b>309.9</b>                | <b>331.4</b>      | <b>333.9</b>      | <b>32.3</b>          | <b>50.1</b>    | <b>46.6</b>    | <b>17.9</b>            | <b>17.7</b>       | <b>17.6</b>       |
| Canada                    | 19.8                        | 20.1              | 20.3              | 3.7                  | 3.1            | 2.4            | 4.7                    | 4.7               | 4.7               |
| United States of America  | 290.1                       | 311.4             | 313.6             | 28.6                 | 46.9           | 44.1           | 19.4                   | 19.2              | 19.0              |
| <b>EUROPE</b>             | <b>214.8</b>                | <b>225.7</b>      | <b>220.1</b>      | <b>30.6</b>          | <b>40.0</b>    | <b>35.7</b>    | <b>20.8</b>            | <b>21.2</b>       | <b>21.3</b>       |
| European Union            | 154.1                       | 161.4             | 157.4             | 20.7                 | 29.2           | 25.9           | 19.2                   | 19.6              | 19.7              |
| Russian Federation        | 28.9                        | 33.1              | 32.6              | 3.5                  | 2.9            | 3.0            | 21.8                   | 22.0              | 22.2              |
| Serbia                    | 4.4                         | 4.9               | 4.3               | 0.4                  | 0.5            | 0.5            | 21.4                   | 22.7              | 22.8              |
| Ukraine                   | 15.6                        | 16.0              | 15.4              | 4.3                  | 5.3            | 4.0            | 31.0                   | 30.7              | 30.5              |
| <b>OCEANIA</b>            | <b>6.9</b>                  | <b>5.9</b>        | <b>6.3</b>        | <b>2.6</b>           | <b>1.9</b>     | <b>1.8</b>     | <b>8.2</b>             | <b>8.1</b>        | <b>8.2</b>        |
| Australia                 | 6.1                         | 5.1               | 5.4               | 2.5                  | 1.8            | 1.7            | 9.8                    | 9.6               | 9.6               |
| <b>WORLD</b>              | <b>1 189.2</b>              | <b>1 291.7</b>    | <b>1 302.6</b>    | <b>212.0</b>         | <b>269.2</b>   | <b>267.6</b>   | <b>27.4</b>            | <b>27.8</b>       | <b>27.8</b>       |
| Developing countries      | 620.5                       | 691.1             | 704.7             | 142.8                | 172.3          | 178.8          | 29.0                   | 29.5              | 29.5              |
| Developed countries       | 568.6                       | 600.6             | 597.9             | 69.2                 | 96.9           | 88.8           | 20.6                   | 20.7              | 20.7              |
| LIFDCs                    | 139.1                       | 148.6             | 148.7             | 17.0                 | 19.2           | 17.2           | 39.9                   | 40.6              | 40.7              |
| LDCs                      | 70.3                        | 76.9              | 76.2              | 11.8                 | 12.7           | 9.3            | 56.9                   | 58.5              | 58.6              |

## APPENDIX TABLE 4(A): MAIZE STATISTICS

|                              | Production           |                       |                       | Imports                |                          |                          | Exports                |                          |                          |
|------------------------------|----------------------|-----------------------|-----------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                              | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| (..... million tonnes .....) |                      |                       |                       |                        |                          |                          |                        |                          |                          |
| <b>ASIA</b>                  | <b>289.4</b>         | <b>302.1</b>          | <b>314.0</b>          | <b>53.2</b>            | <b>64.4</b>              | <b>61.5</b>              | <b>6.3</b>             | <b>3.3</b>               | <b>3.9</b>               |
| China                        | 205.7                | 215.7                 | 226.0                 | 8.3                    | 8.6                      | 8.2                      | 0.1                    | -                        | 0.1                      |
| of which Taiwan Prov.        | -                    | -                     | -                     | 4.3                    | 4.6                      | 4.6                      | -                      | -                        | -                        |
| India                        | 22.8                 | 23.7                  | 24.0                  | -                      | -                        | -                        | 4.4                    | 1.5                      | 2.0                      |
| Indonesia                    | 18.5                 | 19.0                  | 20.0                  | 2.5                    | 3.7                      | 3.0                      | -                      | 0.1                      | 0.1                      |
| Iran, Islamic Republic of    | 2.6                  | 1.3                   | 1.3                   | 4.0                    | 7.0                      | 5.0                      | -                      | -                        | -                        |
| Japan                        | -                    | -                     | -                     | 14.9                   | 14.6                     | 15.0                     | -                      | -                        | -                        |
| Korea, D.P.R.                | 2.2                  | 2.6                   | 2.2                   | 0.3                    | 0.1                      | 0.2                      | -                      | -                        | -                        |
| Korea, Republic of           | 0.1                  | 0.1                   | 0.1                   | 8.6                    | 10.1                     | 10.0                     | -                      | -                        | -                        |
| Malaysia                     | 0.1                  | 0.1                   | 0.1                   | 3.2                    | 3.7                      | 3.7                      | -                      | -                        | -                        |
| Pakistan                     | 4.5                  | 4.6                   | 4.8                   | -                      | -                        | -                        | -                      | -                        | -                        |
| Philippines                  | 7.2                  | 7.8                   | 7.6                   | 0.3                    | 0.5                      | 0.5                      | -                      | -                        | -                        |
| Thailand                     | 4.9                  | 4.8                   | 4.9                   | 0.2                    | 0.2                      | 0.2                      | 0.5                    | 0.1                      | 0.2                      |
| Turkey                       | 4.9                  | 6.0                   | 6.3                   | 1.1                    | 2.0                      | 1.5                      | 0.1                    | -                        | 0.1                      |
| Viet Nam                     | 4.9                  | 5.2                   | 5.4                   | 2.2                    | 5.0                      | 4.5                      | -                      | -                        | -                        |
| <b>AFRICA</b>                | <b>69.0</b>          | <b>75.5</b>           | <b>67.5</b>           | <b>16.0</b>            | <b>18.5</b>              | <b>20.3</b>              | <b>5.2</b>             | <b>5.1</b>               | <b>3.8</b>               |
| Algeria                      | -                    | -                     | -                     | 3.2                    | 4.0                      | 4.3                      | -                      | -                        | -                        |
| Egypt                        | 6.5                  | 5.8                   | 6.0                   | 6.8                    | 7.8                      | 8.0                      | -                      | -                        | -                        |
| Ethiopia                     | 6.3                  | 7.2                   | 6.5                   | -                      | -                        | -                        | 0.7                    | 0.9                      | 0.7                      |
| Kenya                        | 3.5                  | 2.7                   | 3.1                   | 0.5                    | 0.9                      | 1.0                      | -                      | -                        | -                        |
| Morocco                      | 0.2                  | 0.2                   | 0.2                   | 1.9                    | 2.2                      | 2.2                      | -                      | -                        | -                        |
| Nigeria                      | 9.4                  | 11.0                  | 10.8                  | 0.2                    | 0.2                      | 0.2                      | 0.2                    | 0.2                      | 0.2                      |
| South Africa                 | 12.1                 | 14.9                  | 10.5                  | 0.2                    | 0.1                      | 0.7                      | 2.1                    | 1.9                      | 1.0                      |
| Tanzania, United Rep. of     | 4.9                  | 5.0                   | 4.8                   | -                      | -                        | -                        | 0.3                    | 0.3                      | 0.2                      |
| <b>CENTRAL AMERICA</b>       | <b>25.3</b>          | <b>28.1</b>           | <b>29.7</b>           | <b>14.0</b>            | <b>16.5</b>              | <b>15.9</b>              | <b>0.5</b>             | <b>0.5</b>               | <b>0.5</b>               |
| Mexico                       | 20.8                 | 23.9                  | 25.5                  | 9.0                    | 11.0                     | 10.5                     | 0.5                    | 0.5                      | 0.5                      |
| <b>SOUTH AMERICA</b>         | <b>108.2</b>         | <b>124.3</b>          | <b>130.6</b>          | <b>10.1</b>            | <b>11.9</b>              | <b>11.5</b>              | <b>38.8</b>            | <b>43.2</b>              | <b>45.1</b>              |
| Argentina                    | 25.7                 | 33.0                  | 33.8                  | -                      | -                        | -                        | 16.6                   | 19.9                     | 17.0                     |
| Brazil                       | 69.4                 | 79.2                  | 84.3                  | 0.9                    | 0.7                      | 0.5                      | 19.5                   | 20.6                     | 25.5                     |
| Chile                        | 1.5                  | 1.2                   | 1.4                   | 1.0                    | 1.3                      | 1.2                      | -                      | -                        | -                        |
| Colombia                     | 1.7                  | 1.1                   | 1.6                   | 3.7                    | 4.6                      | 4.5                      | 0.1                    | 0.1                      | 0.1                      |
| Peru                         | 1.6                  | 1.5                   | 1.7                   | 2.0                    | 2.4                      | 2.5                      | -                      | -                        | -                        |
| Venezuela                    | 2.0                  | 2.0                   | 2.0                   | 2.1                    | 2.6                      | 2.6                      | -                      | 0.1                      | 0.1                      |
| <b>NORTH AMERICA</b>         | <b>325.3</b>         | <b>372.6</b>          | <b>357.4</b>          | <b>2.6</b>             | <b>2.3</b>               | <b>2.2</b>               | <b>36.5</b>            | <b>48.2</b>              | <b>47.5</b>              |
| Canada                       | 12.9                 | 11.5                  | 12.3                  | 0.7                    | 1.6                      | 1.3                      | 1.3                    | 0.7                      | 1.0                      |
| United States of America     | 312.4                | 361.1                 | 345.1                 | 1.9                    | 0.7                      | 0.9                      | 35.3                   | 47.5                     | 46.5                     |
| <b>EUROPE</b>                | <b>107.3</b>         | <b>126.0</b>          | <b>107.3</b>          | <b>11.4</b>            | <b>10.1</b>              | <b>14.7</b>              | <b>22.9</b>            | <b>27.8</b>              | <b>25.4</b>              |
| European Union               | 63.3                 | 75.7                  | 60.0                  | 10.8                   | 9.3                      | 14.0                     | 2.5                    | 3.8                      | 2.0                      |
| Russian Federation           | 8.9                  | 11.3                  | 13.0                  | -                      | -                        | -                        | 2.6                    | 3.0                      | 3.7                      |
| Serbia                       | 5.4                  | 6.8                   | 6.1                   | -                      | -                        | -                        | 1.6                    | 2.3                      | 2.2                      |
| Ukraine                      | 24.7                 | 28.5                  | 24.5                  | 0.1                    | 0.1                      | 0.1                      | 15.8                   | 18.2                     | 17.0                     |
| <b>OCEANIA</b>               | <b>0.6</b>           | <b>0.6</b>            | <b>0.6</b>            | <b>-</b>               | <b>-</b>                 | <b>-</b>                 | <b>0.1</b>             | <b>0.1</b>               | <b>0.1</b>               |
| <b>WORLD</b>                 | <b>925.1</b>         | <b>1 029.0</b>        | <b>1 006.9</b>        | <b>107.4</b>           | <b>123.8</b>             | <b>126.2</b>             | <b>110.4</b>           | <b>128.2</b>             | <b>126.2</b>             |
| Developing countries         | 477.9                | 513.2                 | 529.4                 | 76.7                   | 94.7                     | 91.8                     | 48.7                   | 50.2                     | 52.2                     |
| Developed countries          | 447.1                | 515.9                 | 477.5                 | 30.7                   | 29.1                     | 34.4                     | 61.7                   | 78.1                     | 74.0                     |
| LIFDCs                       | 78.4                 | 82.4                  | 79.8                  | 5.4                    | 6.0                      | 6.6                      | 6.9                    | 4.1                      | 4.1                      |
| LDCs                         | 41.2                 | 44.3                  | 41.3                  | 1.8                    | 2.0                      | 2.1                      | 3.5                    | 3.9                      | 3.4                      |

# APPENDIX TABLE 4(B): MAIZE STATISTICS

|                           | Total Utilization           |              |                | Stocks ending in |              |              | Per caput food use   |             |             |
|---------------------------|-----------------------------|--------------|----------------|------------------|--------------|--------------|----------------------|-------------|-------------|
|                           | 11/12-13/14                 | 2014/15      | 2015/16        | 2012-2014        | 2015         | 2016         | 11/12-13/14          | 2014/15     | 2015/16     |
|                           | average                     | estim.       | f'cast         | average          | estim.       | f'cast       | average              | estim.      | f'cast      |
|                           | (..... million tonnes.....) |              |                |                  |              |              | (..... Kg/year.....) |             |             |
| <b>ASIA</b>               | <b>327.0</b>                | <b>354.3</b> | <b>363.0</b>   | <b>98.2</b>      | <b>115.8</b> | <b>124.2</b> | <b>8.9</b>           | <b>8.9</b>  | <b>8.9</b>  |
| China                     | 204.9                       | 220.4        | 227.2          | 83.9             | 96.9         | 103.3        | 7.7                  | 7.6         | 7.6         |
| of which Taiwan Prov.     | 4.4                         | 4.5          | 4.6            | 0.3              | 0.2          | 0.2          | 5.2                  | 5.6         | 5.5         |
| India                     | 18.4                        | 20.1         | 20.5           | 2.2              | 4.8          | 6.5          | 6.9                  | 7.0         | 7.0         |
| Indonesia                 | 21.0                        | 22.0         | 22.3           | 2.8              | 3.5          | 4.1          | 28.6                 | 28.9        | 29.2        |
| Iran, Islamic Republic of | 6.6                         | 6.7          | 6.6            | 0.9              | 1.0          | 1.0          | 1.0                  | 1.0         | 0.9         |
| Japan                     | 15.0                        | 14.7         | 14.9           | 0.7              | 0.5          | 0.8          | 7.9                  | 7.5         | 7.5         |
| Korea, D.P.R.             | 2.5                         | 2.7          | 2.4            | 0.1              | -            | -            | 75.2                 | 81.9        | 79.5        |
| Korea, Republic of        | 8.7                         | 10.1         | 10.0           | 1.5              | 1.9          | 2.0          | 1.9                  | 1.9         | 1.9         |
| Malaysia                  | 3.3                         | 3.7          | 3.8            | 0.1              | 0.1          | 0.1          | 1.6                  | 1.6         | 1.5         |
| Pakistan                  | 4.3                         | 4.7          | 4.9            | 1.7              | 1.4          | 1.1          | 7.5                  | 7.4         | 7.4         |
| Philippines               | 7.4                         | 8.1          | 8.3            | 0.4              | 0.8          | 0.6          | 17.8                 | 18.4        | 18.0        |
| Thailand                  | 4.7                         | 4.5          | 4.9            | 0.3              | 0.6          | 0.6          | 1.3                  | 1.3         | 1.3         |
| Turkey                    | 5.8                         | 7.5          | 7.5            | 0.6              | 1.0          | 1.2          | 15.9                 | 16.1        | 16.1        |
| Viet Nam                  | 7.1                         | 9.8          | 10.1           | 0.6              | 0.9          | 0.7          | 5.6                  | 5.7         | 5.6         |
| <b>AFRICA</b>             | <b>79.6</b>                 | <b>85.7</b>  | <b>86.7</b>    | <b>12.2</b>      | <b>14.4</b>  | <b>11.3</b>  | <b>40.1</b>          | <b>40.5</b> | <b>40.5</b> |
| Algeria                   | 3.0                         | 3.9          | 4.2            | 0.5              | 0.8          | 0.9          | 3.6                  | 3.6         | 3.5         |
| Egypt                     | 13.1                        | 13.7         | 13.9           | 1.2              | 1.4          | 1.5          | 43.8                 | 43.0        | 43.2        |
| Ethiopia                  | 5.5                         | 6.3          | 5.9            | 0.5              | 0.6          | 0.5          | 42.6                 | 42.9        | 41.9        |
| Kenya                     | 3.9                         | 3.8          | 4.0            | 0.4              | 0.2          | 0.3          | 79.3                 | 77.3        | 77.7        |
| Morocco                   | 2.0                         | 2.3          | 2.4            | 0.7              | 0.8          | 0.8          | 10.6                 | 10.3        | 10.2        |
| Nigeria                   | 9.5                         | 10.9         | 11.1           | 0.3              | 0.5          | 0.3          | 32.2                 | 33.5        | 33.2        |
| South Africa              | 10.8                        | 11.1         | 11.1           | 1.3              | 2.4          | 1.6          | 88.8                 | 88.6        | 87.7        |
| Tanzania, United Rep. of  | 4.6                         | 4.8          | 4.8            | 0.6              | 0.6          | 0.4          | 68.1                 | 68.1        | 68.1        |
| <b>CENTRAL AMERICA</b>    | <b>39.1</b>                 | <b>43.2</b>  | <b>45.2</b>    | <b>3.2</b>       | <b>4.1</b>   | <b>4.2</b>   | <b>95.2</b>          | <b>94.9</b> | <b>94.7</b> |
| Mexico                    | 29.5                        | 33.6         | 35.3           | 1.7              | 2.5          | 2.7          | 129.7                | 129.2       | 128.3       |
| <b>SOUTH AMERICA</b>      | <b>76.9</b>                 | <b>90.5</b>  | <b>93.9</b>    | <b>11.9</b>      | <b>20.6</b>  | <b>21.8</b>  | <b>25.5</b>          | <b>25.8</b> | <b>25.6</b> |
| Argentina                 | 7.8                         | 14.4         | 15.8           | 1.9              | 4.0          | 4.0          | 7.0                  | 7.0         | 6.9         |
| Brazil                    | 50.0                        | 55.5         | 57.3           | 6.0              | 12.0         | 13.5         | 23.4                 | 23.8        | 23.8        |
| Chile                     | 2.2                         | 2.3          | 2.3            | 0.4              | 0.5          | 0.5          | 16.6                 | 16.3        | 16.3        |
| Colombia                  | 5.4                         | 6.1          | 6.1            | 0.2              | 0.2          | 0.2          | 42.3                 | 43.6        | 43.0        |
| Peru                      | 3.5                         | 3.8          | 3.8            | 0.6              | 0.7          | 0.6          | 18.4                 | 17.9        | 17.7        |
| Venezuela                 | 4.1                         | 4.5          | 4.6            | 0.4              | 0.4          | 0.4          | 50.9                 | 50.2        | 49.5        |
| <b>NORTH AMERICA</b>      | <b>290.0</b>                | <b>314.3</b> | <b>315.6</b>   | <b>27.3</b>      | <b>45.5</b>  | <b>41.4</b>  | <b>14.8</b>          | <b>14.6</b> | <b>14.5</b> |
| Canada                    | 12.1                        | 12.8         | 13.2           | 1.5              | 1.5          | 1.0          | 3.2                  | 3.1         | 3.2         |
| United States of America  | 278.0                       | 301.5        | 302.4          | 25.8             | 44.0         | 40.4         | 16.1                 | 15.9        | 15.8        |
| <b>EUROPE</b>             | <b>94.1</b>                 | <b>101.7</b> | <b>100.2</b>   | <b>14.4</b>      | <b>23.3</b>  | <b>19.7</b>  | <b>8.2</b>           | <b>8.4</b>  | <b>8.5</b>  |
| European Union            | 70.2                        | 75.8         | 74.5           | 10.0             | 17.5         | 15.0         | 9.7                  | 9.9         | 9.9         |
| Russian Federation        | 6.3                         | 8.2          | 9.0            | 0.6              | 0.6          | 0.9          | 1.1                  | 1.3         | 1.4         |
| Serbia                    | 4.0                         | 4.5          | 3.9            | 0.4              | 0.5          | 0.5          | 19.8                 | 21.0        | 21.1        |
| Ukraine                   | 8.5                         | 9.5          | 9.1            | 2.5              | 3.8          | 2.3          | 11.3                 | 11.3        | 11.9        |
| <b>OCEANIA</b>            | <b>0.6</b>                  | <b>0.6</b>   | <b>0.5</b>     | <b>0.1</b>       | <b>0.1</b>   | <b>0.1</b>   | <b>2.4</b>           | <b>2.3</b>  | <b>2.3</b>  |
| <b>WORLD</b>              | <b>907.3</b>                | <b>990.4</b> | <b>1 005.3</b> | <b>167.2</b>     | <b>223.7</b> | <b>222.7</b> | <b>17.3</b>          | <b>17.6</b> | <b>17.6</b> |
| Developing countries      | 493.5                       | 544.4        | 559.5          | 123.2            | 151.2        | 158.4        | 18.5                 | 18.8        | 18.8        |
| Developed countries       | 413.8                       | 446.0        | 445.8          | 44.1             | 72.4         | 64.3         | 12.5                 | 12.5        | 12.5        |
| LIFDCs                    | 76.5                        | 82.4         | 82.9           | 9.8              | 12.1         | 11.8         | 19.1                 | 19.6        | 19.6        |
| LDCs                      | 38.7                        | 41.6         | 41.7           | 8.0              | 8.3          | 6.1          | 27.7                 | 28.1        | 28.4        |

# APPENDIX TABLE 5(A): BARLEY STATISTICS

|                                      | Production           |                       |                       | Imports                |                          |                          | Exports                |                          |                          |
|--------------------------------------|----------------------|-----------------------|-----------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                                      | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| (. . . . . million tonnes . . . . .) |                      |                       |                       |                        |                          |                          |                        |                          |                          |
| <b>ASIA</b>                          | <b>20.2</b>          | <b>19.4</b>           | <b>21.7</b>           | <b>16.3</b>            | <b>23.6</b>              | <b>21.5</b>              | <b>0.9</b>             | <b>0.9</b>               | <b>0.8</b>               |
| China                                | 1.7                  | 1.8                   | 2.0                   | 2.8                    | 8.4                      | 7.1                      | -                      | -                        | -                        |
| India                                | 1.7                  | 1.8                   | 1.6                   | -                      | -                        | -                        | 0.3                    | 0.5                      | 0.4                      |
| Iran, Islamic Republic of            | 3.2                  | 3.2                   | 3.3                   | 1.1                    | 2.2                      | 1.7                      | -                      | -                        | -                        |
| Iraq                                 | 0.8                  | 0.9                   | 0.8                   | -                      | 0.1                      | 0.1                      | -                      | -                        | -                        |
| Japan                                | 0.2                  | 0.2                   | 0.2                   | 1.3                    | 1.2                      | 1.3                      | -                      | -                        | -                        |
| Kazakhstan                           | 2.2                  | 2.4                   | 2.5                   | -                      | -                        | -                        | 0.5                    | 0.5                      | 0.4                      |
| Saudi Arabia                         | -                    | -                     | -                     | 8.7                    | 8.5                      | 8.5                      | -                      | -                        | -                        |
| Syria                                | 0.8                  | 0.6                   | 1.0                   | 0.4                    | 0.5                      | 0.5                      | -                      | -                        | -                        |
| Turkey                               | 7.5                  | 6.3                   | 8.0                   | 0.1                    | 0.8                      | 0.4                      | -                      | -                        | -                        |
| <b>AFRICA</b>                        | <b>6.6</b>           | <b>6.3</b>            | <b>7.8</b>            | <b>1.6</b>             | <b>2.4</b>               | <b>2.1</b>               | -                      | -                        | -                        |
| Algeria                              | 1.5                  | 1.2                   | 1.4                   | 0.5                    | 1.0                      | 0.6                      | -                      | -                        | -                        |
| Ethiopia                             | 1.8                  | 2.0                   | 1.9                   | -                      | -                        | -                        | -                      | -                        | -                        |
| Libya                                | 0.1                  | 0.1                   | 0.1                   | 0.2                    | 0.4                      | 0.4                      | -                      | -                        | -                        |
| Morocco                              | 2.1                  | 1.7                   | 3.5                   | 0.4                    | 0.6                      | 0.2                      | -                      | -                        | -                        |
| Tunisia                              | 0.6                  | 0.8                   | 0.3                   | 0.4                    | 0.3                      | 0.8                      | -                      | -                        | -                        |
| <b>CENTRAL AMERICA</b>               | <b>0.8</b>           | <b>0.8</b>            | <b>0.8</b>            | <b>0.1</b>             | <b>0.1</b>               | <b>0.1</b>               | -                      | -                        | -                        |
| Mexico                               | 0.8                  | 0.8                   | 0.8                   | 0.1                    | 0.1                      | 0.1                      | -                      | -                        | -                        |
| <b>SOUTH AMERICA</b>                 | <b>5.6</b>           | <b>3.9</b>            | <b>5.0</b>            | <b>0.8</b>             | <b>1.0</b>               | <b>0.9</b>               | <b>3.5</b>             | <b>1.7</b>               | <b>2.8</b>               |
| Argentina                            | 4.6                  | 2.9                   | 4.0                   | -                      | -                        | -                        | 3.4                    | 1.6                      | 2.7                      |
| <b>NORTH AMERICA</b>                 | <b>13.0</b>          | <b>11.0</b>           | <b>11.9</b>           | <b>0.5</b>             | <b>0.6</b>               | <b>0.6</b>               | <b>1.6</b>             | <b>1.8</b>               | <b>1.8</b>               |
| Canada                               | 8.7                  | 7.1                   | 7.3                   | -                      | 0.1                      | 0.1                      | 1.4                    | 1.5                      | 1.5                      |
| United States of America             | 4.3                  | 3.8                   | 4.6                   | 0.4                    | 0.5                      | 0.5                      | 0.2                    | 0.3                      | 0.3                      |
| <b>EUROPE</b>                        | <b>82.2</b>          | <b>93.5</b>           | <b>88.1</b>           | <b>0.7</b>             | <b>0.4</b>               | <b>0.4</b>               | <b>9.9</b>             | <b>19.3</b>              | <b>14.4</b>              |
| Belarus                              | 1.9                  | 2.1                   | 2.0                   | -                      | -                        | -                        | -                      | 0.1                      | 0.1                      |
| European Union                       | 55.4                 | 60.5                  | 59.0                  | 0.2                    | 0.1                      | 0.1                      | 4.6                    | 9.5                      | 7.5                      |
| Russian Federation                   | 15.4                 | 20.4                  | 17.4                  | 0.4                    | 0.1                      | 0.1                      | 2.8                    | 5.3                      | 3.6                      |
| Ukraine                              | 7.9                  | 9.0                   | 8.2                   | -                      | -                        | -                        | 2.4                    | 4.4                      | 3.2                      |
| <b>OCEANIA</b>                       | <b>8.6</b>           | <b>8.3</b>            | <b>9.0</b>            | -                      | -                        | -                        | <b>5.5</b>             | <b>5.5</b>               | <b>5.7</b>               |
| Australia                            | 8.3                  | 8.0                   | 8.6                   | -                      | -                        | -                        | 5.5                    | 5.5                      | 5.7                      |
| <b>WORLD</b>                         | <b>137.0</b>         | <b>143.3</b>          | <b>144.1</b>          | <b>20.0</b>            | <b>28.1</b>              | <b>25.5</b>              | <b>21.4</b>            | <b>29.3</b>              | <b>25.5</b>              |
| Developing countries                 | 29.1                 | 26.1                  | 30.7                  | 17.0                   | 25.1                     | 22.5                     | 3.9                    | 2.2                      | 3.2                      |
| Developed countries                  | 107.9                | 117.2                 | 113.4                 | 3.0                    | 3.0                      | 3.0                      | 17.5                   | 27.1                     | 22.3                     |
| LIFDCs                               | 5.6                  | 5.7                   | 5.7                   | 0.5                    | 0.5                      | 0.5                      | 0.3                    | 0.5                      | 0.4                      |
| LDCs                                 | 2.3                  | 2.5                   | 2.4                   | -                      | -                        | -                        | -                      | -                        | -                        |

# APPENDIX TABLE 5(B): BARLEY STATISTICS

|                           | Total Utilization           |                   |                   | Stocks ending in     |                |                | Per caput food use     |                   |                   |
|---------------------------|-----------------------------|-------------------|-------------------|----------------------|----------------|----------------|------------------------|-------------------|-------------------|
|                           | 11/12-13/14<br>average      | 2014/15<br>estim. | 2015/16<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast | 11/12-13/14<br>average | 2014/15<br>estim. | 2015/16<br>f'cast |
|                           | (..... million tonnes.....) |                   |                   |                      |                |                | (..... Kg/year.....)   |                   |                   |
| <b>ASIA</b>               | <b>34.8</b>                 | <b>41.5</b>       | <b>41.9</b>       | <b>8.4</b>           | <b>9.6</b>     | <b>10.1</b>    | <b>0.6</b>             | <b>0.6</b>        | <b>0.6</b>        |
| China                     | 4.4                         | 9.5               | 9.1               | 1.4                  | 2.3            | 2.3            | 0.1                    | 0.2               | 0.2               |
| India                     | 1.4                         | 1.4               | 1.3               | -                    | 0.1            | -              | 1.0                    | 0.9               | 0.8               |
| Iran, Islamic Republic of | 4.1                         | 5.0               | 5.0               | 1.0                  | 1.0            | 1.0            | 0.4                    | 0.3               | 0.3               |
| Iraq                      | 0.8                         | 1.0               | 0.9               | 0.1                  | -              | -              | 3.9                    | 3.7               | 3.6               |
| Japan                     | 1.5                         | 1.5               | 1.4               | 0.4                  | 0.2            | 0.3            | 2.4                    | 2.4               | 2.4               |
| Kazakhstan                | 1.7                         | 2.0               | 2.0               | 0.2                  | 0.1            | 0.2            | 1.2                    | 1.2               | 1.1               |
| Saudi Arabia              | 8.0                         | 8.4               | 8.5               | 2.7                  | 3.5            | 3.5            | 0.9                    | 0.9               | 0.9               |
| Syria                     | 1.3                         | 1.2               | 1.4               | 0.6                  | 0.5            | 0.5            | 14.0                   | 14.9              | 15.1              |
| Turkey                    | 7.5                         | 7.5               | 8.1               | 1.3                  | 1.1            | 1.4            | 1.1                    | 1.1               | 1.0               |
| <b>AFRICA</b>             | <b>8.2</b>                  | <b>9.3</b>        | <b>9.2</b>        | <b>1.7</b>           | <b>1.5</b>     | <b>2.1</b>     | <b>3.4</b>             | <b>3.4</b>        | <b>3.4</b>        |
| Algeria                   | 1.9                         | 2.4               | 2.0               | 0.6                  | 0.5            | 0.5            | 15.7                   | 15.2              | 14.9              |
| Ethiopia                  | 1.8                         | 2.0               | 1.9               | 0.1                  | 0.1            | 0.1            | 15.7                   | 16.5              | 16.0              |
| Libya                     | 0.3                         | 0.5               | 0.5               | -                    | -              | -              | 13.2                   | 13.3              | 13.2              |
| Morocco                   | 2.6                         | 2.6               | 3.0               | 0.5                  | 0.3            | 1.0            | 42.4                   | 42.7              | 42.2              |
| Tunisia                   | 1.0                         | 1.0               | 1.1               | 0.3                  | 0.4            | 0.4            | 8.3                    | 8.1               | 8.0               |
| <b>CENTRAL AMERICA</b>    | <b>0.8</b>                  | <b>0.9</b>        | <b>0.9</b>        | <b>0.1</b>           | <b>0.2</b>     | <b>0.2</b>     | -                      | -                 | -                 |
| Mexico                    | 0.8                         | 0.9               | 0.9               | 0.1                  | 0.2            | 0.2            | -                      | -                 | -                 |
| <b>SOUTH AMERICA</b>      | <b>2.9</b>                  | <b>3.0</b>        | <b>3.1</b>        | <b>0.7</b>           | <b>0.7</b>     | <b>0.7</b>     | <b>0.5</b>             | <b>0.5</b>        | <b>0.5</b>        |
| Argentina                 | 1.2                         | 1.2               | 1.3               | 0.6                  | 0.7            | 0.7            | -                      | -                 | -                 |
| <b>NORTH AMERICA</b>      | <b>10.9</b>                 | <b>10.0</b>       | <b>10.3</b>       | <b>3.0</b>           | <b>2.7</b>     | <b>2.4</b>     | <b>0.5</b>             | <b>0.5</b>        | <b>0.5</b>        |
| Canada                    | 6.4                         | 5.9               | 5.7               | 1.4                  | 1.0            | 0.7            | 0.3                    | 0.3               | 0.3               |
| United States of America  | 4.5                         | 4.1               | 4.6               | 1.6                  | 1.7            | 1.7            | 0.6                    | 0.5               | 0.5               |
| <b>EUROPE</b>             | <b>73.7</b>                 | <b>74.3</b>       | <b>73.6</b>       | <b>9.9</b>           | <b>11.0</b>    | <b>11.5</b>    | <b>1.0</b>             | <b>1.1</b>        | <b>1.1</b>        |
| Belarus                   | 1.8                         | 1.7               | 1.9               | 0.2                  | 0.5            | 0.5            | -                      | -                 | -                 |
| European Union            | 51.5                        | 51.0              | 51.6              | 7.2                  | 8.0            | 8.0            | 0.7                    | 0.8               | 0.8               |
| Russian Federation        | 13.1                        | 15.2              | 13.8              | 0.8                  | 1.0            | 1.2            | 1.1                    | 1.2               | 1.2               |
| Ukraine                   | 5.4                         | 4.8               | 4.7               | 1.5                  | 1.2            | 1.5            | 3.3                    | 3.3               | 3.3               |
| <b>OCEANIA</b>            | <b>3.5</b>                  | <b>3.0</b>        | <b>3.2</b>        | <b>1.7</b>           | <b>1.2</b>     | <b>1.3</b>     | <b>0.2</b>             | <b>0.2</b>        | <b>0.2</b>        |
| Australia                 | 3.2                         | 2.6               | 2.8               | 1.7                  | 1.1            | 1.3            | 0.3                    | 0.3               | 0.3               |
| <b>WORLD</b>              | <b>134.8</b>                | <b>142.0</b>      | <b>142.1</b>      | <b>25.5</b>          | <b>26.8</b>    | <b>28.4</b>    | <b>1.1</b>             | <b>1.1</b>        | <b>1.1</b>        |
| Developing countries      | 41.3                        | 48.8              | 49.1              | 9.9                  | 10.9           | 11.9           | 1.1                    | 1.1               | 1.1               |
| Developed countries       | 93.5                        | 93.2              | 93.0              | 15.7                 | 15.9           | 16.5           | 1.0                    | 1.0               | 1.0               |
| LIFDCs                    | 5.8                         | 6.0               | 6.0               | 1.1                  | 1.0            | 0.9            | 1.3                    | 1.3               | 1.3               |
| LDCs                      | 2.3                         | 2.5               | 2.5               | 0.2                  | 0.2            | 0.2            | 1.8                    | 1.9               | 1.9               |

## APPENDIX TABLE 6(A): SORGHUM STATISTICS

|                                      | Production           |                       |                       | Imports                |                          |                          | Exports                |                          |                          |
|--------------------------------------|----------------------|-----------------------|-----------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                                      | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| (. . . . . million tonnes . . . . .) |                      |                       |                       |                        |                          |                          |                        |                          |                          |
| <b>ASIA</b>                          | <b>9.1</b>           | <b>8.8</b>            | <b>9.4</b>            | <b>2.9</b>             | <b>10.4</b>              | <b>10.3</b>              | <b>0.1</b>             | -                        | <b>0.1</b>               |
| China                                | 2.5                  | 2.9                   | 3.1                   | 1.2                    | 9.2                      | 9.1                      | -                      | -                        | -                        |
| India                                | 5.6                  | 5.1                   | 5.5                   | -                      | -                        | -                        | -                      | -                        | 0.1                      |
| Japan                                | -                    | -                     | -                     | 1.5                    | 1.0                      | 1.0                      | -                      | -                        | -                        |
| <b>AFRICA</b>                        | <b>23.8</b>          | <b>28.1</b>           | <b>25.0</b>           | <b>1.0</b>             | <b>0.7</b>               | <b>0.9</b>               | <b>0.9</b>             | <b>1.2</b>               | <b>0.5</b>               |
| Burkina Faso                         | 1.8                  | 1.7                   | 1.7                   | -                      | -                        | -                        | 0.2                    | 0.1                      | -                        |
| Ethiopia                             | 4.0                  | 4.3                   | 4.1                   | 0.1                    | -                        | -                        | 0.4                    | 0.4                      | 0.3                      |
| Nigeria                              | 6.7                  | 6.9                   | 7.0                   | -                      | -                        | -                        | 0.1                    | 0.1                      | 0.1                      |
| Sudan                                | 2.9                  | 6.3                   | 3.5                   | 0.4                    | 0.2                      | 0.4                      | -                      | 0.5                      | -                        |
| <b>CENTRAL AMERICA</b>               | <b>7.3</b>           | <b>7.4</b>            | <b>7.4</b>            | <b>1.4</b>             | <b>0.1</b>               | <b>0.2</b>               | -                      | -                        | -                        |
| Mexico                               | 6.9                  | 7.0                   | 7.0                   | 1.4                    | -                        | 0.2                      | -                      | -                        | -                        |
| <b>SOUTH AMERICA</b>                 | <b>7.3</b>           | <b>7.0</b>            | <b>6.4</b>            | <b>0.9</b>             | <b>0.6</b>               | <b>0.6</b>               | <b>2.1</b>             | <b>1.2</b>               | <b>1.2</b>               |
| Argentina                            | 4.1                  | 3.5                   | 3.1                   | -                      | -                        | -                        | 2.1                    | 1.2                      | 1.2                      |
| Brazil                               | 2.0                  | 2.2                   | 2.0                   | -                      | -                        | -                        | -                      | -                        | -                        |
| Venezuela                            | 0.4                  | 0.4                   | 0.4                   | -                      | -                        | -                        | -                      | -                        | -                        |
| <b>NORTH AMERICA</b>                 | <b>7.2</b>           | <b>11.0</b>           | <b>14.6</b>           | <b>0.1</b>             | -                        | -                        | <b>2.6</b>             | <b>9.0</b>               | <b>9.6</b>               |
| United States of America             | 7.2                  | 11.0                  | 14.6                  | 0.1                    | -                        | -                        | 2.6                    | 9.0                      | 9.6                      |
| <b>EUROPE</b>                        | <b>0.9</b>           | <b>1.0</b>            | <b>0.9</b>            | <b>0.4</b>             | <b>0.2</b>               | <b>0.3</b>               | <b>0.1</b>             | <b>0.2</b>               | <b>0.1</b>               |
| European Union                       | 0.6                  | 0.7                   | 0.6                   | 0.3                    | 0.1                      | 0.2                      | -                      | -                        | -                        |
| <b>OCEANIA</b>                       | <b>2.1</b>           | <b>1.3</b>            | <b>2.1</b>            | <b>0.1</b>             | <b>0.1</b>               | <b>0.1</b>               | <b>1.0</b>             | <b>1.2</b>               | <b>1.0</b>               |
| Australia                            | 2.1                  | 1.3                   | 2.1                   | -                      | -                        | -                        | 1.0                    | 1.2                      | 1.0                      |
| <b>WORLD</b>                         | <b>57.7</b>          | <b>64.6</b>           | <b>65.8</b>           | <b>6.8</b>             | <b>12.1</b>              | <b>12.5</b>              | <b>6.8</b>             | <b>12.8</b>              | <b>12.5</b>              |
| Developing countries                 | 47.3                 | 51.1                  | 48.1                  | 4.6                    | 10.7                     | 10.9                     | 3.0                    | 2.4                      | 1.8                      |
| Developed countries                  | 10.4                 | 13.5                  | 17.7                  | 2.2                    | 1.4                      | 1.6                      | 3.8                    | 10.4                     | 10.7                     |
| LIFDCs                               | 29.1                 | 32.7                  | 30.0                  | 0.8                    | 0.6                      | 0.8                      | 0.9                    | 1.1                      | 0.6                      |
| LDCs                                 | 15.1                 | 19.0                  | 15.9                  | 0.6                    | 0.5                      | 0.6                      | 0.8                    | 1.1                      | 0.4                      |

## APPENDIX TABLE 7(A): OTHER COARSE GRAIN STATISTICS: MILLET, RYE, OATS AND OTHER GRAINS

|                                      | Production           |                       |                       | Imports                |                          |                          | Exports                |                          |                          |
|--------------------------------------|----------------------|-----------------------|-----------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                                      | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| (. . . . . million tonnes . . . . .) |                      |                       |                       |                        |                          |                          |                        |                          |                          |
| ASIA                                 | 18.8                 | 18.6                  | 18.7                  | 0.6                    | 0.9                      | 1.0                      | 0.3                    | 0.2                      | 0.2                      |
| AFRICA                               | 16.2                 | 18.5                  | 17.5                  | 0.1                    | 0.1                      | 0.1                      | 1.3                    | 1.6                      | 1.5                      |
| CENTRAL AMERICA                      | 0.1                  | 0.1                   | 0.1                   | 0.2                    | 0.4                      | 0.5                      | -                      | -                        | -                        |
| SOUTH AMERICA                        | 1.7                  | 1.7                   | 2.0                   | 0.2                    | 0.3                      | 0.3                      | 0.1                    | 0.1                      | 0.1                      |
| NORTH AMERICA                        | 5.2                  | 4.9                   | 5.6                   | 2.0                    | 2.3                      | 2.2                      | 2.1                    | 2.1                      | 2.1                      |
| EUROPE                               | 45.5                 | 48.4                  | 44.0                  | 0.6                    | 0.7                      | 0.7                      | 0.7                    | 0.8                      | 0.7                      |
| OCEANIA                              | 1.5                  | 1.4                   | 1.7                   | 0.1                    | 0.1                      | 0.1                      | 0.1                    | -                        | 0.1                      |
| <b>WORLD</b>                         | <b>89.2</b>          | <b>93.7</b>           | <b>89.7</b>           | <b>3.6</b>             | <b>4.7</b>               | <b>4.8</b>               | <b>4.6</b>             | <b>4.9</b>               | <b>4.8</b>               |

APPENDIX TABLE 6(B): SORGHUM STATISTICS

|                          | Total Utilization                    |                   |                   | Stocks ending in     |                |                | Per caput food use            |                   |                   |
|--------------------------|--------------------------------------|-------------------|-------------------|----------------------|----------------|----------------|-------------------------------|-------------------|-------------------|
|                          | 11/12-13/14<br>average               | 2014/15<br>estim. | 2015/16<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast | 11/12-13/14<br>average        | 2014/15<br>estim. | 2015/16<br>f'cast |
|                          | (. . . . . million tonnes . . . . .) |                   |                   |                      |                |                | (. . . . . Kg/year . . . . .) |                   |                   |
| <b>ASIA</b>              | <b>12.5</b>                          | <b>19.9</b>       | <b>18.6</b>       | <b>1.1</b>           | <b>1.2</b>     | <b>1.2</b>     | <b>1.5</b>                    | <b>1.4</b>        | <b>1.4</b>        |
| China                    | 4.2                                  | 12.7              | 11.2              | 0.5                  | 0.7            | 0.7            | 0.4                           | 0.5               | 0.5               |
| India                    | 5.6                                  | 5.1               | 5.4               | -                    | -              | 0.1            | 4.1                           | 3.7               | 3.8               |
| Japan                    | 1.6                                  | 1.0               | 1.0               | 0.3                  | 0.2            | 0.2            | -                             | -                 | -                 |
| <b>AFRICA</b>            | <b>24.4</b>                          | <b>27.2</b>       | <b>26.5</b>       | <b>2.2</b>           | <b>2.3</b>     | <b>1.3</b>     | <b>18.1</b>                   | <b>18.6</b>       | <b>18.4</b>       |
| Burkina Faso             | 1.6                                  | 1.8               | 1.6               | 0.1                  | -              | -              | 82.2                          | 84.8              | 76.8              |
| Ethiopia                 | 3.7                                  | 3.9               | 3.9               | 0.4                  | 0.4            | 0.3            | 31.3                          | 31.9              | 31.5              |
| Nigeria                  | 6.7                                  | 6.9               | 6.9               | 0.1                  | 0.1            | 0.1            | 32.2                          | 31.4              | 31.7              |
| Sudan                    | 3.5                                  | 5.2               | 4.6               | 0.2                  | 0.9            | 0.2            | 83.8                          | 95.2              | 95.7              |
| <b>CENTRAL AMERICA</b>   | <b>8.6</b>                           | <b>7.8</b>        | <b>7.7</b>        | <b>0.4</b>           | <b>0.2</b>     | <b>0.3</b>     | <b>0.8</b>                    | <b>0.7</b>        | <b>0.8</b>        |
| Mexico                   | 8.1                                  | 7.3               | 7.2               | 0.4                  | 0.2            | 0.2            | -                             | -                 | -                 |
| <b>SOUTH AMERICA</b>     | <b>6.2</b>                           | <b>6.7</b>        | <b>6.5</b>        | <b>1.8</b>           | <b>2.2</b>     | <b>2.3</b>     | <b>0.1</b>                    | <b>0.1</b>        | <b>0.1</b>        |
| Argentina                | 1.9                                  | 2.0               | 1.9               | 0.7                  | 0.7            | 0.7            | -                             | -                 | -                 |
| Brazil                   | 1.9                                  | 2.2               | 2.1               | 0.4                  | 0.4            | 0.3            | -                             | -                 | -                 |
| Venezuela                | 0.4                                  | 0.4               | 0.4               | 0.1                  | 0.1            | 0.1            | -                             | -                 | -                 |
| <b>NORTH AMERICA</b>     | <b>4.3</b>                           | <b>2.6</b>        | <b>3.1</b>        | <b>0.6</b>           | <b>0.4</b>     | <b>1.0</b>     | -                             | -                 | -                 |
| United States of America | 4.3                                  | 2.5               | 3.0               | 0.6                  | 0.4            | 1.0            | -                             | -                 | -                 |
| <b>EUROPE</b>            | <b>1.1</b>                           | <b>1.0</b>        | <b>1.1</b>        | <b>0.2</b>           | <b>0.3</b>     | <b>0.3</b>     | <b>0.3</b>                    | <b>0.3</b>        | <b>0.3</b>        |
| European Union           | 0.9                                  | 0.8               | 0.8               | 0.1                  | 0.2            | 0.2            | 0.4                           | 0.4               | 0.4               |
| <b>OCEANIA</b>           | <b>1.4</b>                           | <b>0.9</b>        | <b>1.0</b>        | <b>0.6</b>           | <b>0.5</b>     | <b>0.3</b>     | <b>0.2</b>                    | <b>0.2</b>        | <b>0.2</b>        |
| Australia                | 1.3                                  | 0.8               | 0.9               | 0.6                  | 0.5            | 0.2            | -                             | -                 | -                 |
| <b>WORLD</b>             | <b>58.5</b>                          | <b>66.1</b>       | <b>64.4</b>       | <b>6.8</b>           | <b>7.2</b>     | <b>6.7</b>     | <b>3.7</b>                    | <b>3.8</b>        | <b>3.8</b>        |
| Developing countries     | 49.8                                 | 60.3              | 57.9              | 5.1                  | 5.7            | 4.9            | 4.5                           | 4.6               | 4.6               |
| Developed countries      | 8.7                                  | 5.8               | 6.5               | 1.7                  | 1.5            | 1.8            | 0.3                           | 0.3               | 0.3               |
| LIFDCs                   | 29.6                                 | 31.8              | 31.2              | 2.2                  | 2.4            | 1.5            | 10.2                          | 10.2              | 10.2              |
| LDCs                     | 15.4                                 | 17.9              | 17.0              | 1.8                  | 2.1            | 1.2            | 14.4                          | 15.1              | 14.9              |

APPENDIX TABLE 7(B): OTHER COARSE GRAIN STATISTICS: MILLET, RYE, OATS AND OTHER GRAINS

|                 | Total Utilization                    |                   |                   | Stocks ending in     |                |                | Per caput food use            |                   |                   |
|-----------------|--------------------------------------|-------------------|-------------------|----------------------|----------------|----------------|-------------------------------|-------------------|-------------------|
|                 | 11/12-13/14<br>average               | 2014/15<br>estim. | 2015/16<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast | 11/12-13/14<br>average        | 2014/15<br>estim. | 2015/16<br>f'cast |
|                 | (. . . . . million tonnes . . . . .) |                   |                   |                      |                |                | (. . . . . Kg/year . . . . .) |                   |                   |
| ASIA            | 19.3                                 | 19.7              | 19.9              | 2.8                  | 2.2            | 1.8            | 3.6                           | 3.6               | 3.6               |
| AFRICA          | 15.3                                 | 16.4              | 16.4              | 1.8                  | 2.1            | 1.8            | 11.3                          | 11.4              | 11.5              |
| CENTRAL AMERICA | 0.3                                  | 0.6               | 0.6               | -                    | -              | -              | 0.3                           | 0.8               | 0.8               |
| SOUTH AMERICA   | 1.8                                  | 1.9               | 2.2               | 0.1                  | 0.1            | 0.1            | 0.8                           | 0.8               | 0.8               |
| NORTH AMERICA   | 4.7                                  | 4.5               | 4.9               | 1.4                  | 1.4            | 1.6            | 2.6                           | 2.6               | 2.6               |
| EUROPE          | 45.9                                 | 48.7              | 45.3              | 6.1                  | 5.5            | 4.2            | 11.3                          | 11.4              | 11.4              |
| OCEANIA         | 1.4                                  | 1.4               | 1.6               | 0.2                  | 0.2            | 0.2            | 5.4                           | 5.4               | 5.5               |
| <b>WORLD</b>    | <b>88.6</b>                          | <b>93.3</b>       | <b>90.8</b>       | <b>12.4</b>          | <b>11.5</b>    | <b>9.9</b>     | <b>5.3</b>                    | <b>5.4</b>        | <b>5.4</b>        |



## APPENDIX TABLE 8(A): RICE STATISTICS

|                                                | Production           |                |                | Imports              |                |                | Exports              |                |                |
|------------------------------------------------|----------------------|----------------|----------------|----------------------|----------------|----------------|----------------------|----------------|----------------|
|                                                | 2011-2013<br>average | 2014<br>estim. | 2015<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast |
| (..... million tonnes, milled equivalent.....) |                      |                |                |                      |                |                |                      |                |                |
| <b>ASIA</b>                                    | <b>443.3</b>         | <b>447.3</b>   | <b>446.2</b>   | <b>20.4</b>          | <b>22.3</b>    | <b>22.6</b>    | <b>33.9</b>          | <b>36.2</b>    | <b>37.2</b>    |
| Bangladesh                                     | 33.9                 | 34.5           | 34.6           | 0.5                  | 1.0            | 0.7            | -                    | -              | -              |
| China                                          | 140.2                | 142.7          | 143.2          | 5.5                  | 6.2            | 6.0            | 0.4                  | 0.5            | 0.5            |
| of which Taiwan Prov.                          | 1.2                  | 1.2            | 1.1            | 0.1                  | 0.1            | 0.1            | -                    | -              | 0.1            |
| India                                          | 105.7                | 104.8          | 103.8          | -                    | -              | -              | 10.8                 | 11.3           | 10.8           |
| Indonesia                                      | 43.1                 | 44.4           | 45.8           | 1.1                  | 0.9            | 1.3            | -                    | -              | -              |
| Iran, Islamic Republic of                      | 1.6                  | 1.6            | 1.7            | 1.6                  | 1.2            | 1.3            | -                    | -              | -              |
| Iraq                                           | 0.2                  | 0.3            | 0.3            | 1.4                  | 1.5            | 1.5            | -                    | -              | -              |
| Japan                                          | 7.8                  | 7.8            | 7.8            | 0.7                  | 0.7            | 0.7            | 0.1                  | -              | -              |
| Korea, D.P.R.                                  | 1.8                  | 1.7            | 1.5            | 0.1                  | 0.1            | 0.3            | -                    | -              | -              |
| Korea, Republic of                             | 4.2                  | 4.2            | 4.1            | 0.4                  | 0.5            | 0.4            | -                    | -              | -              |
| Malaysia                                       | 1.7                  | 1.7            | 1.7            | 1.0                  | 1.2            | 1.2            | -                    | -              | -              |
| Myanmar                                        | 17.0                 | 17.3           | 17.0           | -                    | -              | -              | 1.4                  | 1.6            | 1.7            |
| Pakistan                                       | 6.2                  | 7.0            | 6.8            | 0.1                  | -              | -              | 3.6                  | 3.8            | 4.0            |
| Philippines                                    | 11.8                 | 12.4           | 12.0           | 1.3                  | 1.9            | 2.1            | -                    | -              | -              |
| Saudi Arabia                                   | -                    | -              | -              | 1.3                  | 1.6            | 1.6            | -                    | -              | -              |
| Sri Lanka                                      | 2.8                  | 2.3            | 3.2            | 0.2                  | 0.3            | 0.1            | -                    | -              | -              |
| Thailand                                       | 24.9                 | 22.7           | 21.3           | 0.4                  | 0.3            | 0.3            | 8.1                  | 9.8            | 10.5           |
| Viet Nam                                       | 28.2                 | 29.2           | 29.0           | 0.5                  | 0.5            | 0.5            | 8.2                  | 7.8            | 8.3            |
| <b>AFRICA</b>                                  | <b>17.6</b>          | <b>18.8</b>    | <b>18.5</b>    | <b>14.6</b>          | <b>14.1</b>    | <b>14.7</b>    | <b>0.6</b>           | <b>0.5</b>     | <b>0.5</b>     |
| Cote d'Ivoire                                  | 0.4                  | 0.5            | 0.5            | 1.3                  | 1.2            | 1.2            | -                    | -              | -              |
| Egypt                                          | 4.1                  | 4.3            | 4.1            | 0.1                  | -              | 0.1            | 0.4                  | 0.4            | 0.4            |
| Madagascar                                     | 2.8                  | 2.7            | 2.5            | 0.3                  | 0.3            | 0.3            | -                    | -              | -              |
| Nigeria                                        | 2.7                  | 2.9            | 2.9            | 3.3                  | 3.0            | 3.2            | -                    | -              | -              |
| Senegal                                        | 0.3                  | 0.4            | 0.4            | 1.2                  | 1.2            | 1.1            | -                    | -              | -              |
| South Africa                                   | -                    | -              | -              | 1.2                  | 1.1            | 1.2            | -                    | -              | -              |
| Tanzania, United Rep. of                       | 1.4                  | 1.7            | 1.7            | 0.1                  | 0.1            | 0.1            | -                    | 0.1            | 0.1            |
| <b>CENTRAL AMERICA</b>                         | <b>2.0</b>           | <b>1.9</b>     | <b>1.8</b>     | <b>2.0</b>           | <b>2.2</b>     | <b>2.3</b>     | <b>0.1</b>           | <b>-</b>       | <b>-</b>       |
| Cuba                                           | 0.4                  | 0.4            | 0.3            | 0.4                  | 0.4            | 0.5            | -                    | -              | -              |
| Mexico                                         | 0.1                  | 0.2            | 0.2            | 0.6                  | 0.6            | 0.7            | -                    | -              | -              |
| <b>SOUTH AMERICA</b>                           | <b>16.6</b>          | <b>16.8</b>    | <b>17.4</b>    | <b>1.5</b>           | <b>1.4</b>     | <b>1.3</b>     | <b>3.3</b>           | <b>3.0</b>     | <b>3.0</b>     |
| Argentina                                      | 1.1                  | 1.1            | 1.1            | -                    | -              | -              | 0.5                  | 0.3            | 0.5            |
| Brazil                                         | 8.4                  | 8.2            | 8.5            | 0.7                  | 0.4            | 0.4            | 0.9                  | 0.8            | 0.8            |
| Peru                                           | 2.0                  | 2.0            | 2.1            | 0.2                  | 0.2            | 0.2            | -                    | -              | -              |
| Uruguay                                        | 1.0                  | 0.9            | 1.0            | -                    | -              | -              | 0.9                  | 0.9            | 0.8            |
| <b>NORTH AMERICA</b>                           | <b>6.1</b>           | <b>7.1</b>     | <b>6.0</b>     | <b>1.1</b>           | <b>1.2</b>     | <b>1.3</b>     | <b>3.2</b>           | <b>3.4</b>     | <b>3.3</b>     |
| Canada                                         | -                    | -              | -              | 0.4                  | 0.4            | 0.4            | -                    | -              | -              |
| United States of America                       | 6.1                  | 7.1            | 6.0            | 0.7                  | 0.8            | 0.8            | 3.2                  | 3.4            | 3.3            |
| <b>EUROPE</b>                                  | <b>2.7</b>           | <b>2.5</b>     | <b>2.6</b>     | <b>1.9</b>           | <b>2.2</b>     | <b>2.3</b>     | <b>0.4</b>           | <b>0.5</b>     | <b>0.6</b>     |
| European Union                                 | 1.9                  | 1.7            | 1.8            | 1.4                  | 1.7            | 1.8            | 0.2                  | 0.3            | 0.3            |
| Russian Federation                             | 0.7                  | 0.7            | 0.7            | 0.2                  | 0.3            | 0.3            | 0.2                  | 0.3            | 0.3            |
| <b>OCEANIA</b>                                 | <b>0.6</b>           | <b>0.6</b>     | <b>0.5</b>     | <b>0.5</b>           | <b>0.5</b>     | <b>0.6</b>     | <b>0.5</b>           | <b>0.4</b>     | <b>0.4</b>     |
| Australia                                      | 0.6                  | 0.5            | 0.5            | 0.1                  | 0.2            | 0.2            | 0.5                  | 0.4            | 0.4            |
| <b>WORLD</b>                                   | <b>488.9</b>         | <b>494.9</b>   | <b>493.0</b>   | <b>41.9</b>          | <b>44.0</b>    | <b>45.0</b>    | <b>41.9</b>          | <b>44.0</b>    | <b>45.0</b>    |
| Developing countries                           | 471.1                | 476.4          | 475.6          | 36.5                 | 38.2           | 38.9           | 37.7                 | 39.6           | 40.7           |
| Developed countries                            | 17.7                 | 18.5           | 17.4           | 5.4                  | 5.8            | 6.0            | 4.2                  | 4.4            | 4.3            |
| LIFDCs                                         | 159.2                | 159.8          | 158.5          | 15.0                 | 15.3           | 15.5           | 11.0                 | 11.5           | 10.9           |
| LDCs                                           | 72.4                 | 74.1           | 73.6           | 8.6                  | 9.1            | 8.9            | 2.8                  | 3.0            | 3.1            |

# APPENDIX TABLE 8(B): RICE STATISTICS

|                           | Total Utilization                              |                   |                   | Stocks ending in     |                |                | Per caput food use     |                   |                   |
|---------------------------|------------------------------------------------|-------------------|-------------------|----------------------|----------------|----------------|------------------------|-------------------|-------------------|
|                           | 11/12-13/14<br>average                         | 2014/15<br>estim. | 2015/16<br>f'cast | 2012-2014<br>average | 2015<br>estim. | 2016<br>f'cast | 11/12-13/14<br>average | 2014/15<br>estim. | 2015/16<br>f'cast |
|                           | (..... million tonnes, milled equivalent.....) |                   |                   |                      |                |                | (..... Kg/year.....)   |                   |                   |
| <b>ASIA</b>               | <b>416.5</b>                                   | <b>432.8</b>      | <b>437.7</b>      | <b>149.2</b>         | <b>161.3</b>   | <b>156.4</b>   | <b>78.6</b>            | <b>78.9</b>       | <b>79.0</b>       |
| Bangladesh                | 34.2                                           | 35.6              | 35.8              | 6.9                  | 7.3            | 6.7            | 178.6                  | 179.9             | 180.4             |
| China                     | 136.1                                          | 141.3             | 142.2             | 76.7                 | 92.7           | 99.0           | 77.0                   | 77.3              | 76.9              |
| of which Taiwan Prov.     | 1.2                                            | 1.3               | 1.3               | 0.2                  | 0.2            | 0.1            | 48.2                   | 49.6              | 49.5              |
| India                     | 94.4                                           | 97.8              | 99.3              | 25.2                 | 20.5           | 14.5           | 68.9                   | 69.5              | 69.9              |
| Indonesia                 | 44.7                                           | 45.9              | 46.5              | 7.0                  | 6.3            | 6.5            | 135.1                  | 134.7             | 135.0             |
| Iran, Islamic Republic of | 3.1                                            | 3.1               | 3.1               | 0.6                  | 0.3            | 0.1            | 35.8                   | 36.0              | 36.1              |
| Iraq                      | 1.6                                            | 1.7               | 1.8               | 0.1                  | 0.1            | 0.1            | 48.3                   | 48.5              | 48.8              |
| Japan                     | 8.3                                            | 8.3               | 8.4               | 3.5                  | 3.7            | 3.7            | 51.5                   | 49.6              | 49.1              |
| Korea, D.P.R.             | 1.8                                            | 1.9               | 1.8               | 0.1                  | 0.1            | -              | 65.1                   | 67.3              | 66.9              |
| Korea, Republic of        | 4.6                                            | 4.5               | 4.4               | 1.0                  | 1.2            | 1.3            | 82.0                   | 77.8              | 76.4              |
| Malaysia                  | 2.7                                            | 2.7               | 2.8               | 0.3                  | 0.2            | 0.3            | 83.6                   | 83.9              | 84.1              |
| Myanmar                   | 16.0                                           | 16.1              | 15.7              | 3.0                  | 2.3            | 2.0            | 195.1                  | 198.0             | 198.4             |
| Pakistan                  | 2.5                                            | 2.9               | 3.0               | 0.4                  | 0.9            | 0.9            | 11.9                   | 12.5              | 12.6              |
| Philippines               | 13.2                                           | 13.6              | 14.0              | 2.0                  | 2.6            | 2.6            | 118.6                  | 120.0             | 121.7             |
| Saudi Arabia              | 1.3                                            | 1.4               | 1.4               | 0.2                  | 0.2            | 0.3            | 42.6                   | 43.1              | 43.4              |
| Sri Lanka                 | 2.8                                            | 2.9               | 3.2               | 0.2                  | 0.4            | 0.7            | 121.6                  | 123.9             | 129.4             |
| Thailand                  | 13.4                                           | 15.8              | 16.6              | 16.2                 | 16.2           | 11.7           | 100.7                  | 103.4             | 103.7             |
| Viet Nam                  | 20.8                                           | 21.5              | 21.7              | 2.8                  | 3.0            | 3.1            | 160.2                  | 159.6             | 160.0             |
| <b>AFRICA</b>             | <b>30.7</b>                                    | <b>32.7</b>       | <b>33.1</b>       | <b>4.7</b>           | <b>4.5</b>     | <b>3.5</b>     | <b>24.8</b>            | <b>25.5</b>       | <b>25.8</b>       |
| Cote d'Ivoire             | 1.6                                            | 1.7               | 1.7               | 0.3                  | 0.2            | 0.2            | 72.6                   | 73.0              | 73.1              |
| Egypt                     | 3.8                                            | 4.0               | 3.9               | 0.7                  | 0.5            | 0.3            | 39.1                   | 39.4              | 39.5              |
| Madagascar                | 3.1                                            | 3.0               | 2.9               | 0.2                  | 0.3            | 0.2            | 107.0                  | 107.5             | 107.2             |
| Nigeria                   | 5.7                                            | 6.0               | 6.1               | 1.1                  | 1.0            | 0.7            | 29.4                   | 29.6              | 29.7              |
| Senegal                   | 1.4                                            | 1.6               | 1.6               | 0.4                  | 0.5            | 0.4            | 98.7                   | 97.6              | 97.9              |
| South Africa              | 1.1                                            | 1.0               | 1.1               | 0.1                  | -              | -              | 19.4                   | 18.7              | 19.5              |
| Tanzania, United Rep. of  | 1.4                                            | 1.7               | 1.7               | 0.2                  | 0.3            | 0.4            | 24.1                   | 25.6              | 25.6              |
| <b>CENTRAL AMERICA</b>    | <b>3.9</b>                                     | <b>4.1</b>        | <b>4.2</b>        | <b>0.5</b>           | <b>0.5</b>     | <b>0.4</b>     | <b>17.7</b>            | <b>18.1</b>       | <b>18.3</b>       |
| Cuba                      | 0.8                                            | 0.8               | 0.8               | -                    | 0.1            | 0.1            | 63.4                   | 65.9              | 68.3              |
| Mexico                    | 0.8                                            | 0.8               | 0.8               | -                    | -              | -              | 6.2                    | 6.4               | 6.4               |
| <b>SOUTH AMERICA</b>      | <b>15.0</b>                                    | <b>15.2</b>       | <b>15.5</b>       | <b>2.3</b>           | <b>1.6</b>     | <b>1.9</b>     | <b>33.2</b>            | <b>32.6</b>       | <b>32.9</b>       |
| Argentina                 | 0.5                                            | 0.5               | 0.6               | 0.1                  | 0.2            | 0.4            | 9.2                    | 10.0              | 10.8              |
| Brazil                    | 8.3                                            | 8.2               | 8.2               | 1.3                  | 0.6            | 0.5            | 37.3                   | 35.8              | 35.5              |
| Peru                      | 2.1                                            | 2.2               | 2.4               | 0.3                  | 0.3            | 0.3            | 63.7                   | 64.7              | 66.7              |
| Uruguay                   | 0.1                                            | 0.1               | 0.1               | 0.1                  | -              | -              | 8.5                    | 8.0               | 8.2               |
| <b>NORTH AMERICA</b>      | <b>4.1</b>                                     | <b>4.5</b>        | <b>4.4</b>        | <b>1.2</b>           | <b>1.6</b>     | <b>1.4</b>     | <b>9.0</b>             | <b>9.5</b>        | <b>9.6</b>        |
| Canada                    | 0.4                                            | 0.4               | 0.4               | -                    | -              | 0.1            | 11.0                   | 11.2              | 11.5              |
| United States of America  | 3.7                                            | 4.1               | 4.0               | 1.2                  | 1.6            | 1.3            | 8.7                    | 9.3               | 9.4               |
| <b>EUROPE</b>             | <b>4.1</b>                                     | <b>4.3</b>        | <b>4.3</b>        | <b>0.6</b>           | <b>0.6</b>     | <b>0.5</b>     | <b>5.0</b>             | <b>5.1</b>        | <b>5.2</b>        |
| European Union            | 3.1                                            | 3.2               | 3.3               | 0.5                  | 0.4            | 0.4            | 5.3                    | 5.5               | 5.6               |
| Russian Federation        | 0.7                                            | 0.7               | 0.7               | 0.1                  | 0.1            | -              | 4.8                    | 4.9               | 4.9               |
| <b>OCEANIA</b>            | <b>0.7</b>                                     | <b>0.7</b>        | <b>0.7</b>        | <b>0.1</b>           | <b>0.2</b>     | <b>0.2</b>     | <b>15.5</b>            | <b>15.8</b>       | <b>16.1</b>       |
| Australia                 | 0.3                                            | 0.3               | 0.3               | 0.1                  | 0.2            | 0.2            | 9.8                    | 9.8               | 10.0              |
| <b>WORLD</b>              | <b>475.0</b>                                   | <b>494.3</b>      | <b>499.9</b>      | <b>158.7</b>         | <b>170.3</b>   | <b>164.3</b>   | <b>54.4</b>            | <b>54.6</b>       | <b>54.7</b>       |
| Developing countries      | 456.2                                          | 474.9             | 480.4             | 153.0                | 164.1          | 158.5          | 65.1                   | 65.3              | 65.3              |
| Developed countries       | 18.8                                           | 19.4              | 19.5              | 5.6                  | 6.2            | 5.9            | 11.2                   | 11.2              | 11.3              |
| LIFDCs                    | 161.5                                          | 168.6             | 170.5             | 36.8                 | 32.4           | 24.8           | 59.2                   | 59.6              | 59.8              |
| LDCs                      | 77.6                                           | 81.0              | 81.0              | 14.6                 | 14.7           | 13.1           | 68.7                   | 69.3              | 69.2              |

# APPENDIX TABLE 9: CEREAL SUPPLY AND UTILIZATION IN SELECTED EXPORTERS (million tonnes)

|                          | Wheat <sup>1</sup> |              |              | Coarse Grains <sup>2</sup> |              |              | Rice (milled basis)       |              |              |
|--------------------------|--------------------|--------------|--------------|----------------------------|--------------|--------------|---------------------------|--------------|--------------|
|                          | 2013/14            | 2014/15      | 2015/16      | 2013/14                    | 2014/15      | 2015/16      | 2013/14                   | 2014/15      | 2015/16      |
|                          |                    | estim.       | f'cast       |                            | estim.       | f'cast       |                           | estim.       | f'cast       |
| UNITED STATES (June/May) |                    |              |              | UNITED STATES              |              |              | UNITED STATES (Aug./July) |              |              |
| Opening stocks           | 19.5               | 16.1         | 20.5         | 23.5                       | 34.3         | 46.9         | 1.2                       | 1.0          | 1.6          |
| Production               | 58.1               | 55.1         | 58.1         | 367.4                      | 377.4        | 366.0        | 6.1                       | 7.1          | 6.0          |
| Imports                  | 4.7                | 4.1          | 3.4          | 3.3                        | 3.5          | 3.2          | 0.7                       | 0.8          | 0.8          |
| <b>Total Supply</b>      | <b>82.4</b>        | <b>75.3</b>  | <b>82.0</b>  | <b>394.2</b>               | <b>415.2</b> | <b>416.1</b> | <b>8.0</b>                | <b>8.9</b>   | <b>8.4</b>   |
| Domestic use             | 34.3               | 31.5         | 33.7         | 305.3                      | 311.4        | 313.6        | 4.0                       | 4.1          | 4.0          |
| Exports                  | 32.0               | 23.2         | 24.5         | 54.6                       | 56.9         | 58.4         | 3.0                       | 3.2          | 3.1          |
| Closing stocks           | 16.1               | 20.5         | 23.8         | 34.3                       | 46.9         | 44.1         | 1.0                       | 1.6          | 1.3          |
| CANADA (August/July)     |                    |              |              | CANADA                     |              |              | THAILAND (Aug./July)      |              |              |
| Opening stocks           | 5.1                | 10.4         | 6.7          | 3.1                        | 4.6          | 3.1          | 17.5                      | 19.5         | 16.2         |
| Production               | 37.5               | 29.3         | 24.6         | 28.8                       | 22.0         | 23.5         | 24.3                      | 22.7         | 21.3         |
| Imports                  | 0.1                | 0.1          | 0.1          | 0.6                        | 1.8          | 1.2          | 0.3                       | 0.3          | 0.3          |
| <b>Total Supply</b>      | <b>42.6</b>        | <b>39.7</b>  | <b>31.4</b>  | <b>32.6</b>                | <b>28.4</b>  | <b>27.8</b>  | <b>42.2</b>               | <b>42.5</b>  | <b>37.8</b>  |
| Domestic use             | 8.8                | 10.0         | 8.7          | 21.2                       | 20.1         | 20.3         | 14.1                      | 15.8         | 16.6         |
| Exports                  | 23.5               | 23.0         | 19.0         | 6.8                        | 5.2          | 5.1          | 8.6                       | 10.5         | 9.5          |
| Closing stocks           | 10.4               | 6.7          | 3.7          | 4.6                        | 3.1          | 2.4          | 19.5                      | 16.2         | 11.7         |
| ARGENTINA (Dec./Nov.)    |                    |              |              | ARGENTINA                  |              |              | INDIA (Oct./Sept.)        |              |              |
| Opening stocks           | 0.3                | 1.9          | 2.9          | 1.8                        | 4.0          | 5.4          | 25.0                      | 25.5         | 20.5         |
| Production               | 9.2                | 13.9         | 11.0         | 40.9                       | 39.9         | 41.5         | 106.7                     | 104.8        | 103.8        |
| Imports                  | 0.0                | 0.0          | 0.0          | 0.1                        | 0.1          | 0.1          | 0.0                       | 0.0          | 0.0          |
| <b>Total Supply</b>      | <b>9.5</b>         | <b>15.8</b>  | <b>14.0</b>  | <b>42.8</b>                | <b>43.9</b>  | <b>46.9</b>  | <b>131.7</b>              | <b>130.3</b> | <b>124.3</b> |
| Domestic use             | 5.7                | 5.9          | 5.8          | 15.4                       | 18.1         | 19.6         | 95.6                      | 97.8         | 99.3         |
| Exports                  | 1.9                | 7.0          | 6.0          | 23.4                       | 20.4         | 21.9         | 10.6                      | 12.0         | 10.5         |
| Closing stocks           | 1.9                | 2.9          | 2.2          | 4.0                        | 5.4          | 5.4          | 25.5                      | 20.5         | 14.5         |
| AUSTRALIA (Oct./Sept.)   |                    |              |              | AUSTRALIA                  |              |              | PAKISTAN (Sept./Aug.)     |              |              |
| Opening stocks           | 4.2                | 4.5          | 4.5          | 2.5                        | 2.1          | 1.8          | 0.2                       | 0.6          | 0.9          |
| Production               | 25.3               | 23.7         | 25.3         | 13.4                       | 11.1         | 12.8         | 6.8                       | 7.0          | 6.8          |
| Imports                  | 0.0                | 0.0          | 0.0          | 0.0                        | 0.0          | 0.0          | 0.0                       | 0.0          | 0.0          |
| <b>Total Supply</b>      | <b>29.5</b>        | <b>28.2</b>  | <b>29.8</b>  | <b>15.9</b>                | <b>13.2</b>  | <b>14.6</b>  | <b>7.0</b>                | <b>7.6</b>   | <b>7.8</b>   |
| Domestic use             | 6.4                | 6.7          | 7.2          | 6.2                        | 5.1          | 5.4          | 2.8                       | 2.9          | 3.0          |
| Exports                  | 18.6               | 17.0         | 18.0         | 7.6                        | 6.2          | 7.4          | 3.7                       | 3.9          | 3.9          |
| Closing stocks           | 4.5                | 4.5          | 4.6          | 2.1                        | 1.8          | 1.7          | 0.6                       | 0.9          | 0.9          |
| EU (July/June)           |                    |              |              | EU                         |              |              | VIET NAM (Jan./Dec.)      |              |              |
| Opening stocks           | 8.7                | 9.0          | 13.5         | 16.6                       | 24.1         | 29.2         | 2.7                       | 2.8          | 3.0          |
| Production               | 143.6              | 157.0        | 154.5        | 158.9                      | 170.2        | 149.3        | 28.6                      | 29.2         | 29.0         |
| Imports                  | 3.7                | 5.7          | 5.7          | 15.7                       | 10.0         | 14.8         | 0.6                       | 0.6          | 0.5          |
| <b>Total Supply</b>      | <b>156.0</b>       | <b>171.6</b> | <b>173.7</b> | <b>191.2</b>               | <b>204.3</b> | <b>193.2</b> | <b>31.9</b>               | <b>32.5</b>  | <b>32.6</b>  |
| Domestic use             | 116.2              | 123.8        | 128.5        | 158.1                      | 161.4        | 157.4        | 21.0                      | 21.5         | 21.7         |
| Exports                  | 30.8               | 34.3         | 29.2         | 9.1                        | 13.8         | 9.9          | 8.1                       | 8.0          | 7.8          |
| Closing stocks           | 9.0                | 13.5         | 16.0         | 24.1                       | 29.2         | 25.9         | 2.8                       | 3.0          | 3.1          |
| TOTAL OF ABOVE           |                    |              |              | TOTAL OF ABOVE             |              |              | TOTAL OF ABOVE            |              |              |
| Opening stocks           | 37.8               | 41.8         | 48.1         | 47.6                       | 69.1         | 86.4         | 46.6                      | 49.4         | 42.1         |
| Production               | 273.7              | 278.9        | 273.5        | 609.5                      | 620.6        | 593.0        | 172.5                     | 170.8        | 167.1        |
| Imports                  | 8.5                | 9.8          | 9.2          | 19.7                       | 15.4         | 19.3         | 1.7                       | 1.6          | 1.6          |
| <b>Total Supply</b>      | <b>320.0</b>       | <b>330.6</b> | <b>330.9</b> | <b>676.7</b>               | <b>705.0</b> | <b>698.7</b> | <b>220.7</b>              | <b>221.8</b> | <b>210.8</b> |
| Domestic use             | 171.4              | 177.9        | 183.9        | 506.2                      | 516.0        | 516.4        | 137.4                     | 142.1        | 144.5        |
| Exports                  | 106.8              | 104.6        | 96.7         | 101.5                      | 102.6        | 102.7        | 34.0                      | 37.6         | 34.8         |
| Closing stocks           | 41.8               | 48.1         | 50.3         | 69.1                       | 86.4         | 79.6         | 49.4                      | 42.1         | 31.5         |

<sup>1</sup> Trade data include wheat flour in wheat grain equivalent. For the EU semolina is also included.

<sup>2</sup> **Argentina** (December/November) for rye, barley and oats, (March/February) for maize and sorghum; **Australia** (November/October) for rye, barley and oats, (March/February) for maize and sorghum; **Canada** (August/July); **EU** (July/June); **United States** (June/May) for rye, barley and oats, (September/August) for maize and sorghum.

**APPENDIX TABLE 10: TOTAL OILCROPS STATISTICS**  
(million tonnes)

|                           | Production <sup>1</sup> |                          |                          | Imports                |                          |                          | Exports                |                          |                          |
|---------------------------|-------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                           | 11/12-13/14<br>average  | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| <b>ASIA</b>               | <b>135.1</b>            | <b>132.2</b>             | <b>130.0</b>             | <b>90.4</b>            | <b>110.2</b>             | <b>110.5</b>             | <b>2.6</b>             | <b>2.5</b>               | <b>2.5</b>               |
| China                     | 60.4                    | 59.5                     | 56.4                     | 69.7                   | 84.9                     | 86.2                     | 1.1                    | 1.1                      | 1.0                      |
| of which Taiwan Prov.     | 0.1                     | 0.1                      | 0.1                      | 2.3                    | 2.4                      | 2.4                      | -                      | -                        | -                        |
| India                     | 38.1                    | 34.4                     | 35.6                     | 0.2                    | 0.4                      | 0.3                      | 0.8                    | 0.7                      | 0.8                      |
| Indonesia                 | 10.4                    | 11.6                     | 12.3                     | 2.2                    | 2.7                      | 2.5                      | 0.1                    | 0.1                      | 0.1                      |
| Iran, Islamic Republic of | 0.7                     | 0.7                      | 0.7                      | 0.5                    | 0.8                      | 0.7                      | -                      | -                        | -                        |
| Japan                     | 0.3                     | 0.3                      | 0.3                      | 5.6                    | 5.8                      | 5.5                      | -                      | -                        | -                        |
| Korea, Republic of        | 0.2                     | 0.2                      | 0.2                      | 1.5                    | 1.4                      | 1.5                      | -                      | -                        | -                        |
| Malaysia                  | 5.0                     | 5.2                      | 5.2                      | 0.6                    | 0.8                      | 0.7                      | -                      | 0.1                      | 0.1                      |
| Pakistan                  | 5.4                     | 5.6                      | 5.1                      | 1.3                    | 2.1                      | 1.9                      | -                      | -                        | -                        |
| Thailand                  | 0.7                     | 0.7                      | 0.7                      | 2.0                    | 2.2                      | 2.2                      | -                      | -                        | -                        |
| Turkey                    | 2.9                     | 3.1                      | 2.9                      | 2.3                    | 3.1                      | 3.1                      | 0.1                    | 0.1                      | 0.1                      |
| <b>AFRICA</b>             | <b>17.2</b>             | <b>17.7</b>              | <b>17.5</b>              | <b>3.3</b>             | <b>4.1</b>               | <b>4.0</b>               | <b>0.8</b>             | <b>0.6</b>               | <b>0.7</b>               |
| Nigeria                   | 4.9                     | 5.0                      | 5.0                      | -                      | -                        | -                        | 0.1                    | 0.1                      | 0.1                      |
| <b>CENTRAL AMERICA</b>    | <b>1.6</b>              | <b>1.8</b>               | <b>1.8</b>               | <b>6.2</b>             | <b>6.5</b>               | <b>6.4</b>               | <b>0.2</b>             | <b>0.2</b>               | <b>0.2</b>               |
| Mexico                    | 1.2                     | 1.3                      | 1.4                      | 5.5                    | 5.7                      | 5.6                      | -                      | -                        | -                        |
| <b>SOUTH AMERICA</b>      | <b>148.1</b>            | <b>182.0</b>             | <b>180.1</b>             | <b>1.4</b>             | <b>2.1</b>               | <b>1.8</b>               | <b>58.1</b>            | <b>68.0</b>              | <b>71.9</b>              |
| Argentina                 | 51.9                    | 66.3                     | 62.1                     | 0.1                    | -                        | -                        | 8.3                    | 11.2                     | 12.1                     |
| Brazil                    | 81.6                    | 99.7                     | 100.8                    | 0.3                    | 0.4                      | 0.2                      | 41.7                   | 49.1                     | 50.9                     |
| Paraguay                  | 7.4                     | 8.9                      | 9.5                      | -                      | -                        | -                        | 4.7                    | 4.3                      | 5.1                      |
| <b>NORTH AMERICA</b>      | <b>117.4</b>            | <b>140.5</b>             | <b>137.3</b>             | <b>2.9</b>             | <b>2.7</b>               | <b>2.2</b>               | <b>53.4</b>            | <b>65.0</b>              | <b>60.6</b>              |
| Canada                    | 22.0                    | 23.9                     | 20.6                     | 0.6                    | 0.6                      | 0.6                      | 12.6                   | 14.5                     | 12.2                     |
| United States of America  | 95.5                    | 116.6                    | 116.6                    | 2.3                    | 2.0                      | 1.6                      | 40.8                   | 50.5                     | 48.4                     |
| <b>EUROPE</b>             | <b>58.7</b>             | <b>68.5</b>              | <b>63.3</b>              | <b>19.8</b>            | <b>19.8</b>              | <b>19.8</b>              | <b>5.2</b>             | <b>6.4</b>               | <b>6.3</b>               |
| European Union            | 29.9                    | 36.0                     | 31.2                     | 18.0                   | 17.0                     | 17.4                     | 1.0                    | 1.4                      | 1.2                      |
| Russian Federation        | 12.5                    | 13.7                     | 13.8                     | 1.4                    | 2.1                      | 1.8                      | 0.5                    | 0.4                      | 0.7                      |
| Ukraine                   | 14.0                    | 16.4                     | 16.2                     | -                      | -                        | -                        | 3.2                    | 4.0                      | 4.1                      |
| <b>OCEANIA</b>            | <b>5.9</b>              | <b>4.8</b>               | <b>4.5</b>               | <b>-</b>               | <b>0.1</b>               | <b>-</b>                 | <b>3.6</b>             | <b>2.8</b>               | <b>2.5</b>               |
| Australia                 | 5.4                     | 4.3                      | 4.0                      | -                      | -                        | -                        | 3.5                    | 2.7                      | 2.4                      |
| <b>WORLD</b>              | <b>484.0</b>            | <b>547.4</b>             | <b>534.5</b>             | <b>124.0</b>           | <b>145.3</b>             | <b>144.7</b>             | <b>123.9</b>           | <b>145.3</b>             | <b>144.6</b>             |
| Developing countries      | 296.4                   | 328.0                    | 323.7                    | 94.8                   | 115.9                    | 116.2                    | 61.5                   | 71.1                     | 75.0                     |
| Developed countries       | 187.6                   | 219.4                    | 210.8                    | 29.2                   | 29.5                     | 28.5                     | 62.4                   | 74.2                     | 69.6                     |
| LIFDCs                    | 127.0                   | 122.5                    | 119.5                    | 70.7                   | 87.9                     | 88.7                     | 3.3                    | 3.1                      | 3.0                      |
| LDCs                      | 10.8                    | 10.9                     | 10.9                     | 0.6                    | 0.9                      | 1.0                      | 0.5                    | 0.4                      | 0.5                      |

<sup>1</sup> The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown; for tree crops which are produced throughout the year, calendar year production for the second year shown is used.

APPENDIX TABLE 11: TOTAL OILS AND FATS STATISTICS <sup>1</sup> (million tonnes)

|                          | Imports                |                          |                          | Exports                |                          |                          | Utilization            |                          |                          |
|--------------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                          | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| <b>ASIA</b>              | <b>42.7</b>            | <b>45.5</b>              | <b>47.1</b>              | <b>47.4</b>            | <b>50.8</b>              | <b>52.7</b>              | <b>97.9</b>            | <b>105.2</b>             | <b>110.9</b>             |
| Bangladesh               | 1.6                    | 1.8                      | 1.8                      | -                      | -                        | -                        | 1.9                    | 2.1                      | 2.2                      |
| China                    | 11.5                   | 9.9                      | 10.4                     | 0.6                    | 0.5                      | 0.5                      | 35.7                   | 37.9                     | 39.0                     |
| of which Taiwan Prov.    | 0.4                    | 0.4                      | 0.4                      | -                      | -                        | -                        | 0.8                    | 0.9                      | 0.9                      |
| India                    | 11.0                   | 14.2                     | 14.5                     | 0.5                    | 0.3                      | 0.3                      | 20.5                   | 22.6                     | 23.7                     |
| Indonesia                | 0.1                    | 0.1                      | 0.2                      | 23.0                   | 27.4                     | 28.5                     | 9.7                    | 10.2                     | 12.1                     |
| Iran                     | 1.7                    | 1.6                      | 1.7                      | 0.2                    | 0.2                      | 0.3                      | 1.9                    | 2.0                      | 2.0                      |
| Japan                    | 1.2                    | 1.3                      | 1.3                      | -                      | -                        | -                        | 3.1                    | 3.2                      | 3.2                      |
| Korea, Republic of       | 1.0                    | 1.1                      | 1.1                      | -                      | -                        | -                        | 1.4                    | 1.4                      | 1.5                      |
| Malaysia                 | 1.8                    | 1.9                      | 1.5                      | 19.3                   | 18.9                     | 19.5                     | 4.1                    | 4.7                      | 5.1                      |
| Pakistan                 | 2.6                    | 2.7                      | 2.9                      | 0.2                    | 0.1                      | 0.1                      | 4.2                    | 4.7                      | 4.8                      |
| Philippines              | 0.6                    | 0.9                      | 0.9                      | 0.9                    | 0.8                      | 0.8                      | 1.6                    | 1.8                      | 1.8                      |
| Singapore                | 0.9                    | 0.7                      | 0.8                      | 0.2                    | 0.2                      | 0.1                      | 0.7                    | 0.6                      | 0.6                      |
| Turkey                   | 1.7                    | 1.9                      | 2.1                      | 0.7                    | 0.8                      | 0.8                      | 2.7                    | 3.0                      | 3.1                      |
| <b>AFRICA</b>            | <b>9.3</b>             | <b>10.3</b>              | <b>10.7</b>              | <b>1.7</b>             | <b>1.7</b>               | <b>1.8</b>               | <b>15.2</b>            | <b>16.7</b>              | <b>16.7</b>              |
| Algeria                  | 0.6                    | 0.7                      | 0.9                      | -                      | 0.1                      | 0.1                      | 0.7                    | 0.9                      | 1.0                      |
| Egypt                    | 1.9                    | 1.8                      | 1.8                      | 0.4                    | 0.3                      | 0.3                      | 2.0                    | 2.2                      | 2.1                      |
| Nigeria                  | 1.2                    | 1.5                      | 1.6                      | 0.2                    | 0.2                      | 0.2                      | 2.9                    | 3.2                      | 3.4                      |
| South Africa             | 0.9                    | 0.8                      | 0.8                      | 0.1                    | 0.1                      | 0.1                      | 1.3                    | 1.3                      | 1.3                      |
| <b>CENTRAL AMERICA</b>   | <b>2.5</b>             | <b>2.7</b>               | <b>2.7</b>               | <b>0.9</b>             | <b>1.1</b>               | <b>1.1</b>               | <b>4.9</b>             | <b>5.1</b>               | <b>5.2</b>               |
| Mexico                   | 1.4                    | 1.4                      | 1.5                      | 0.1                    | -                        | -                        | 3.3                    | 3.4                      | 3.4                      |
| <b>SOUTH AMERICA</b>     | <b>3.0</b>             | <b>3.3</b>               | <b>3.3</b>               | <b>8.6</b>             | <b>9.5</b>               | <b>10.4</b>              | <b>15.9</b>            | <b>17.9</b>              | <b>18.6</b>              |
| Argentina                | 0.1                    | -                        | -                        | 5.1                    | 5.9                      | 6.3                      | 3.7                    | 3.8                      | 3.7                      |
| Brazil                   | 0.6                    | 0.6                      | 0.7                      | 1.8                    | 1.7                      | 2.1                      | 7.9                    | 9.1                      | 9.8                      |
| <b>NORTH AMERICA</b>     | <b>4.8</b>             | <b>4.9</b>               | <b>4.8</b>               | <b>6.6</b>             | <b>6.5</b>               | <b>6.5</b>               | <b>19.3</b>            | <b>20.0</b>              | <b>20.0</b>              |
| Canada                   | 0.6                    | 0.5                      | 0.4                      | 3.3                    | 3.2                      | 3.2                      | 1.3                    | 1.5                      | 1.4                      |
| United States of America | 4.2                    | 4.4                      | 4.4                      | 3.4                    | 3.3                      | 3.3                      | 18.1                   | 18.5                     | 18.7                     |
| <b>EUROPE</b>            | <b>13.6</b>            | <b>14.0</b>              | <b>15.0</b>              | <b>9.2</b>             | <b>9.9</b>               | <b>9.9</b>               | <b>36.6</b>            | <b>38.4</b>              | <b>39.0</b>              |
| European Union           | 11.2                   | 11.4                     | 12.3                     | 3.1                    | 3.2                      | 3.0                      | 30.2                   | 31.7                     | 32.3                     |
| Russian Federation       | 1.1                    | 1.3                      | 1.3                      | 1.9                    | 2.2                      | 2.3                      | 4.1                    | 4.4                      | 4.5                      |
| Ukraine                  | 0.3                    | 0.3                      | 0.3                      | 3.7                    | 4.0                      | 4.2                      | 1.0                    | 0.9                      | 0.9                      |
| <b>OCEANIA</b>           | <b>0.7</b>             | <b>0.7</b>               | <b>0.8</b>               | <b>1.9</b>             | <b>1.9</b>               | <b>1.9</b>               | <b>1.2</b>             | <b>1.3</b>               | <b>1.4</b>               |
| Australia                | 0.5                    | 0.6                      | 0.6                      | 0.7                    | 0.7                      | 0.7                      | 0.8                    | 0.9                      | 1.0                      |
| <b>WORLD</b>             | <b>76.5</b>            | <b>81.4</b>              | <b>84.3</b>              | <b>76.3</b>            | <b>81.4</b>              | <b>84.3</b>              | <b>191.0</b>           | <b>204.6</b>             | <b>211.8</b>             |
| Developing countries     | 54.9                   | 59.3                     | 61.2                     | 59.1                   | 63.6                     | 66.6                     | 128.5                  | 139.4                    | 145.9                    |
| Developed countries      | 21.6                   | 22.1                     | 23.1                     | 17.2                   | 17.8                     | 17.7                     | 62.5                   | 65.2                     | 65.9                     |
| LIFDCs                   | 34.0                   | 37.2                     | 38.3                     | 4.3                    | 3.9                      | 3.8                      | 76.5                   | 82.8                     | 85.0                     |
| LDCs                     | 5.8                    | 6.6                      | 6.7                      | 0.5                    | 0.5                      | 0.5                      | 8.9                    | 9.8                      | 10.0                     |

<sup>1</sup> Includes oils and fats of vegetable, marine and animal origin.

APPENDIX TABLE 12: TOTAL MEALS AND CAKES STATISTICS <sup>1</sup> (million tonnes)

|                          | Imports                |                          |                          | Exports                |                          |                          | Utilization            |                          |                          |
|--------------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                          | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> | 11/12-13/14<br>average | 2014/15<br><i>estim.</i> | 2015/16<br><i>f'cast</i> |
| <b>ASIA</b>              | <b>33.0</b>            | <b>35.1</b>              | <b>37.5</b>              | <b>16.0</b>            | <b>13.6</b>              | <b>15.0</b>              | <b>137.2</b>           | <b>153.1</b>             | <b>159.8</b>             |
| China                    | 2.9                    | 2.7                      | 2.9                      | 1.9                    | 1.8                      | 2.3                      | 75.3                   | 84.9                     | 87.9                     |
| of which Taiwan Prov.    | 0.5                    | 0.6                      | 0.6                      | -                      | -                        | -                        | 2.4                    | 2.5                      | 2.5                      |
| India                    | 0.2                    | 0.2                      | 0.2                      | 5.2                    | 2.3                      | 2.9                      | 11.9                   | 12.5                     | 13.2                     |
| Indonesia                | 3.8                    | 4.5                      | 4.7                      | 3.7                    | 4.3                      | 4.6                      | 5.7                    | 6.8                      | 7.9                      |
| Japan                    | 2.6                    | 2.2                      | 2.5                      | -                      | -                        | -                        | 6.6                    | 6.4                      | 6.4                      |
| Korea, Republic of       | 3.8                    | 3.9                      | 4.1                      | 0.1                    | 0.2                      | 0.2                      | 4.8                    | 5.0                      | 5.1                      |
| Malaysia                 | 1.3                    | 1.5                      | 1.6                      | 2.6                    | 2.6                      | 2.8                      | 2.0                    | 2.2                      | 2.4                      |
| Pakistan                 | 0.8                    | 0.9                      | 0.7                      | 0.2                    | 0.2                      | 0.2                      | 3.5                    | 4.0                      | 4.2                      |
| Philippines              | 2.1                    | 2.3                      | 2.5                      | 0.6                    | 0.5                      | 0.5                      | 2.5                    | 2.9                      | 3.2                      |
| Saudi Arabia             | 0.7                    | 0.9                      | 1.0                      | -                      | -                        | -                        | 0.8                    | 0.9                      | 1.0                      |
| Thailand                 | 3.3                    | 3.4                      | 3.8                      | 0.1                    | 0.2                      | 0.2                      | 5.5                    | 5.6                      | 6.0                      |
| Turkey                   | 2.0                    | 1.7                      | 1.7                      | 0.2                    | 0.1                      | 0.1                      | 4.3                    | 4.8                      | 5.0                      |
| Viet Nam                 | 3.7                    | 4.9                      | 5.2                      | 0.2                    | 0.3                      | 0.2                      | 4.7                    | 6.1                      | 6.6                      |
| <b>AFRICA</b>            | <b>5.1</b>             | <b>6.1</b>               | <b>6.2</b>               | <b>0.9</b>             | <b>1.0</b>               | <b>1.0</b>               | <b>11.7</b>            | <b>13.3</b>              | <b>13.5</b>              |
| Egypt                    | 1.0                    | 1.3                      | 1.3                      | -                      | -                        | -                        | 2.6                    | 2.9                      | 3.0                      |
| South Africa             | 1.2                    | 1.2                      | 1.2                      | 0.1                    | 0.1                      | 0.1                      | 2.1                    | 2.3                      | 2.4                      |
| <b>CENTRAL AMERICA</b>   | <b>3.4</b>             | <b>3.9</b>               | <b>3.9</b>               | <b>0.2</b>             | <b>0.2</b>               | <b>0.2</b>               | <b>8.3</b>             | <b>8.9</b>               | <b>9.2</b>               |
| Mexico                   | 1.8                    | 2.0                      | 2.1                      | 0.1                    | 0.1                      | 0.1                      | 6.2                    | 6.4                      | 6.7                      |
| <b>SOUTH AMERICA</b>     | <b>5.0</b>             | <b>5.5</b>               | <b>5.6</b>               | <b>45.0</b>            | <b>49.5</b>              | <b>52.7</b>              | <b>24.6</b>            | <b>28.3</b>              | <b>29.9</b>              |
| Argentina                | -                      | -                        | -                        | 26.3                   | 29.1                     | 31.1                     | 2.8                    | 4.3                      | 4.7                      |
| Bolivia                  | -                      | -                        | -                        | 1.6                    | 1.7                      | 1.7                      | 0.1                    | 0.3                      | 0.2                      |
| Brazil                   | 0.1                    | -                        | -                        | 14.0                   | 15.0                     | 15.9                     | 15.1                   | 16.5                     | 17.2                     |
| Chile                    | 1.1                    | 1.3                      | 1.3                      | 0.3                    | 0.2                      | 0.2                      | 1.5                    | 1.7                      | 1.7                      |
| Paraguay                 | -                      | -                        | -                        | 1.6                    | 2.7                      | 2.7                      | 0.4                    | 0.4                      | 0.4                      |
| Peru                     | 0.9                    | 1.0                      | 1.0                      | 1.0                    | 0.6                      | 0.9                      | 1.1                    | 1.2                      | 1.3                      |
| Venezuela                | 1.3                    | 1.4                      | 1.4                      | -                      | -                        | -                        | 1.4                    | 1.6                      | 1.6                      |
| <b>NORTH AMERICA</b>     | <b>4.7</b>             | <b>4.9</b>               | <b>4.6</b>               | <b>14.6</b>            | <b>16.8</b>              | <b>15.4</b>              | <b>35.1</b>            | <b>37.0</b>              | <b>36.9</b>              |
| Canada                   | 1.1                    | 1.0                      | 1.1                      | 4.3                    | 4.5                      | 4.4                      | 2.3                    | 2.4                      | 2.4                      |
| United States of America | 3.6                    | 3.9                      | 3.6                      | 10.3                   | 12.3                     | 11.0                     | 32.8                   | 34.6                     | 34.5                     |
| <b>EUROPE</b>            | <b>30.5</b>            | <b>30.7</b>              | <b>31.7</b>              | <b>7.5</b>             | <b>7.9</b>               | <b>8.2</b>               | <b>62.4</b>            | <b>66.6</b>              | <b>67.7</b>              |
| European Union           | 27.8                   | 28.1                     | 29.0                     | 1.3                    | 1.3                      | 1.2                      | 54.3                   | 57.0                     | 57.8                     |
| Russian Federation       | 0.6                    | 0.5                      | 0.5                      | 2.2                    | 2.4                      | 2.4                      | 4.6                    | 5.5                      | 5.8                      |
| Ukraine                  | 0.1                    | -                        | -                        | 3.4                    | 3.7                      | 4.0                      | 1.0                    | 1.4                      | 1.3                      |
| <b>OCEANIA</b>           | <b>2.6</b>             | <b>3.1</b>               | <b>3.2</b>               | <b>0.3</b>             | <b>0.2</b>               | <b>0.3</b>               | <b>3.3</b>             | <b>3.9</b>               | <b>4.1</b>               |
| Australia                | 0.8                    | 1.1                      | 1.1                      | 0.1                    | 0.1                      | 0.1                      | 1.5                    | 1.8                      | 1.9                      |
| <b>WORLD</b>             | <b>84.4</b>            | <b>89.2</b>              | <b>92.8</b>              | <b>84.4</b>            | <b>89.2</b>              | <b>92.8</b>              | <b>282.6</b>           | <b>311.1</b>             | <b>321.1</b>             |
| Developing countries     | 42.2                   | 46.6                     | 48.9                     | 61.9                   | 64.2                     | 68.8                     | 171.2                  | 192.9                    | 201.7                    |
| Developed countries      | 42.2                   | 42.7                     | 43.9                     | 22.5                   | 25.0                     | 23.9                     | 111.4                  | 118.2                    | 119.4                    |
| LIFDCs                   | 9.0                    | 10.0                     | 10.2                     | 9.1                    | 6.2                      | 7.2                      | 100.4                  | 112.8                    | 116.8                    |
| LDCs                     | 0.7                    | 0.9                      | 0.9                      | 0.4                    | 0.5                      | 0.4                      | 3.9                    | 4.4                      | 4.4                      |

<sup>1</sup> Expressed in product weight; includes meals and cakes derived from oilcrops as well as fish meal and other meals from animal origin.

**APPENDIX TABLE 13: TOTAL MEAT STATISTICS<sup>1</sup>**  
*(thousand tonnes, carcass weight equivalent)*

|                           | Production            |                       | Imports               |                       | Exports               |                       | Utilization           |                       |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                           | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> |
| <b>ASIA</b>               | <b>134 616</b>        | <b>135 299</b>        | <b>15 859</b>         | <b>15 799</b>         | <b>4 502</b>          | <b>4 441</b>          | <b>145 973</b>        | <b>146 657</b>        |
| China                     | 88 232                | 88 088                | 4 663                 | 4 634                 | 730                   | 632                   | 92 165                | 92 090                |
| India                     | 6 316                 | 6 461                 | 1                     | 1                     | 1 966                 | 1 836                 | 4 350                 | 4 626                 |
| Indonesia                 | 3 340                 | 3 401                 | 110                   | 87                    | 5                     | 5                     | 3 446                 | 3 483                 |
| Iran, Islamic Republic of | 2 595                 | 2 694                 | 142                   | 84                    | 75                    | 79                    | 2 662                 | 2 699                 |
| Japan                     | 3 246                 | 3 236                 | 3 214                 | 3 156                 | 15                    | 14                    | 6 444                 | 6 378                 |
| Korea, Republic of        | 2 232                 | 2 257                 | 1 002                 | 1 094                 | 29                    | 34                    | 3 204                 | 3 317                 |
| Malaysia                  | 1 646                 | 1 675                 | 291                   | 313                   | 52                    | 53                    | 1 886                 | 1 935                 |
| Pakistan                  | 3 092                 | 3 171                 | 19                    | 24                    | 64                    | 72                    | 3 047                 | 3 122                 |
| Philippines               | 3 135                 | 3 155                 | 440                   | 466                   | 18                    | 18                    | 3 556                 | 3 603                 |
| Saudi Arabia              | 821                   | 829                   | 1 036                 | 1 058                 | 62                    | 66                    | 1 795                 | 1 821                 |
| Singapore                 | 118                   | 119                   | 331                   | 342                   | 28                    | 30                    | 421                   | 431                   |
| Thailand                  | 2 712                 | 2 795                 | 40                    | 41                    | 851                   | 973                   | 1 901                 | 1 863                 |
| Turkey                    | 3 102                 | 3 157                 | 3                     | 5                     | 450                   | 460                   | 2 655                 | 2 703                 |
| Viet Nam                  | 4 365                 | 4 415                 | 1 784                 | 1 623                 | 22                    | 26                    | 6 127                 | 6 012                 |
| <b>AFRICA</b>             | <b>17 065</b>         | <b>17 270</b>         | <b>2 975</b>          | <b>2 874</b>          | <b>229</b>            | <b>287</b>            | <b>19 812</b>         | <b>19 856</b>         |
| Algeria                   | 742                   | 747                   | 102                   | 102                   | 1                     | 1                     | 843                   | 849                   |
| Angola                    | 267                   | 274                   | 693                   | 461                   | -                     | -                     | 960                   | 735                   |
| Egypt                     | 2 097                 | 2 109                 | 426                   | 465                   | 6                     | 9                     | 2 517                 | 2 565                 |
| Nigeria                   | 1 464                 | 1 494                 | 4                     | 4                     | 1                     | 1                     | 1 468                 | 1 497                 |
| South Africa              | 2 799                 | 2 816                 | 459                   | 504                   | 148                   | 203                   | 3 109                 | 3 117                 |
| <b>CENTRAL AMERICA</b>    | <b>8 915</b>          | <b>9 059</b>          | <b>2 820</b>          | <b>2 918</b>          | <b>508</b>            | <b>530</b>            | <b>11 227</b>         | <b>11 447</b>         |
| Cuba                      | 304                   | 303                   | 244                   | 230                   | -                     | -                     | 549                   | 533                   |
| Mexico                    | 6 227                 | 6 330                 | 1 848                 | 1 946                 | 274                   | 294                   | 7 801                 | 7 982                 |
| <b>SOUTH AMERICA</b>      | <b>42 238</b>         | <b>42 598</b>         | <b>1 020</b>          | <b>901</b>            | <b>8 134</b>          | <b>8 114</b>          | <b>35 123</b>         | <b>35 385</b>         |
| Argentina                 | 5 116                 | 5 206                 | 14                    | 14                    | 562                   | 524                   | 4 568                 | 4 697                 |
| Brazil                    | 26 500                | 26 560                | 85                    | 88                    | 6 546                 | 6 491                 | 20 039                | 20 157                |
| Chile                     | 1 424                 | 1 426                 | 362                   | 305                   | 289                   | 316                   | 1 497                 | 1 415                 |
| Colombia                  | 2 460                 | 2 496                 | 134                   | 135                   | 14                    | 9                     | 2 581                 | 2 623                 |
| Uruguay                   | 650                   | 683                   | 41                    | 39                    | 352                   | 361                   | 339                   | 361                   |
| Venezuela                 | 2 073                 | 2 146                 | 286                   | 217                   | -                     | -                     | 2 359                 | 2 362                 |
| <b>NORTH AMERICA</b>      | <b>46 595</b>         | <b>47 331</b>         | <b>2 775</b>          | <b>3 147</b>          | <b>9 252</b>          | <b>8 769</b>          | <b>40 118</b>         | <b>41 709</b>         |
| Canada                    | 4 382                 | 4 374                 | 769                   | 793                   | 1 717                 | 1 695                 | 3 433                 | 3 472                 |
| United States of America  | 42 212                | 42 957                | 1 995                 | 2 343                 | 7 535                 | 7 075                 | 36 672                | 38 225                |
| <b>EUROPE</b>             | <b>59 569</b>         | <b>60 788</b>         | <b>3 781</b>          | <b>3 215</b>          | <b>4 796</b>          | <b>4 889</b>          | <b>58 554</b>         | <b>59 114</b>         |
| Belarus                   | 1 147                 | 1 159                 | 91                    | 82                    | 312                   | 265                   | 926                   | 976                   |
| European Union            | 45 672                | 46 683                | 1 296                 | 1 229                 | 4 037                 | 4 173                 | 42 931                | 43 739                |
| Russian Federation        | 8 547                 | 8 755                 | 1 885                 | 1 416                 | 143                   | 137                   | 10 289                | 10 034                |
| Ukraine                   | 2 569                 | 2 555                 | 109                   | 96                    | 206                   | 215                   | 2 473                 | 2 436                 |
| <b>OCEANIA</b>            | <b>6 322</b>          | <b>6 468</b>          | <b>443</b>            | <b>492</b>            | <b>3 223</b>          | <b>3 438</b>          | <b>3 542</b>          | <b>3 522</b>          |
| Australia                 | 4 500                 | 4 625                 | 222                   | 262                   | 2 251                 | 2 430                 | 2 471                 | 2 456                 |
| New Zealand               | 1 315                 | 1 335                 | 70                    | 79                    | 968                   | 1 005                 | 416                   | 409                   |
| <b>WORLD</b>              | <b>315 319</b>        | <b>318 814</b>        | <b>29 673</b>         | <b>29 347</b>         | <b>30 644</b>         | <b>30 470</b>         | <b>314 348</b>        | <b>317 691</b>        |
| Developing countries      | 193 668               | 194 972               | 18 596                | 18 399                | 13 197                | 13 144                | 199 067               | 200 228               |
| Developed countries       | 121 651               | 123 841               | 11 077                | 10 948                | 17 447                | 17 327                | 115 280               | 117 463               |
| LIFDCs                    | 22 204                | 22 564                | 1 862                 | 1 945                 | 2 138                 | 2 007                 | 21 927                | 22 502                |
| LDCs                      | 10 011                | 10 175                | 1 682                 | 1 492                 | 11                    | 12                    | 11 683                | 11 656                |

<sup>1</sup> Including "other meat".



**APPENDIX TABLE 14: BOVINE MEAT STATISTICS**  
(thousand tonnes, carcass weight equivalent)

|                           | Production            |                       | Imports               |                       | Exports               |                       | Utilization           |                       |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                           | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> |
| <b>ASIA</b>               | <b>17 972</b>         | <b>18 069</b>         | <b>4 617</b>          | <b>4 516</b>          | <b>2 185</b>          | <b>2 069</b>          | <b>20 413</b>         | <b>20 554</b>         |
| China                     | 6 907                 | 6 845                 | 1 189                 | 1 198                 | 43                    | 45                    | 8 074                 | 8 008                 |
| India                     | 2 621                 | 2 678                 | -                     | 1                     | 1 933                 | 1 798                 | 688                   | 880                   |
| Indonesia                 | 591                   | 601                   | 99                    | 75                    | -                     | 1                     | 689                   | 675                   |
| Iran, Islamic Republic of | 253                   | 254                   | 127                   | 76                    | 4                     | 4                     | 377                   | 326                   |
| Japan                     | 495                   | 482                   | 737                   | 759                   | 2                     | 2                     | 1 221                 | 1 249                 |
| Korea, Republic of        | 330                   | 325                   | 346                   | 358                   | 5                     | 5                     | 671                   | 694                   |
| Malaysia                  | 31                    | 31                    | 193                   | 212                   | 14                    | 15                    | 210                   | 228                   |
| Pakistan                  | 1 680                 | 1 735                 | 5                     | 4                     | 29                    | 33                    | 1 656                 | 1 707                 |
| Philippines               | 290                   | 286                   | 142                   | 154                   | 4                     | 4                     | 427                   | 436                   |
| <b>AFRICA</b>             | <b>6 161</b>          | <b>6 245</b>          | <b>866</b>            | <b>909</b>            | <b>76</b>             | <b>113</b>            | <b>6 951</b>          | <b>7 041</b>          |
| Algeria                   | 135                   | 132                   | 94                    | 95                    | -                     | -                     | 229                   | 228                   |
| Angola                    | 107                   | 108                   | 143                   | 150                   | -                     | -                     | 250                   | 258                   |
| Egypt                     | 870                   | 880                   | 402                   | 445                   | 2                     | 5                     | 1 270                 | 1 320                 |
| South Africa              | 860                   | 862                   | 30                    | 32                    | 45                    | 80                    | 846                   | 813                   |
| <b>CENTRAL AMERICA</b>    | <b>2 524</b>          | <b>2 572</b>          | <b>382</b>            | <b>361</b>            | <b>313</b>            | <b>328</b>            | <b>2 593</b>          | <b>2 605</b>          |
| Mexico                    | 1 826                 | 1 845                 | 223                   | 200                   | 133                   | 145                   | 1 916                 | 1 900                 |
| <b>SOUTH AMERICA</b>      | <b>15 706</b>         | <b>15 517</b>         | <b>464</b>            | <b>370</b>            | <b>2 747</b>          | <b>2 688</b>          | <b>13 413</b>         | <b>13 205</b>         |
| Argentina                 | 2 672                 | 2 700                 | -                     | 1                     | 215                   | 254                   | 2 458                 | 2 447                 |
| Brazil                    | 9 723                 | 9 432                 | 71                    | 75                    | 1 839                 | 1 691                 | 7 955                 | 7 816                 |
| Chile                     | 209                   | 211                   | 224                   | 169                   | 5                     | 7                     | 428                   | 373                   |
| Colombia                  | 840                   | 835                   | 4                     | 4                     | 11                    | 6                     | 834                   | 834                   |
| Uruguay                   | 525                   | 550                   | 3                     | 2                     | 312                   | 324                   | 216                   | 227                   |
| Venezuela                 | 510                   | 512                   | 144                   | 100                   | -                     | -                     | 644                   | 617                   |
| <b>NORTH AMERICA</b>      | <b>12 161</b>         | <b>12 077</b>         | <b>1 507</b>          | <b>1 756</b>          | <b>1 562</b>          | <b>1 510</b>          | <b>12 169</b>         | <b>12 318</b>         |
| Canada                    | 1 083                 | 1 021                 | 280                   | 293                   | 343                   | 364                   | 1 033                 | 951                   |
| United States of America  | 11 078                | 11 055                | 1 224                 | 1 460                 | 1 218                 | 1 146                 | 11 133                | 11 365                |
| <b>EUROPE</b>             | <b>10 453</b>         | <b>10 553</b>         | <b>1 267</b>          | <b>1 213</b>          | <b>516</b>            | <b>483</b>            | <b>11 204</b>         | <b>11 284</b>         |
| European Union            | 7 661                 | 7 788                 | 327                   | 323                   | 315                   | 302                   | 7 674                 | 7 809                 |
| Russian Federation        | 1 654                 | 1 650                 | 833                   | 787                   | 47                    | 43                    | 2 440                 | 2 394                 |
| Ukraine                   | 459                   | 443                   | 3                     | 4                     | 18                    | 19                    | 445                   | 427                   |
| <b>OCEANIA</b>            | <b>3 093</b>          | <b>3 240</b>          | <b>60</b>             | <b>63</b>             | <b>2 209</b>          | <b>2 468</b>          | <b>1 014</b>          | <b>837</b>            |
| Australia                 | 2 423                 | 2 550                 | 12                    | 12                    | 1 680                 | 1 881                 | 825                   | 684                   |
| New Zealand               | 650                   | 670                   | 17                    | 18                    | 526                   | 584                   | 141                   | 104                   |
| <b>WORLD</b>              | <b>68 070</b>         | <b>68 273</b>         | <b>9 161</b>          | <b>9 188</b>          | <b>9 607</b>          | <b>9 659</b>          | <b>67 757</b>         | <b>67 844</b>         |
| Developing countries      | 39 181                | 39 201                | 5 406                 | 5 213                 | 5 271                 | 5 114                 | 39 324                | 39 333                |
| Developed countries       | 28 888                | 29 072                | 3 755                 | 3 975                 | 4 336                 | 4 546                 | 28 433                | 28 511                |
| LIFDCs                    | 8 102                 | 8 239                 | 295                   | 303                   | 2 071                 | 1 935                 | 6 326                 | 6 607                 |
| LDCs                      | 3 485                 | 3 529                 | 218                   | 229                   | 3                     | 3                     | 3 700                 | 3 754                 |

**APPENDIX TABLE 15: OVINE MEAT STATISTICS**  
*(thousand tonnes, carcass weight equivalent)*

|                           | Production            |                       | Imports               |                       | Exports               |                       | Utilization           |                       |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                           | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> |
| <b>ASIA</b>               | <b>8 102</b>          | <b>8 191</b>          | <b>642</b>            | <b>593</b>            | <b>45</b>             | <b>53</b>             | <b>8 699</b>          | <b>8 731</b>          |
| Bangladesh                | 210                   | 213                   | -                     | -                     | -                     | -                     | 210                   | 213                   |
| China                     | 4 128                 | 4 178                 | 327                   | 272                   | 2                     | 2                     | 4 453                 | 4 449                 |
| India                     | 741                   | 732                   | -                     | -                     | 23                    | 27                    | 718                   | 706                   |
| Iran, Islamic Republic of | 280                   | 291                   | 2                     | 1                     | -                     | -                     | 282                   | 292                   |
| Pakistan                  | 464                   | 467                   | -                     | -                     | 13                    | 15                    | 451                   | 452                   |
| Saudi Arabia              | 132                   | 134                   | 60                    | 64                    | 3                     | 3                     | 189                   | 195                   |
| Turkey                    | 360                   | 366                   | 1                     | 1                     | -                     | -                     | 361                   | 367                   |
| <b>AFRICA</b>             | <b>3 064</b>          | <b>3 101</b>          | <b>31</b>             | <b>29</b>             | <b>36</b>             | <b>37</b>             | <b>3 059</b>          | <b>3 093</b>          |
| Algeria                   | 308                   | 315                   | 5                     | 3                     | -                     | -                     | 313                   | 318                   |
| Nigeria                   | 481                   | 487                   | -                     | -                     | -                     | -                     | 481                   | 487                   |
| South Africa              | 181                   | 182                   | 10                    | 9                     | 2                     | 1                     | 189                   | 190                   |
| Sudan                     | 482                   | 483                   | -                     | -                     | 6                     | 6                     | 477                   | 478                   |
| <b>CENTRAL AMERICA</b>    | <b>125</b>            | <b>124</b>            | <b>21</b>             | <b>19</b>             | -                     | -                     | <b>145</b>            | <b>143</b>            |
| Mexico                    | 96                    | 95                    | 11                    | 10                    | -                     | -                     | 107                   | 105                   |
| <b>SOUTH AMERICA</b>      | <b>322</b>            | <b>324</b>            | <b>10</b>             | <b>8</b>              | <b>27</b>             | <b>22</b>             | <b>305</b>            | <b>310</b>            |
| Brazil                    | 117                   | 116                   | 10                    | 8                     | -                     | -                     | 127                   | 124                   |
| <b>NORTH AMERICA</b>      | <b>91</b>             | <b>92</b>             | <b>118</b>            | <b>124</b>            | <b>4</b>              | <b>3</b>              | <b>205</b>            | <b>213</b>            |
| United States of America  | 74                    | 75                    | 98                    | 105                   | 4                     | 3                     | 167                   | 177                   |
| <b>EUROPE</b>             | <b>1 223</b>          | <b>1 243</b>          | <b>176</b>            | <b>165</b>            | <b>36</b>             | <b>26</b>             | <b>1 363</b>          | <b>1 381</b>          |
| European Union            | 904                   | 920                   | 156                   | 150                   | 28                    | 18                    | 1 032                 | 1 052                 |
| Russian Federation        | 191                   | 191                   | 10                    | 4                     | -                     | -                     | 201                   | 196                   |
| <b>OCEANIA</b>            | <b>987</b>            | <b>964</b>            | <b>28</b>             | <b>24</b>             | <b>879</b>            | <b>835</b>            | <b>136</b>            | <b>152</b>            |
| Australia                 | 575                   | 558                   | 1                     | 1                     | 481                   | 462                   | 95                    | 98                    |
| New Zealand               | 411                   | 405                   | 4                     | 4                     | 398                   | 374                   | 17                    | 35                    |
| <b>WORLD</b>              | <b>13 913</b>         | <b>14 038</b>         | <b>1 026</b>          | <b>962</b>            | <b>1 027</b>          | <b>976</b>            | <b>13 913</b>         | <b>14 025</b>         |
| Developing countries      | 10 796                | 10 913                | 694                   | 638                   | 105                   | 110                   | 11 385                | 11 440                |
| Developed countries       | 3 117                 | 3 126                 | 332                   | 324                   | 921                   | 866                   | 2 528                 | 2 584                 |
| LIFDCs                    | 3 698                 | 3 728                 | 25                    | 23                    | 31                    | 35                    | 3 692                 | 3 715                 |
| LDCs                      | 1 896                 | 1 919                 | 6                     | 6                     | 6                     | 6                     | 1 896                 | 1 919                 |

**APPENDIX TABLE 16: PIGMEAT STATISTICS**  
(thousand tonnes, carcass weight equivalent)

|                          | Production            |                       | Imports               |                       | Exports               |                       | Utilization           |                       |
|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                          | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> |
| <b>ASIA</b>              | <b>68 176</b>         | <b>68 136</b>         | <b>3 756</b>          | <b>3 731</b>          | <b>299</b>            | <b>264</b>            | <b>71 584</b>         | <b>71 811</b>         |
| China                    | 57 221                | 57 080                | 1 346                 | 1 385                 | 200                   | 160                   | 58 342                | 58 505                |
| India                    | 355                   | 357                   | 1                     | 1                     | -                     | -                     | 355                   | 357                   |
| Indonesia                | 744                   | 748                   | 3                     | 3                     | -                     | -                     | 747                   | 750                   |
| Japan                    | 1 264                 | 1 270                 | 1 351                 | 1 256                 | 2                     | 2                     | 2 579                 | 2 523                 |
| Korea, D.P.R.            | 113                   | 114                   | 3                     | 3                     | -                     | -                     | 116                   | 117                   |
| Korea, Republic of       | 1 200                 | 1 220                 | 486                   | 575                   | 3                     | 3                     | 1 695                 | 1 801                 |
| Malaysia                 | 230                   | 230                   | 17                    | 16                    | 6                     | 5                     | 241                   | 241                   |
| Philippines              | 1 701                 | 1 724                 | 122                   | 120                   | 3                     | 3                     | 1 821                 | 1 841                 |
| Thailand                 | 980                   | 985                   | 4                     | 2                     | 34                    | 36                    | 950                   | 952                   |
| Viet Nam                 | 3 321                 | 3 354                 | 183                   | 120                   | 22                    | 25                    | 3 482                 | 3 449                 |
| <b>AFRICA</b>            | <b>1 326</b>          | <b>1 356</b>          | <b>311</b>            | <b>287</b>            | <b>28</b>             | <b>29</b>             | <b>1 609</b>          | <b>1 613</b>          |
| Madagascar               | 59                    | 60                    | -                     | -                     | -                     | -                     | 59                    | 60                    |
| Nigeria                  | 255                   | 257                   | 1                     | 1                     | -                     | -                     | 256                   | 258                   |
| South Africa             | 221                   | 225                   | 25                    | 30                    | 24                    | 25                    | 222                   | 229                   |
| Uganda                   | 118                   | 120                   | 1                     | 1                     | -                     | -                     | 118                   | 120                   |
| <b>CENTRAL AMERICA</b>   | <b>1 806</b>          | <b>1 854</b>          | <b>893</b>            | <b>938</b>            | <b>146</b>            | <b>154</b>            | <b>2 553</b>          | <b>2 638</b>          |
| Cuba                     | 194                   | 191                   | 15                    | 17                    | -                     | -                     | 209                   | 208                   |
| Mexico                   | 1 285                 | 1 335                 | 711                   | 753                   | 127                   | 135                   | 1 870                 | 1 953                 |
| <b>SOUTH AMERICA</b>     | <b>5 413</b>          | <b>5 473</b>          | <b>190</b>            | <b>184</b>            | <b>807</b>            | <b>804</b>            | <b>4 795</b>          | <b>4 854</b>          |
| Argentina                | 442                   | 460                   | 11                    | 10                    | 1                     | 1                     | 452                   | 469                   |
| Brazil                   | 3 313                 | 3 332                 | 2                     | 2                     | 646                   | 619                   | 2 669                 | 2 716                 |
| Chile                    | 520                   | 522                   | 44                    | 41                    | 157                   | 180                   | 407                   | 383                   |
| Colombia                 | 245                   | 249                   | 71                    | 70                    | -                     | -                     | 316                   | 319                   |
| Venezuela                | 250                   | 260                   | 5                     | 4                     | -                     | -                     | 255                   | 264                   |
| <b>NORTH AMERICA</b>     | <b>12 342</b>         | <b>13 001</b>         | <b>792</b>            | <b>897</b>            | <b>3 303</b>          | <b>3 215</b>          | <b>9 850</b>          | <b>10 677</b>         |
| Canada                   | 1 973                 | 2 001                 | 239                   | 246                   | 1 176                 | 1 142                 | 1 039                 | 1 110                 |
| United States of America | 10 368                | 11 000                | 548                   | 647                   | 2 127                 | 2 073                 | 8 807                 | 9 563                 |
| <b>EUROPE</b>            | <b>27 710</b>         | <b>28 442</b>         | <b>739</b>            | <b>472</b>            | <b>2 388</b>          | <b>2 465</b>          | <b>26 062</b>         | <b>26 449</b>         |
| Belarus                  | 443                   | 451                   | 41                    | 31                    | 79                    | 40                    | 405                   | 442                   |
| European Union           | 22 796                | 23 423                | 15                    | 15                    | 2 222                 | 2 333                 | 20 590                | 21 105                |
| Russian Federation       | 2 945                 | 3 063                 | 536                   | 297                   | 32                    | 33                    | 3 449                 | 3 327                 |
| Serbia                   | 242                   | 240                   | 29                    | 31                    | 26                    | 27                    | 245                   | 244                   |
| Ukraine                  | 809                   | 790                   | 40                    | 26                    | 12                    | 16                    | 838                   | 800                   |
| <b>OCEANIA</b>           | <b>497</b>            | <b>501</b>            | <b>262</b>            | <b>310</b>            | <b>35</b>             | <b>34</b>             | <b>719</b>            | <b>776</b>            |
| Australia                | 365                   | 365                   | 192                   | 230                   | 34                    | 33                    | 518                   | 563                   |
| Papua New Guinea         | 73                    | 72                    | 8                     | 9                     | -                     | -                     | 81                    | 81                    |
| <b>WORLD</b>             | <b>117 270</b>        | <b>118 763</b>        | <b>6 942</b>          | <b>6 818</b>          | <b>7 006</b>          | <b>6 964</b>          | <b>117 173</b>        | <b>118 819</b>        |
| Developing countries     | 75 140                | 75 222                | 3 736                 | 3 814                 | 1 253                 | 1 222                 | 77 608                | 78 023                |
| Developed countries      | 42 130                | 43 541                | 3 207                 | 3 003                 | 5 752                 | 5 742                 | 39 566                | 40 796                |
| LIFDCs                   | 3 307                 | 3 355                 | 284                   | 288                   | 7                     | 8                     | 3 584                 | 3 635                 |
| LDCs                     | 1 570                 | 1 593                 | 238                   | 209                   | 1                     | 1                     | 1 807                 | 1 801                 |

**APPENDIX TABLE 17: POULTRY MEAT STATISTICS**  
*(thousand tonnes, carcass weight equivalent)*

|                           | Production            |                       | Imports               |                       | Exports               |                       | Utilization           |                       |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                           | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> |
| <b>ASIA</b>               | <b>38 420</b>         | <b>38 947</b>         | <b>6 791</b>          | <b>6 909</b>          | <b>1 949</b>          | <b>2 031</b>          | <b>43 251</b>         | <b>43 838</b>         |
| China                     | 18 500                | 18 500                | 1 795                 | 1 772                 | 471                   | 411                   | 19 823                | 19 862                |
| India                     | 2 451                 | 2 545                 | -                     | -                     | 9                     | 9                     | 2 442                 | 2 536                 |
| Indonesia                 | 1 889                 | 1 935                 | 3                     | 3                     | -                     | -                     | 1 892                 | 1 937                 |
| Iran, Islamic Republic of | 2 045                 | 2 132                 | 10                    | 4                     | 68                    | 73                    | 1 987                 | 2 064                 |
| Japan                     | 1 474                 | 1 471                 | 1 089                 | 1 105                 | 11                    | 10                    | 2 533                 | 2 563                 |
| Korea, Republic of        | 690                   | 700                   | 154                   | 145                   | 21                    | 26                    | 812                   | 826                   |
| Kuwait                    | 41                    | 43                    | 125                   | 123                   | -                     | -                     | 166                   | 165                   |
| Malaysia                  | 1 383                 | 1 412                 | 50                    | 52                    | 32                    | 33                    | 1 401                 | 1 430                 |
| Saudi Arabia              | 580                   | 586                   | 810                   | 820                   | 30                    | 32                    | 1 360                 | 1 374                 |
| Singapore                 | 99                    | 100                   | 143                   | 146                   | 9                     | 10                    | 233                   | 236                   |
| Thailand                  | 1 540                 | 1 620                 | 10                    | 8                     | 773                   | 889                   | 796                   | 749                   |
| Turkey                    | 1 802                 | 1 832                 | -                     | -                     | 415                   | 425                   | 1 388                 | 1 407                 |
| Yemen                     | 151                   | 149                   | 130                   | 132                   | -                     | -                     | 281                   | 281                   |
| <b>AFRICA</b>             | <b>5 079</b>          | <b>5 126</b>          | <b>1 736</b>          | <b>1 616</b>          | <b>81</b>             | <b>101</b>            | <b>6 733</b>          | <b>6 641</b>          |
| Angola                    | 34                    | 35                    | 386                   | 180                   | -                     | -                     | 420                   | 216                   |
| South Africa              | 1 514                 | 1 525                 | 394                   | 433                   | 71                    | 91                    | 1 836                 | 1 867                 |
| <b>CENTRAL AMERICA</b>    | <b>4 341</b>          | <b>4 388</b>          | <b>1 506</b>          | <b>1 582</b>          | <b>47</b>             | <b>47</b>             | <b>5 800</b>          | <b>5 923</b>          |
| Cuba                      | 31                    | 33                    | 210                   | 194                   | -                     | -                     | 241                   | 227                   |
| Mexico                    | 2 917                 | 2 953                 | 889                   | 969                   | 13                    | 13                    | 3 793                 | 3 909                 |
| <b>SOUTH AMERICA</b>      | <b>20 553</b>         | <b>21 077</b>         | <b>355</b>            | <b>338</b>            | <b>4 487</b>          | <b>4 535</b>          | <b>16 421</b>         | <b>16 879</b>         |
| Argentina                 | 1 816                 | 1 860                 | 2                     | 3                     | 311                   | 235                   | 1 507                 | 1 628                 |
| Brazil                    | 13 315                | 13 648                | 3                     | 3                     | 4 037                 | 4 156                 | 9 281                 | 9 495                 |
| Chile                     | 670                   | 668                   | 94                    | 95                    | 117                   | 120                   | 647                   | 643                   |
| Venezuela                 | 1 300                 | 1 360                 | 138                   | 112                   | -                     | -                     | 1 438                 | 1 472                 |
| <b>NORTH AMERICA</b>      | <b>21 752</b>         | <b>21 912</b>         | <b>347</b>            | <b>358</b>            | <b>4 346</b>          | <b>4 003</b>          | <b>17 756</b>         | <b>18 247</b>         |
| Canada                    | 1 286                 | 1 311                 | 226                   | 232                   | 178                   | 169                   | 1 316                 | 1 364                 |
| United States of America  | 20 466                | 20 601                | 117                   | 122                   | 4 168                 | 3 834                 | 16 435                | 16 878                |
| <b>EUROPE</b>             | <b>18 989</b>         | <b>19 357</b>         | <b>1 433</b>          | <b>1 199</b>          | <b>1 771</b>          | <b>1 831</b>          | <b>18 650</b>         | <b>18 726</b>         |
| European Union            | 13 268                | 13 509                | 697                   | 641                   | 1 389                 | 1 438                 | 12 576                | 12 712                |
| Russian Federation        | 3 666                 | 3 760                 | 460                   | 280                   | 64                    | 60                    | 4 062                 | 3 982                 |
| Ukraine                   | 1 252                 | 1 274                 | 64                    | 66                    | 176                   | 181                   | 1 141                 | 1 159                 |
| <b>OCEANIA</b>            | <b>1 318</b>          | <b>1 332</b>          | <b>89</b>             | <b>91</b>             | <b>60</b>             | <b>59</b>             | <b>1 347</b>          | <b>1 364</b>          |
| Australia                 | 1 116                 | 1 129                 | 17                    | 18                    | 43                    | 41                    | 1 088                 | 1 105                 |
| New Zealand               | 176                   | 176                   | 1                     | 1                     | 16                    | 18                    | 160                   | 159                   |
| <b>WORLD</b>              | <b>110 452</b>        | <b>112 139</b>        | <b>12 256</b>         | <b>12 093</b>         | <b>12 741</b>         | <b>12 607</b>         | <b>109 958</b>        | <b>111 620</b>        |
| Developing countries      | 64 581                | 65 683                | 8 669                 | 8 645                 | 6 473                 | 6 604                 | 66 786                | 67 740                |
| Developed countries       | 45 871                | 46 456                | 3 586                 | 3 448                 | 6 268                 | 6 004                 | 43 173                | 43 879                |
| LIFDCs                    | 5 525                 | 5 661                 | 1 228                 | 1 301                 | 27                    | 26                    | 6 727                 | 6 937                 |
| LDCs                      | 2 417                 | 2 488                 | 1 195                 | 1 023                 | 2                     | 2                     | 3 610                 | 3 510                 |

**APPENDIX TABLE 18: MILK AND MILK PRODUCTS STATISTICS**  
(thousand tonnes, milk equivalent)

|                           | Production           |                       |                       | Imports              |                       |                       | Exports              |                       |                       |
|---------------------------|----------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|
|                           | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2011-2013<br>average | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> |
| <b>ASIA</b>               | <b>285 917</b>       | <b>302 700</b>        | <b>311 420</b>        | <b>35 356</b>        | <b>41 185</b>         | <b>39 406</b>         | <b>6 502</b>         | <b>6 837</b>          | <b>6 413</b>          |
| China                     | 41 707               | 42 513                | 42 266                | 10 002               | 13 203                | 10 212                | 241                  | 249                   | 246                   |
| India <sup>1</sup>        | 131 978              | 141 702               | 147 795               | 227                  | 95                    | 71                    | 585                  | 670                   | 305                   |
| Indonesia                 | 1 377                | 1 400                 | 1 450                 | 2 499                | 2 536                 | 2 665                 | 106                  | 105                   | 99                    |
| Iran, Islamic Republic of | 7 624                | 7 700                 | 7 800                 | 497                  | 394                   | 384                   | 373                  | 549                   | 449                   |
| Japan                     | 7 537                | 7 315                 | 7 350                 | 1 712                | 1 815                 | 1 992                 | 6                    | 6                     | 6                     |
| Korea, Republic of        | 2 035                | 2 073                 | 2 065                 | 911                  | 887                   | 974                   | 14                   | 24                    | 25                    |
| Malaysia                  | 84                   | 86                    | 86                    | 1 662                | 2 087                 | 2 489                 | 413                  | 640                   | 794                   |
| Pakistan                  | 37 830               | 40 000                | 41 000                | 429                  | 395                   | 365                   | 78                   | 86                    | 85                    |
| Philippines               | 18                   | 22                    | 23                    | 1 716                | 1 580                 | 1 590                 | 210                  | 75                    | 77                    |
| Saudi Arabia              | 2 298                | 2 380                 | 2 400                 | 2 462                | 3 094                 | 3 218                 | 1 634                | 1 398                 | 1 408                 |
| Singapore                 | -                    | -                     | -                     | 1 736                | 1 884                 | 1 868                 | 615                  | 609                   | 595                   |
| Thailand                  | 1 033                | 1 125                 | 1 300                 | 1 384                | 1 479                 | 1 451                 | 238                  | 186                   | 186                   |
| Turkey                    | 16 895               | 19 500                | 20 500                | 161                  | 231                   | 237                   | 409                  | 649                   | 523                   |
| <b>AFRICA</b>             | <b>45 089</b>        | <b>46 198</b>         | <b>46 547</b>         | <b>9 254</b>         | <b>9 781</b>          | <b>10 075</b>         | <b>1 164</b>         | <b>1 281</b>          | <b>1 292</b>          |
| Algeria                   | 2 923                | 3 200                 | 3 300                 | 2 506                | 3 115                 | 3 154                 | 3                    | 3                     | 3                     |
| Egypt                     | 5 842                | 5 950                 | 6 000                 | 1 649                | 1 394                 | 1 548                 | 688                  | 565                   | 559                   |
| Kenya                     | 4 943                | 4 950                 | 4 900                 | 39                   | 51                    | 57                    | 24                   | 16                    | 18                    |
| South Africa              | 3 341                | 3 450                 | 3 500                 | 224                  | 211                   | 244                   | 153                  | 403                   | 400                   |
| Sudan                     | 7 514                | 7 580                 | 7 600                 | 275                  | 248                   | 243                   | -                    | -                     | -                     |
| Tunisia                   | 1 139                | 1 190                 | 1 200                 | 102                  | 98                    | 91                    | 45                   | 38                    | 39                    |
| <b>CENTRAL AMERICA</b>    | <b>16 485</b>        | <b>17 088</b>         | <b>17 412</b>         | <b>4 890</b>         | <b>4 802</b>          | <b>5 157</b>          | <b>635</b>           | <b>705</b>            | <b>723</b>            |
| Costa Rica                | 1 016                | 1 100                 | 1 125                 | 50                   | 60                    | 56                    | 165                  | 174                   | 177                   |
| Mexico                    | 11 014               | 11 285                | 11 499                | 2 948                | 2 866                 | 3 223                 | 155                  | 182                   | 187                   |
| <b>SOUTH AMERICA</b>      | <b>67 231</b>        | <b>70 277</b>         | <b>71 119</b>         | <b>3 587</b>         | <b>3 304</b>          | <b>3 883</b>          | <b>4 565</b>         | <b>4 374</b>          | <b>4 106</b>          |
| Argentina                 | 11 414               | 11 371                | 10 962                | 97                   | 43                    | 46                    | 2 598                | 2 144                 | 1 920                 |
| Brazil                    | 33 036               | 35 450                | 36 407                | 1 037                | 698                   | 930                   | 90                   | 407                   | 320                   |
| Colombia                  | 6 408                | 6 500                 | 6 550                 | 151                  | 205                   | 235                   | 21                   | 17                    | 29                    |
| Uruguay                   | 2 118                | 2 100                 | 2 120                 | 20                   | 31                    | 30                    | 1 286                | 1 134                 | 1 206                 |
| Venezuela                 | 2 552                | 2 700                 | 2 750                 | 1 542                | 1 467                 | 1 761                 | -                    | -                     | -                     |
| <b>NORTH AMERICA</b>      | <b>98 838</b>        | <b>101 822</b>        | <b>103 196</b>        | <b>2 017</b>         | <b>2 406</b>          | <b>2 729</b>          | <b>9 589</b>         | <b>11 228</b>         | <b>9 877</b>          |
| Canada                    | 8 453                | 8 360                 | 8 485                 | 544                  | 721                   | 714                   | 419                  | 573                   | 544                   |
| United States of America  | 90 384               | 93 461                | 94 710                | 1 457                | 1 670                 | 2 000                 | 9 169                | 10 653                | 9 332                 |
| <b>EUROPE</b>             | <b>212 709</b>       | <b>218 880</b>        | <b>219 310</b>        | <b>6 812</b>         | <b>6 633</b>          | <b>5 392</b>          | <b>22 342</b>        | <b>25 487</b>         | <b>26 180</b>         |
| Belarus                   | 6 636                | 6 600                 | 6 716                 | 45                   | 248                   | 217                   | 3 555                | 4 370                 | 4 868                 |
| European Union            | 152 667              | 160 000               | 161 400               | 1 378                | 1 575                 | 1 430                 | 15 948               | 17 726                | 17 810                |
| Russian Federation        | 31 304               | 30 540                | 29 494                | 4 410                | 3 912                 | 2 901                 | 125                  | 325                   | 294                   |
| Ukraine                   | 11 317               | 11 510                | 11 470                | 182                  | 138                   | 74                    | 919                  | 785                   | 835                   |
| <b>OCEANIA</b>            | <b>29 848</b>        | <b>32 022</b>         | <b>31 684</b>         | <b>849</b>           | <b>931</b>            | <b>947</b>            | <b>20 732</b>        | <b>22 654</b>         | <b>22 746</b>         |
| Australia <sup>2</sup>    | 9 604                | 10 043                | 10 143                | 575                  | 635                   | 663                   | 3 636                | 3 514                 | 3 768                 |
| New Zealand <sup>3</sup>  | 20 174               | 21 909                | 21 471                | 71                   | 90                    | 80                    | 17 093               | 19 136                | 18 975                |
| <b>WORLD</b>              | <b>756 116</b>       | <b>788 988</b>        | <b>800 689</b>        | <b>62 765</b>        | <b>69 041</b>         | <b>67 589</b>         | <b>65 529</b>        | <b>72 565</b>         | <b>71 337</b>         |
| Developing countries      | 382 891              | 403 512               | 413 240               | 50 675               | 56 411                | 55 666                | 12 648               | 12 727                | 12 068                |
| Developed countries       | 371 276              | 383 859               | 385 863               | 12 090               | 12 630                | 11 923                | 52 881               | 59 839                | 59 269                |
| LIFDCs                    | 179 828              | 191 306               | 197 748               | 7 451                | 7 306                 | 7 380                 | 1 347                | 1 310                 | 972                   |
| LDCs                      | 31 819               | 32 638                | 32 794                | 3 501                | 3 765                 | 3 757                 | 189                  | 167                   | 179                   |

<sup>1</sup> Dairy years starting April of the year stated (production only).

<sup>2</sup> Dairy years ending June of the year stated (production only).

<sup>3</sup> Dairy years ending May of the year stated (production only).

Note: Trade figures refer to the milk equivalent trade in the following products: butter (6.60), cheese (4.40), milk powder (7.60), skim condensed/evaporated milk (1.90), whole condensed/evaporated milk (2.10), yoghurt (1.0), cream (3.60), casein (7.40), skim milk (0.70), liquid milk (1.0), whey dry (7.6). The conversion factors cited refer to the solids content method. Refer to IDF Bulletin No. 390 (March 2004).

APPENDIX TABLE 19: FISH AND FISHERY PRODUCTS STATISTICS<sup>1</sup>

|                             | Capture fisheries production                   |             | Aquaculture fisheries production |             | Exports            |                       |                       | Imports            |                       |                       |
|-----------------------------|------------------------------------------------|-------------|----------------------------------|-------------|--------------------|-----------------------|-----------------------|--------------------|-----------------------|-----------------------|
|                             | 2012                                           | 2013        | 2012                             | 2013        | 2013               | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> | 2013               | 2014<br><i>estim.</i> | 2015<br><i>f'cast</i> |
|                             | <i>Million tonnes (live weight equivalent)</i> |             |                                  |             | <i>USD billion</i> |                       |                       | <i>USD billion</i> |                       |                       |
| <b>ASIA</b>                 | <b>50.2</b>                                    | <b>50.9</b> | <b>59.0</b>                      | <b>62.5</b> | <b>53.9</b>        | <b>55.8</b>           | <b>52.0</b>           | <b>42.5</b>        | <b>43.5</b>           | <b>41.0</b>           |
| China <sup>2</sup>          | 17.2                                           | 17.4        | 41.5                             | 43.9        | 22.2               | 23.5                  | 22.1                  | 12.9               | 13.5                  | 12.8                  |
| of which: Hong Kong SAR     | 0.2                                            | 0.2         | -                                | -           | 1.1                | 1.0                   | 0.7                   | 3.8                | 3.6                   | 3.4                   |
| Taiwan Prov.                | 0.9                                            | 0.9         | 0.3                              | 0.3         | 1.8                | 1.8                   | 1.6                   | 1.0                | 1.2                   | 1.2                   |
| India                       | 4.9                                            | 4.6         | 4.2                              | 4.5         | 4.6                | 5.6                   | 4.9                   | 0.1                | 0.1                   | 0.1                   |
| Indonesia                   | 5.8                                            | 6.1         | 3.1                              | 3.8         | 3.8                | 4.2                   | 4.0                   | 0.4                | 0.3                   | 0.4                   |
| Japan                       | 3.7                                            | 3.7         | 0.6                              | 0.6         | 2.0                | 1.9                   | 2.0                   | 15.3               | 14.8                  | 13.5                  |
| Korea, Rep. of              | 1.7                                            | 1.6         | 0.5                              | 0.4         | 1.8                | 1.7                   | 1.6                   | 3.6                | 4.3                   | 4.5                   |
| Philippines                 | 2.3                                            | 2.3         | 0.8                              | 0.8         | 1.2                | 1.0                   | 0.8                   | 0.3                | 0.3                   | 0.4                   |
| Thailand                    | 1.7                                            | 1.8         | 1.3                              | 1.1         | 7.0                | 6.6                   | 5.7                   | 3.2                | 2.7                   | 2.4                   |
| Viet Nam                    | 2.7                                            | 2.8         | 3.1                              | 3.2         | 6.8                | 6.9                   | 6.7                   | 0.9                | 1.0                   | 0.9                   |
| <b>AFRICA</b>               | <b>8.2</b>                                     | <b>8.0</b>  | <b>1.5</b>                       | <b>1.6</b>  | <b>5.5</b>         | <b>5.7</b>            | <b>5.5</b>            | <b>6.1</b>         | <b>5.8</b>            | <b>5.8</b>            |
| Ghana                       | 0.4                                            | 0.3         | -                                | -           | -                  | -                     | -                     | 0.3                | 0.3                   | 0.3                   |
| Morocco                     | 1.2                                            | 1.3         | -                                | -           | 1.8                | 1.9                   | 1.9                   | 0.2                | 0.2                   | 0.2                   |
| Namibia                     | 0.5                                            | 0.5         | -                                | -           | 0.8                | 0.8                   | 0.8                   | -                  | 0.1                   | 0.1                   |
| Nigeria                     | 0.7                                            | 0.7         | 0.3                              | 0.3         | 0.2                | 0.2                   | 0.2                   | 1.4                | 1.1                   | 1.0                   |
| Senegal                     | 0.5                                            | 0.5         | -                                | -           | 0.3                | 0.4                   | 0.3                   | -                  | -                     | -                     |
| South Africa                | 0.7                                            | 0.4         | -                                | -           | 0.6                | 0.6                   | 0.6                   | 0.5                | 0.4                   | 0.4                   |
| <b>CENTRAL AMERICA</b>      | <b>2.2</b>                                     | <b>2.2</b>  | <b>0.3</b>                       | <b>0.4</b>  | <b>2.5</b>         | <b>2.7</b>            | <b>2.5</b>            | <b>1.7</b>         | <b>2.0</b>            | <b>1.8</b>            |
| Mexico                      | 1.6                                            | 1.6         | 0.1                              | 0.2         | 1.1                | 1.2                   | 1.1                   | 0.8                | 0.9                   | 0.8                   |
| Panama                      | 0.2                                            | 0.2         | -                                | -           | 0.2                | 0.2                   | 0.2                   | 0.1                | 0.1                   | 0.1                   |
| <b>SOUTH AMERICA</b>        | <b>10.1</b>                                    | <b>10.3</b> | <b>2.1</b>                       | <b>2.1</b>  | <b>13.7</b>        | <b>15.5</b>           | <b>12.9</b>           | <b>3.7</b>         | <b>3.8</b>            | <b>3.5</b>            |
| Argentina                   | 0.7                                            | 0.9         | -                                | -           | 1.5                | 1.6                   | 1.6                   | 0.2                | 0.2                   | 0.2                   |
| Brazil                      | 0.8                                            | 0.8         | 0.5                              | 0.5         | 0.2                | 0.2                   | 0.2                   | 1.5                | 1.6                   | 1.3                   |
| Chile                       | 2.6                                            | 1.8         | 1.1                              | 1.0         | 5.0                | 5.9                   | 4.8                   | 0.4                | 0.4                   | 0.4                   |
| Ecuador                     | 0.5                                            | 0.5         | 0.3                              | 0.3         | 3.6                | 4.3                   | 3.7                   | 0.1                | 0.1                   | 0.1                   |
| Peru                        | 4.8                                            | 5.9         | 0.1                              | 0.1         | 2.7                | 2.9                   | 2.0                   | 0.2                | 0.2                   | 0.2                   |
| <b>NORTH AMERICA</b>        | <b>6.2</b>                                     | <b>6.4</b>  | <b>0.6</b>                       | <b>0.6</b>  | <b>10.7</b>        | <b>11.0</b>           | <b>10.7</b>           | <b>21.9</b>        | <b>25.0</b>           | <b>23.4</b>           |
| Canada                      | 0.8                                            | 0.9         | 0.2                              | 0.2         | 4.3                | 4.5                   | 4.6                   | 2.8                | 3.0                   | 2.8                   |
| United States of America    | 5.1                                            | 5.2         | 0.4                              | 0.4         | 6.0                | 6.1                   | 5.8                   | 19.0               | 21.9                  | 20.5                  |
| <b>EUROPE</b>               | <b>13.1</b>                                    | <b>13.5</b> | <b>2.9</b>                       | <b>2.8</b>  | <b>46.9</b>        | <b>49.9</b>           | <b>43.3</b>           | <b>58.3</b>        | <b>61.3</b>           | <b>52.4</b>           |
| European Union <sup>2</sup> | 4.7                                            | 5.0         | 1.3                              | 1.2         | 29.8               | 32.2                  | 28.3                  | 50.9               | 54.4                  | 47.8                  |
| of which Extra -EU          |                                                |             |                                  |             | 5.7                | 5.9                   | 5.2                   | 26.8               | 28.4                  | 25.4                  |
| Iceland                     | 1.4                                            | 1.4         | -                                | -           | 2.3                | 2.1                   | 2.2                   | 0.1                | 0.1                   | 0.2                   |
| Norway                      | 2.2                                            | 2.1         | 1.3                              | 1.2         | 10.4               | 10.8                  | 8.9                   | 1.3                | 1.4                   | 1.1                   |
| Russian Federation          | 4.3                                            | 4.3         | 0.1                              | 0.2         | 3.6                | 3.8                   | 3.1                   | 3.4                | 3.0                   | 1.7                   |
| <b>OCEANIA</b>              | <b>1.3</b>                                     | <b>1.2</b>  | <b>0.2</b>                       | <b>0.2</b>  | <b>2.9</b>         | <b>3.0</b>            | <b>2.8</b>            | <b>2.0</b>         | <b>2.3</b>            | <b>2.0</b>            |
| Australia                   | 0.2                                            | 0.2         | 0.1                              | 0.1         | 1.0                | 1.1                   | 1.0                   | 1.6                | 1.7                   | 1.4                   |
| New Zealand                 | 0.4                                            | 0.4         | 0.1                              | 0.1         | 1.2                | 1.2                   | 1.1                   | 0.2                | 0.2                   | 0.2                   |
| <b>WORLD<sup>3</sup></b>    | <b>91.3</b>                                    | <b>92.6</b> | <b>66.5</b>                      | <b>70.2</b> | <b>136.1</b>       | <b>143.5</b>          | <b>129.8</b>          | <b>136.3</b>       | <b>143.7</b>          | <b>130.0</b>          |
| Excl. Intra-EU              |                                                |             |                                  |             | 112.0              | 117.2                 | 106.7                 | 112.2              | 117.6                 | 107.5                 |
| Developing countries        | 67.2                                           | 68.1        | 62.2                             | 66.0        | 74.0               | 78.1                  | 71.4                  | 37.8               | 39.5                  | 38.0                  |
| Developed countries         | 24.0                                           | 24.4        | 4.3                              | 4.2         | 62.1               | 65.4                  | 58.3                  | 98.5               | 104.2                 | 92.0                  |
| LIFDCs                      | 14.8                                           | 14.5        | 7.4                              | 7.9         | 7.6                | 8.6                   | 7.9                   | 3.8                | 3.5                   | 3.5                   |
| LDCs                        | 9.8                                            | 10.1        | 3.0                              | 3.2         | 2.5                | 2.5                   | 2.4                   | 1.3                | 1.4                   | 1.4                   |

<sup>1</sup> Production and trade data exclude whales, seals, other aquatic mammals and aquatic plants. Trade data include fish meal and fish oil.

<sup>2</sup> Including intra-trade. Cyprus is included in the European Union as well as in Asia. Starting with 2013 data, EU includes Croatia.

<sup>3</sup> For capture fisheries production, the aggregate includes also 32 358 tonnes in 2012 and 83 275 in 2013 of not identified countries, data not included in any other aggregates.

## APPENDIX TABLE 20: SELECTED INTERNATIONAL PRICES FOR WHEAT AND COARSE GRAINS

| Period                    | Wheat                                            |                                       |                                  | Maize                        |                        | Barley            |                                | Sorghum                      |
|---------------------------|--------------------------------------------------|---------------------------------------|----------------------------------|------------------------------|------------------------|-------------------|--------------------------------|------------------------------|
|                           | US No. 2 Hard Red Winter Ord. Prot. <sup>1</sup> | US Soft Red Winter No. 2 <sup>2</sup> | Argentina Trigo Pan <sup>3</sup> | US No. 2 Yellow <sup>2</sup> | Argentina <sup>3</sup> | France feed Rouen | Australia feed Southern States | US No. 2 Yellow <sup>2</sup> |
| ..... (USD/tonne) .....   |                                                  |                                       |                                  |                              |                        |                   |                                |                              |
| <b>Annual (July/June)</b> |                                                  |                                       |                                  |                              |                        |                   |                                |                              |
| 2005/06                   | 175                                              | 138                                   | 138                              | 104                          | 101                    | 128               | 128                            | 109                          |
| 2006/07                   | 212                                              | 176                                   | 188                              | 150                          | 145                    | 185               | 185                            | 155                          |
| 2007/08                   | 361                                              | 311                                   | 322                              | 200                          | 192                    | 300               | 300                            | 206                          |
| 2008/09                   | 270                                              | 201                                   | 234                              | 188                          | 180                    | 179               | 179                            | 170                          |
| 2009/10                   | 209                                              | 185                                   | 224                              | 160                          | 168                    | 154               | 154                            | 165                          |
| 2010/11                   | 316                                              | 289                                   | 311                              | 254                          | 260                    | 248               | 248                            | 248                          |
| 2011/12                   | 300                                              | 259                                   | 264                              | 281                          | 269                    | 249               | 249                            | 264                          |
| 2012/13                   | 348                                              | 310                                   | 336                              | 311                          | 277                    | 298               | 298                            | 281                          |
| 2013/14                   | 318                                              | 265                                   | 335                              | 216                          | 219                    | 241               | 241                            | 218                          |
| 2014/15                   | 266                                              | 221                                   | 246                              | 173                          | 177                    | 205               | 243                            | 210                          |
| 2014 – September          | 279                                              | 204                                   | 248                              | 164                          | 166                    | 227               | 194                            | 174                          |
| 2014 – October            | 290                                              | 223                                   | 242                              | 165                          | 171                    | 247               | 204                            | 189                          |
| 2014 – November           | 280                                              | 236                                   | 253                              | 178                          | 179                    | 259               | 214                            | 197                          |
| 2014 – December           | 289                                              | 261                                   | 251                              | 178                          | 197                    | 257               | 223                            | 217                          |
| 2014 – January            | 262                                              | 233                                   | 254                              | 176                          | 184                    | 252               | 215                            | 231                          |
| 2014 – February           | 252                                              | 221                                   | 241                              | 174                          | 181                    | 240               | 205                            | 230                          |
| 2014 – March              | 250                                              | 219                                   | 228                              | 173                          | 169                    | 241               | 199                            | 226                          |
| 2014 – April              | 239                                              | 209                                   | 225                              | 172                          | 168                    | 241               | 197                            | 223                          |
| 2014 – May                | 231                                              | 199                                   | 228                              | 166                          | 168                    | 244               | 194                            | 217                          |
| 2015 – June               | 242                                              | 211                                   | 226                              | 170                          | 173                    | 230               | 197                            | 224                          |
| 2015 – July               | 238                                              | 208                                   | 229                              | 178                          | 176                    | 229               | 198                            | 223                          |
| 2015 – August             | 216                                              | 190                                   | 227                              | 163                          | 160                    | 199               | 182                            | 180                          |
| 2015 – September          | 218                                              | 195                                   | 223                              | 166                          | 161                    | 182               | 175                            | 177                          |

## APPENDIX TABLE 21: TOTAL WHEAT AND MAIZE FUTURES PRICES

|                         | December  |           | March     |           | May      |          | July      |           |
|-------------------------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|
|                         | Dec. 2015 | Dec. 2014 | Mar. 2016 | Mar. 2015 | May 2016 | May 2015 | July 2016 | July 2015 |
| ..... (USD/tonne) ..... |           |           |           |           |          |          |           |           |
| <b>Wheat</b>            |           |           |           |           |          |          |           |           |
| August 26               | 182       | 204       | 184       | 212       | 186      | 216      | 187       | 219       |
| September 2             | 176       | 204       | 179       | 211       | 181      | 215      | 182       | 217       |
| September 9             | 174       | 194       | 176       | 200       | 178      | 204      | 180       | 207       |
| September 16            | 179       | 182       | 182       | 188       | 184      | 193      | 185       | 196       |
| September 23            | 186       | 175       | 189       | 179       | 191      | 183      | 192       | 185       |
| September 30            | 188       | 176       | 191       | 180       | 193      | 183      | 197       | 185       |
| <b>Maize</b>            |           |           |           |           |          |          |           |           |
| August 26               | 147       | 144       | 151       | 149       | 154      | 152      | 156       | 155       |
| September 2             | 145       | 143       | 149       | 148       | 152      | 151      | 154       | 154       |
| September 9             | 145       | 136       | 150       | 141       | 153      | 144      | 155       | 147       |
| September 16            | 152       | 135       | 156       | 140       | 159      | 143      | 161       | 146       |
| September 23            | 151       | 128       | 155       | 133       | 158      | 137      | 161       | 139       |
| September 30            | 152       | 126       | 157       | 131       | 160      | 135      | 162       | 138       |

Source: Chicago Board of Trade (CBOT)



# APPENDIX TABLE 22: SELECTED INTERNATIONAL PRICES FOR RICE AND PRICE INDICES

| Period           | International prices        |                             |                               |                                 | FAO indices                 |                   |                  |          |          |
|------------------|-----------------------------|-----------------------------|-------------------------------|---------------------------------|-----------------------------|-------------------|------------------|----------|----------|
|                  | Thai<br>100% B <sup>1</sup> | Thai<br>broken <sup>2</sup> | US long<br>grain <sup>3</sup> | Pakisan<br>Basmati <sup>4</sup> | Total                       | Indica            |                  | Japonica | Aromatic |
|                  |                             |                             |                               |                                 |                             | Higher<br>quality | Lower<br>quality |          |          |
| Annual (Jan/Dec) | .....(USD per tonne) .....  |                             |                               |                                 | ..... (2002-2004=100) ..... |                   |                  |          |          |
| 2009             | 587                         | 329                         | 545                           | 937                             | 253                         | 224               | 196              | 317      | 231      |
| 2010             | 518                         | 386                         | 510                           | 881                             | 227                         | 206               | 212              | 252      | 229      |
| 2011             | 565                         | 464                         | 577                           | 1060                            | 242                         | 232               | 250              | 258      | 220      |
| 2012             | 588                         | 540                         | 567                           | 1137                            | 231                         | 225               | 241              | 235      | 222      |
| 2013             | 534                         | 483                         | 628                           | 1372                            | 233                         | 219               | 226              | 230      | 268      |
| 2014             | 435                         | 322                         | 571                           | 1324                            | 235                         | 207               | 201              | 266      | 255      |
| Monthly          |                             |                             |                               |                                 |                             |                   |                  |          |          |
| 2014 – September | 444                         | 336                         | 555                           | 1450                            | 239                         | 207               | 208              | 265      | 272      |
| 2014 – October   | 437                         | 345                         | 529                           | 1435                            | 235                         | 203               | 204              | 260      | 268      |
| 2014 – November  | 427                         | 338                         | 540                           | 1181                            | 233                         | 199               | 200              | 289      | 211      |
| 2014 – December  | 427                         | 332                         | 518                           | 885                             | 224                         | 195               | 191              | 283      | 187      |
| 2015 – January   | 429                         | 330                         | 508                           | 876                             | 222                         | 194               | 189              | 279      | 189      |
| 2015 – February  | 430                         | 331                         | 503                           | 978                             | 220                         | 189               | 186              | 276      | 196      |
| 2015 – March     | 419                         | 330                         | 501                           | 985                             | 219                         | 189               | 187              | 272      | 194      |
| 2015 – April     | 410                         | 333                         | 500                           | 980                             | 218                         | 188               | 189              | 271      | 193      |
| 2015 – May       | 394                         | 326                         | 492                           | 895                             | 215                         | 186               | 190              | 266      | 185      |
| 2015 – June      | 385                         | 327                         | 485                           | 871                             | 213                         | 184               | 188              | 265      | 180      |
| 2015 – July      | 401                         | 321                         | 445                           | 868                             | 211                         | 182               | 185              | 265      | 175      |
| 2015 – August    | 382                         | 324                         | 465                           | 888                             | 210                         | 179               | 182              | 267      | 175      |
| 2015 – September | 367                         | 316                         | 491                           | 855                             | 206                         | 176               | 176              | 266      | 168      |

<sup>1</sup> White rice, 100% second grade, f.o.b. Bangkok, indicative traded prices.

<sup>2</sup> A1 super, f.o.b. Bangkok, indicative traded prices.

<sup>3</sup> US No.2, 4% broken f.o.b.

<sup>4</sup> Up to May 2011: Basmati ordinary, f.o.b. Karachi; from June 2011 onwards: Super Kernel White Basmati Rice 2%.

Note: The FAO Rice Price Index is based on 16 rice export quotations. 'Quality' is defined by the percentage of broken kernels, with higher (lower) quality referring to rice with less (equal to or more) than 20 percent broken. The sub-index for Aromatic Rice follows movements in prices of Basmati and Fragrant rice.

Sources: FAO for indices. Rice prices: Livericeindex.com, Thai Department of Foreign Trade (DFT) and other public sources.

## APPENDIX TABLE 23: SELECTED INTERNATIONAL PRICES FOR OILCROP PRODUCTS

|                   | International prices <sup>1</sup> |                          |                       |                           |                            | FAO indices                 |                |                    |
|-------------------|-----------------------------------|--------------------------|-----------------------|---------------------------|----------------------------|-----------------------------|----------------|--------------------|
| Period            | Soybeans <sup>2</sup>             | Soybean oil <sup>3</sup> | Palm oil <sup>4</sup> | Soybean cake <sup>5</sup> | Rapeseed meal <sup>6</sup> | Oilseeds                    | Vegetable oils | Oilcakes/<br>meals |
|                   | ..... (USD per tonne) .....       |                          |                       |                           |                            | ..... (2002-2004=100) ..... |                |                    |
| Annual (Oct/Sept) |                                   |                          |                       |                           |                            |                             |                |                    |
| 2005/06           | 259                               | 572                      | 451                   | 202                       | 130                        | 100                         | 107            | 96                 |
| 2006/07           | 335                               | 772                      | 684                   | 264                       | 184                        | 129                         | 150            | 128                |
| 2007/08           | 549                               | 1325                     | 1050                  | 445                       | 296                        | 216                         | 246            | 214                |
| 2008/09           | 422                               | 826                      | 627                   | 385                       | 196                        | 157                         | 146            | 179                |
| 2009/10           | 429                               | 924                      | 806                   | 388                       | 220                        | 162                         | 177            | 183                |
| 2010/11           | 549                               | 1308                     | 1147                  | 418                       | 279                        | 214                         | 259            | 200                |
| 2011/12           | 562                               | 1235                     | 1051                  | 461                       | 295                        | 214                         | 232            | 219                |
| 2012/13           | 563                               | 1099                     | 835                   | 539                       | 345                        | 213                         | 193            | 255                |
| 2013/14           | 521                               | 949                      | 867                   | 534                       | 324                        | 194                         | 189            | 253                |
| 2014/15           | 407                               | 777                      | 658                   | 406                       | 270                        | 155                         | 153            | 194                |
| Monthly           |                                   |                          |                       |                           |                            |                             |                |                    |
| 2014 - October    | 430                               | 835                      | 724                   | 463                       | 258                        | 161                         | 164            | 218                |
| 2014 - November   | 447                               | 827                      | 728                   | 485                       | 265                        | 167                         | 165            | 228                |
| 2014 - December   | 446                               | 816                      | 694                   | 449                       | 278                        | 168                         | 161            | 213                |
| 2015 - January    | 421                               | 789                      | 681                   | 431                       | 279                        | 159                         | 156            | 206                |
| 2015 - February   | 407                               | 775                      | 693                   | 412                       | 273                        | 154                         | 157            | 197                |
| 2015 - March      | 402                               | 748                      | 673                   | 392                       | 262                        | 152                         | 152            | 188                |
| 2015 - April      | 396                               | 753                      | 657                   | 380                       | 263                        | 151                         | 150            | 183                |
| 2015 - May        | 385                               | 781                      | 663                   | 371                       | 290                        | 148                         | 154            | 180                |
| 2015 - June       | 397                               | 800                      | 670                   | 372                       | 282                        | 152                         | 156            | 180                |
| 2015 - July       | 413                               | 746                      | 635                   | 389                       | 264                        | 157                         | 148            | 186                |
| 2015 - August     | 375                               | 729                      | 544                   | 371                       | 270                        | 144                         | 135            | 179                |
| 2015 - September  | 367                               | 725                      | 533                   | 362                       | 256                        | 142                         | 134            | 174                |

<sup>1</sup> Spot prices for nearest forward shipment

<sup>2</sup> Soybeans: US, No.2 yellow, c.i.f. Rotterdam.

<sup>3</sup> Soybean oil: Dutch, fob ex-mill.

<sup>4</sup> Palm oil: Crude, c.i.f. Northwest Europe.

<sup>5</sup> Soybean cake: Pellets, 44/45 percent, Argentina, c.i.f. Rotterdam.

<sup>6</sup> Rapeseed meal: 34 percent, Hamburg, f.o.b. ex-mill.

### Notes:

- The sudden drop in the FAO price index for oilseeds in March 2014 is due to a structural break in the underlying price series for soybeans (US no.2 yellow, c.i.f. Rotterdam), the component with the highest weight. A look at alternative reference prices for soybeans reveals that, during March and April 2014, international soybean values have actually appreciated further rather than falling. For a detailed explanation of the anomalous trend in the soybean reference price, please refer to issue no. 58 of the Oilcrops Monthly Price and Policy Update (MPPU), which can be downloaded through the following link.  
[http://www.fao.org/fileadmin/templates/est/COMM\\_MARKETS\\_MONITORING/Oilcrops/Documents/MPPU\\_April\\_14.pdf](http://www.fao.org/fileadmin/templates/est/COMM_MARKETS_MONITORING/Oilcrops/Documents/MPPU_April_14.pdf)
- The FAO indices are based on the international prices of five selected seeds, ten selected oils and five selected cakes and meals.

Sources: FAO and Oil World.

## APPENDIX TABLE 24: SELECTED INTERNATIONAL PRICES FOR MILK PRODUCTS AND DAIRY PRICE INDEX

| Period                  | International prices       |                               |                                |                             | FAO dairy price index   |
|-------------------------|----------------------------|-------------------------------|--------------------------------|-----------------------------|-------------------------|
|                         | Butter <sup>1</sup>        | Skim milk powder <sup>2</sup> | Whole milk powder <sup>3</sup> | Cheddar cheese <sup>4</sup> |                         |
| <b>Annual (Jan/Dec)</b> | .....(USD per tonne) ..... |                               |                                |                             | ... (2002-2004=100) ... |
| 2007                    | 3 337                      | 4 336                         | 4 354                          | 4 055                       | 220                     |
| 2008                    | 3 701                      | 3 251                         | 3 891                          | 4 633                       | 223                     |
| 2009                    | 2 736                      | 2 332                         | 2 556                          | 2 957                       | 150                     |
| 2010                    | 4 270                      | 3 081                         | 3 514                          | 4 010                       | 207                     |
| 2011                    | 4 876                      | 3 556                         | 4 018                          | 4 310                       | 230                     |
| 2012                    | 3 547                      | 3 119                         | 3 358                          | 3 821                       | 194                     |
| 2013                    | 4 484                      | 4 293                         | 4 745                          | 4 402                       | 243                     |
| 2014                    | 4 010                      | 3 647                         | 3 868                          | 4 456                       | 224                     |
| <b>Monthly</b>          |                            |                               |                                |                             |                         |
| 2014 - September        | 3 301                      | 2 775                         | 2 963                          | 3 975                       | 188                     |
| 2014 - October          | 3 204                      | 2 657                         | 2 822                          | 3 975                       | 184                     |
| 2014 - November         | 3 195                      | 2 469                         | 2 696                          | 3 850                       | 178                     |
| 2014 - December         | 3 348                      | 2 359                         | 2 576                          | 3 725                       | 174                     |
| 2015 - January          | 3 446                      | 2 304                         | 2 573                          | 3 700                       | 174                     |
| 2015 - February         | 3 695                      | 2 512                         | 2 913                          | 3 700                       | 182                     |
| 2015 - March            | 3 773                      | 2 687                         | 3 226                          | 3 588                       | 185                     |
| 2015 - April            | 3 408                      | 2 414                         | 2 780                          | 3 525                       | 172                     |
| 2014 - May              | 3 291                      | 2 215                         | 2 637                          | 3 500                       | 167                     |
| 2015 - June             | 3 138                      | 2 032                         | 2 455                          | 3 425                       | 161                     |
| 2015 - July             | 3 000                      | 1 860                         | 2 164                          | 3 213                       | 149                     |
| 2015 - August           | 2 757                      | 1 628                         | 1 912                          | 2 956                       | 136                     |
| 2015 - September        | 2 882                      | 1 838                         | 2 148                          | 3 000                       | 142                     |

<sup>1</sup> Butter, 82% butterfat, f.o.b. Oceania and EU; average indicative traded prices

<sup>2</sup> Skim Milk Powder, 26% butterfat, f.o.b. Oceania and EU, average indicative traded prices

<sup>3</sup> Whole Milk Powder, 1.25% butterfat, f.o.b. Oceania and EU, average indicative traded prices

<sup>4</sup> Cheddar Cheese, 39% max. moisture, f.o.b. Oceania, indicative traded prices

Note: The FAO Dairy Price Index is derived from a trade-weighted average of a selection of representative internationally-traded dairy products

Sources: FAO for indices. Product prices: Mid-point of price ranges reported by Dairy Market News (USDA)

## APPENDIX TABLE 25: SELECTED INTERNATIONAL MEAT PRICES

| Period                  | Bovine meat prices     |               |        | Ovine meat price | Pig meat prices |        |         | Poultry meat prices |        |
|-------------------------|------------------------|---------------|--------|------------------|-----------------|--------|---------|---------------------|--------|
|                         | Australia              | United States | Brazil | New Zealand      | United States   | Brazil | Germany | United States       | Brazil |
| <b>Annual (Jan/Dec)</b> | <i>(USD per tonne)</i> |               |        |                  |                 |        |         |                     |        |
| 2007                    | 2 544                  | 4 023         | 2 367  | 2 498            | 2 117           | 2 200  | 1 907   | 935                 | 1 443  |
| 2008                    | 3 024                  | 4 325         | 3 785  | 2 975            | 2 270           | 3 000  | 2 364   | 997                 | 1 896  |
| 2009                    | 2 562                  | 3 897         | 3 118  | 3 495            | 2 202           | 2 223  | 2 035   | 989                 | 1 552  |
| 2010                    | 3 272                  | 4 378         | 3 919  | 3 662            | 2 454           | 2 747  | 1 913   | 1 032               | 1 781  |
| 2011                    | 3 944                  | 4 516         | 4 816  | 5 370            | 2 648           | 3 023  | 2 169   | 1 147               | 2 083  |
| 2012                    | 4 176                  | 4 913         | 4 492  | 4 754            | 2 676           | 2 784  | 2 233   | 1 228               | 1 931  |
| 2013                    | 4 009                  | 5 535         | 4 326  | 4 130            | 2 717           | 2 872  | 2 311   | 1 229               | 2 014  |
| 2014                    | 5 016                  | 6 678         | 4 515  | 4 687            | 3 183           | 3 434  | 2 106   | 1 206               | 1 940  |
| <b>Monthly</b>          |                        |               |        |                  |                 |        |         |                     |        |
| 2014 - September        | 6 168                  | 7 049         | 4 629  | 4 679            | 3 442           | 4 000  | 2 047   | 1 233               | 1 962  |
| 2014 - October          | 6 014                  | 7 378         | 4 773  | 4 718            | 3 260           | 4 225  | 1 824   | 1 242               | 2 006  |
| 2014 - November         | 5 900                  | 7 528         | 4 627  | 4 792            | 3 281           | 3 699  | 1 784   | 1 228               | 1 969  |
| 2014 - December         | 5 352                  | 7 655         | 4 544  | 4 447            | 3 327           | 2 939  | 1 670   | 1 195               | 1 873  |
| 2015 - January          | 5 062                  | 7 161         | 4 186  | 3 882            | 3 147           | 2 727  | 1 535   | 1 173               | 1 743  |
| 2015 - February         | 4 572                  | 6 903         | 4 087  | 3 741            | 3 008           | 2 632  | 1 638   | 1 127               | 1 672  |
| 2015 - March            | 4 661                  | 6 506         | 3 928  | 3 661            | 2 739           | 2 484  | 1 576   | 1 080               | 1 631  |
| 2015 - April            | 5 014                  | 6 302         | 3 965  | 3 693            | 2 535           | 2 402  | 1 618   | 1 056               | 1 652  |
| 2015 - May              | 4 772                  | 6 527         | 3 910  | 3 600            | 2 610           | 2 612  | 1 629   | 1 055               | 1 740  |
| 2015 - June             | 4 575                  | 5 961         | 4 247  | 3 418            | 2 494           | 2 745  | 1 682   | 991                 | 1 721  |
| 2015 - July             | 5 155                  | 6 208         | 4 454  | 3 382            | 2 437           | 2 739  | 1 584   | 971                 | 1 704  |
| 2015 - August           | 5 107                  | 6 265         | 4 322  | 3 502            | 2 440           | 2 530  | 1 581   | 968                 | 1 685  |
| 2015 - September        | 4 943                  | 6 260         | 4 260  | 3 626            | 2 430           | 2 450  | 1 691   | 962                 | 1 655  |

**Bovine meat prices:****Australia:** Cow 90CL export prices to the USA (FAS)**USA:** Frozen beef, export unit value**Brazil:** Frozen beef, export unit value**Ovine meat prices****New Zealand:** Lamb 17.5kg cwt, export price**Pig meat prices:****USA:** Frozen pigmeat, export unit value**Brazil:** Frozen pigmeat, export unit value**Germany:** Monthly market price for pig carcase grade E**Poultry meat prices:****USA:** Broiler cuts, export unit value**Brazil:** Export unit value for chicken (f.o.b.)

Prices for the two most recent months may be estimates and subject to revision.

## APPENDIX TABLE 26: SELECTED INTERNATIONAL MEAT PRICES AND FAO MEAT PRICE INDICES

FAO indices

| Period                  | Total meat                  | Bovine meat | Ovine meat | Pig meat | Poultry meat |
|-------------------------|-----------------------------|-------------|------------|----------|--------------|
| <b>Annual (Jan/Dec)</b> | ..... (2002-2004=100) ..... |             |            |          |              |
| 2007                    | 131                         | 126         | 108        | 125      | 151          |
| 2008                    | 161                         | 158         | 128        | 152      | 184          |
| 2009                    | 141                         | 135         | 151        | 131      | 162          |
| 2010                    | 158                         | 165         | 158        | 138      | 179          |
| 2011                    | 183                         | 191         | 232        | 153      | 206          |
| 2012                    | 182                         | 195         | 205        | 153      | 201          |
| 2013                    | 184                         | 197         | 178        | 157      | 206          |
| 2014                    | 198                         | 231         | 202        | 164      | 200          |
| <b>Monthly</b>          |                             |             |            |          |              |
| 2014 - September        | 211                         | 257         | 202        | 173      | 203          |
| 2014 - October          | 210                         | 260         | 204        | 165      | 207          |
| 2014 - November         | 206                         | 258         | 207        | 158      | 203          |
| 2014 - December         | 196                         | 249         | 192        | 147      | 195          |
| 2015 - January          | 183                         | 233         | 168        | 137      | 185          |
| 2015 - February         | 177                         | 220         | 162        | 137      | 178          |
| 2015 - March            | 170                         | 214         | 158        | 128      | 172          |
| 2015 - April            | 171                         | 218         | 159        | 125      | 172          |
| 2015 - May              | 173                         | 216         | 155        | 129      | 178          |
| 2015 - June             | 169                         | 211         | 148        | 131      | 173          |
| 2015 - July             | 173                         | 227         | 146        | 126      | 170          |
| 2015 - August           | 171                         | 225         | 151        | 124      | 169          |
| 2015 - September        | 171                         | 221         | 157        | 126      | 167          |

The FAO Meat Price Indices consist of 2 poultry meat product quotations (the average weighted by assumed fixed trade weights), 3 bovine meat product quotations (average weighted by assumed fixed trade weights), 3 pig meat product quotations (average weighted by assumed fixed trade weights), 1 ovine meat product quotation (average weighted by assumed fixed trade weights): the four meat group average prices are weighted by world average export trade shares for 2002/2004.

Prices for the two most recent months may be estimates and subject to revision.

## APPENDIX TABLE 27: FISH PRICE INDICES

| Period                  | Total                       | Aquaculture | Capture | White fish | Salmon | Shrimp | Pelagic<br>excl. tuna | Tuna | Other fish |
|-------------------------|-----------------------------|-------------|---------|------------|--------|--------|-----------------------|------|------------|
| <b>Annual (Jan/Dec)</b> | ..... (2002-2004=100) ..... |             |         |            |        |        |                       |      |            |
| 2006                    | 117                         | 114         | 119     | 128        | 144    | 100    | 124                   | 118  | 120        |
| 2007                    | 124                         | 115         | 132     | 139        | 147    | 102    | 130                   | 135  | 126        |
| 2008                    | 136                         | 120         | 148     | 151        | 151    | 109    | 148                   | 162  | 133        |
| 2009                    | 126                         | 119         | 131     | 132        | 159    | 98     | 140                   | 147  | 128        |
| 2010                    | 137                         | 137         | 136     | 138        | 187    | 109    | 144                   | 146  | 146        |
| 2011                    | 154                         | 149         | 157     | 151        | 195    | 124    | 173                   | 175  | 166        |
| 2012                    | 144                         | 124         | 157     | 145        | 146    | 107    | 207                   | 195  | 176        |
| 2013                    | 148                         | 141         | 151     | 134        | 157    | 126    | 215                   | 190  | 175        |
| 2014                    | 157                         | 158         | 153     | 142        | 159    | 148    | 210                   | 175  | 185        |
| <b>Monthly</b>          |                             |             |         |            |        |        |                       |      |            |
| 2014 - June             | 150                         | 150         | 145     | 143        | 153    | 133    | 170                   | 174  | 156        |
| 2014 - July             | 149                         | 148         | 150     | 145        | 156    | 133    | 213                   | 172  | 173        |
| 2014 - August           | 152                         | 150         | 153     | 145        | 146    | 139    | 256                   | 170  | 198        |
| 2014 - September        | 157                         | 153         | 160     | 142        | 143    | 151    | 214                   | 187  | 195        |
| 2014 - October          | 158                         | 157         | 159     | 146        | 143    | 157    | 236                   | 174  | 201        |
| 2014 - November         | 158                         | 158         | 158     | 153        | 149    | 158    | 196                   | 171  | 186        |
| 2014 - December         | 156                         | 156         | 156     | 150        | 155    | 149    | 222                   | 164  | 196        |
| 2015 - January          | 150                         | 149         | 151     | 143        | 143    | 139    | 244                   | 159  | 198        |
| 2015 - February         | 146                         | 146         | 146     | 139        | 139    | 132    | 241                   | 153  | 208        |
| 2015 - March            | 143                         | 141         | 145     | 139        | 135    | 128    | 234                   | 150  | 196        |
| 2015 - April            | 143                         | 137         | 149     | 141        | 133    | 125    | 240                   | 150  | 208        |
| 2015 - May              | 145                         | 145         | 146     | 141        | 135    | 132    | 232                   | 148  | 208        |
| 2015 - June             | 144                         | 140         | 147     | 142        | 137    | 129    | 207                   | 152  | 202        |

Source= Norwegian Seafood Council (NSC).

Note: The FAO Fish Price Index is based on nominal import values expressed in CIF in the three major import markets; Japan, USA and EU. Separate indexes exist for products from aquaculture and from capture fisheries. Additional sub-indexes exist for the major commodity groups based on species.

## APPENDIX TABLE 28: SELECTED INTERNATIONAL COMMODITY PRICES

|                                     | Currency and unit | Effective date | Latest quotation | One month ago | One year ago | Average<br>2010-2014 |
|-------------------------------------|-------------------|----------------|------------------|---------------|--------------|----------------------|
| Sugar (ISA daily price)             | US cents per lb   | 01-10-15       | 13.08            | 11.47         | 16.36        | 20.03                |
| Coffee (ICO daily price)            | US cents per lb   | 01-10-15       | 114.80           | 114.34        | 161.79       | 157.75               |
| Cocoa (ICCO daily price)            | US cents per lb   | 01-10-15       | 143.45           | 144.44        | 146.09       | 127.08               |
| Tea (FAO Tea Composite Price)       | USD per kg        | 31-08-15       | 2.81             | 2.90          | 2.71         | 2.79                 |
| Cotton (COTLOOK A index)            | US cents per lb   | 31-08-15       | 71.82            | 72.35         | 74.00        | 104.18               |
| Jute "BTD"<br>(Fob Bangladesh Port) | USD per tonne     | 31-08-15       | 680.00           | 660.00        | 600.00       | 650.71               |

# MARKET INDICATORS



# Futures markets

Futures prices for wheat, maize and soybeans were mostly stable and, with few exceptions, lower than the levels exhibited over the past three years. Wheat prices were weighed by an adequate supply situation and aggressive export marketing from other origins, which led the USDA to raise ending wheat stocks for the 2015/2016 season to the highest level since 2009/2010. Maize and soybeans reacted mostly to favourable growing conditions in the US, even though maize yields were slightly lower than last year's record levels. Soybeans saw additional pressure from the economic slowdown in China, the world's largest soybean importer. All three commodities stayed on the defensive due to a strong USD and overall slump in commodity prices, particularly crude oil.

## VOLUMES

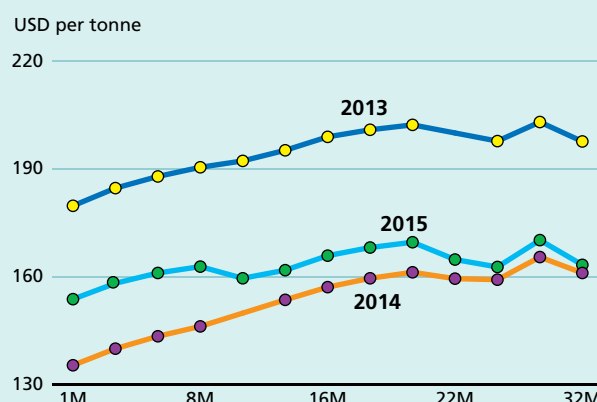
Trade volumes for wheat, maize and soybeans were higher for all three commodities year-on-year. All-time record monthly volumes were traded in June, as rainy weather caused short-term concern for the wheat harvest and the maize and soybeans crop prospects. However, the number of outstanding contracts (open interest) declined during June by about 10 percent for all three commodities, meaning that this high volume reflected the exiting of positions rather than hedging or heightened directional betting.

## VOLATILITY

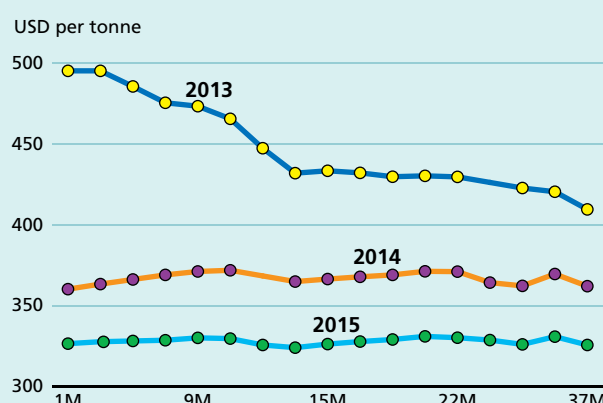
Volatility levels were mixed across wheat, maize and soybeans. Historical volatility (based on 30 days) was higher for wheat and maize but lower for soybeans year-on-year. Implied volatility – calculated by the level of option premiums on underlying futures contracts – was higher for all three commodities, even though actual price levels did not exhibit large variances over the past six months. In maize, for example, average monthly prices stayed in the USD 140 per tonne range from April through September except for the month of July when prices rose to USD 160 per tonne. By comparison, the maize price for April through September period in 2014 fell from USD 198 to USD 132 per tonne. Wheat and soybean prices exhibited similar low levels of price variance for this period relative to previous years. The slightly higher implied volatility levels may have reflected uncertainty in exogenous factors in other markets such as currencies, equities and global growth.

Forward curves snapshots as of  
September 2013, 2014, 2015

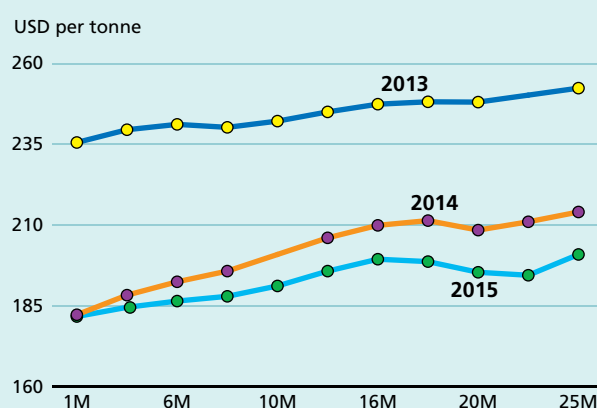
### Maize



### Soybeans



### Wheat



## FORWARD CURVES

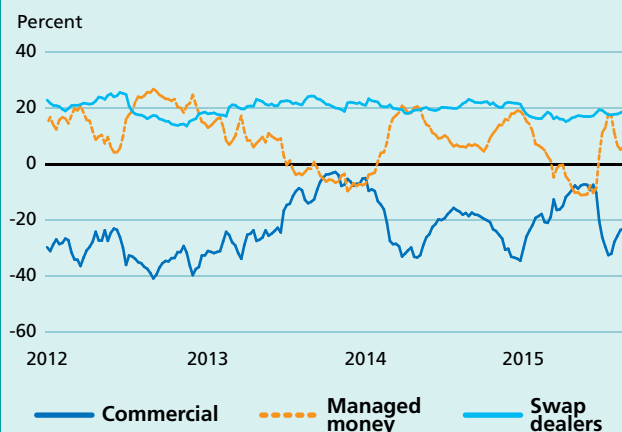
Forward curves displayed mostly upward sloping (contango) price configurations for wheat, maize and soybeans during the past six months, indicating ample supply situations for the three commodities. Forward curves show the least inclined slope in soybeans, reflecting the lower projected stocks-to-use ratio for soybeans compared to maize and wheat. Wheat, although in contango, displayed a tendency of narrowing spreads during the delivery period, as flour mills paid premiums to futures for good quality wheat, thereby causing the nearby month to gain on deferred months.

## INVESTMENT FLOWS

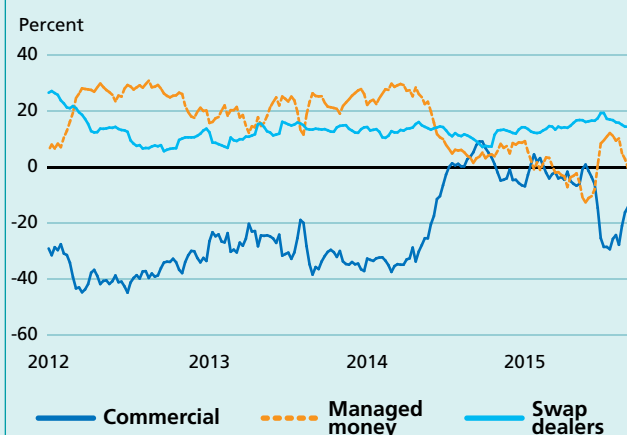
Managed money applied both buying and selling strategies in wheat and soybeans, alternating between short and long positions during the past six months, despite somewhat lackluster price movements. Managed money maintained a constant long position in maize although at small levels relative to open interest. Commercial commodity funds were hit by customer outflows during the first half of 2015, which marked the fourth year of these outflows. Cargill disclosed that it closed its Black River Asset Management Fund, and Armajaro announced that it would also close its USD 450 million commodity fund. Notional levels, i.e. the total USD funds invested in passive commodity instruments such as index funds or exchange traded funds (ETFs), declined over the last six months, hitting the lowest levels since December 2009. Commodities in general fell into disfavour, as most sectors experienced declines stemming from a slowdown in global trade and a strong US dollar. Reuters reported that its Core Commodity Index, consisting of 19 commodities, hit a 12-year low in August 2015.

CME net-length as % of open interests  
(January 2012 - September 2015)

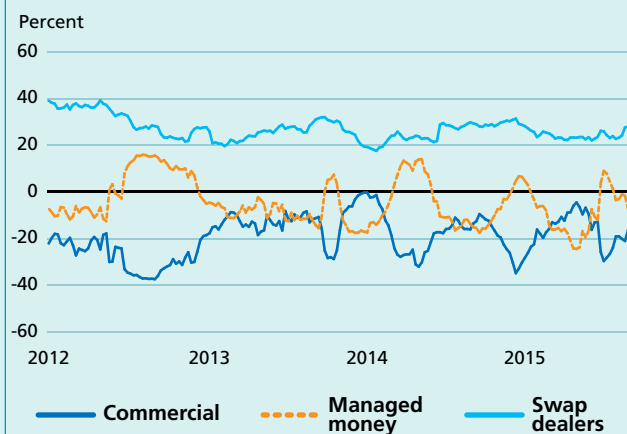
### Maize



### Soybeans

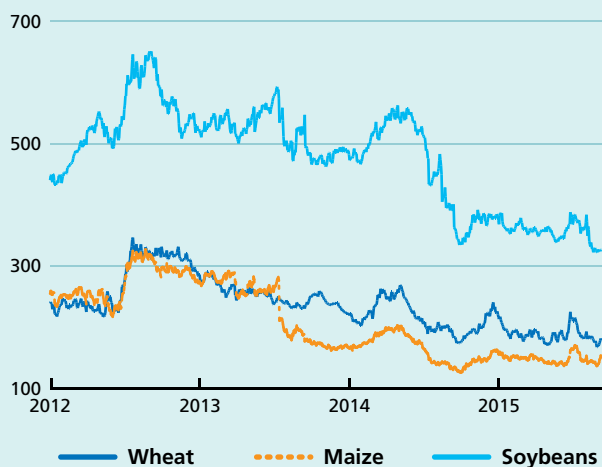


### Wheat



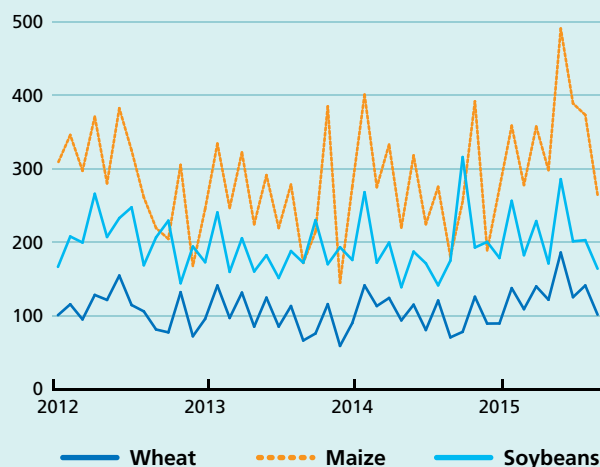
## CME futures prices

USD per tonne



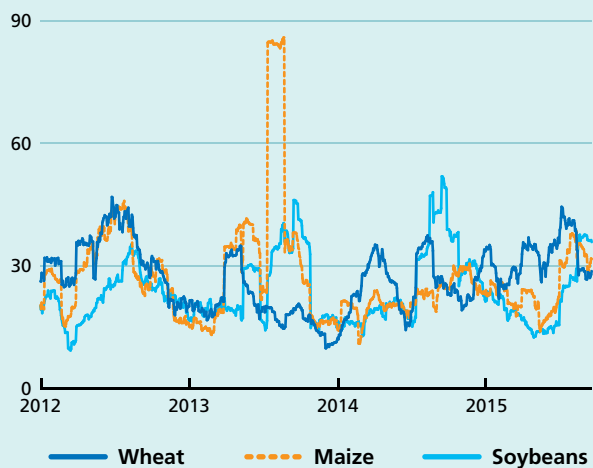
## CME futures volumes

Thousand contracts



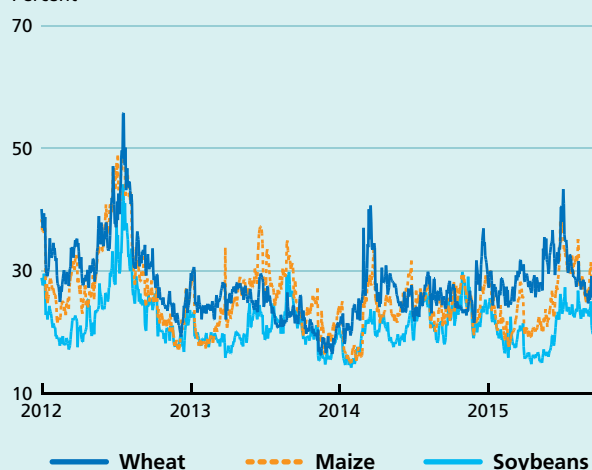
## Historical volatility (30 days)

Percent



## Implied volatility

Percent



# Ocean freight rates

Contributed by the International Grains Council (IGC) [www.igc.int](http://www.igc.int)

## OCEAN FREIGHT MARKET (APRIL - MID-SEPTEMBER 2015)

Dry bulk ocean freight rates remained volatile over the past six months. Weak demand for commodities and surplus tonnage, notably on routes across the Atlantic and to Far East Asia, kept rates under pressure in April/May. The supply of newly-built vessels outpaced the volume of demolition. However, June saw a sharp increase in rates in all market sectors, notably for larger ships, on the back of improved demand for grains and raw materials, with the Baltic Dry Index (BDI), advancing by 42 percent m/m (month-on-month). Tight supply of vessels in prompt positions and healthy demand for grains and soyabeans underpinned the market through July and first half of August. Congestion in Brazil's ports and draught restrictions in the Panama Canal were also supportive. However, concerns over China's economic growth and a slowdown in its mineral demand led to a sharp fall in Capesize and Panamax values during the second half of August and beginning of September. Overall, since the beginning of April 2015, the average of the Baltic Indices of the three grains-carrying sectors increased by 20 percent, while the Baltic Dry Index, which, in addition to grains, includes the Capesize sector, gained 35 percent. Compared

with a year ago, however, both values were lower, by 17 percent and 32 percent, respectively.

In the **Panamax** sector, weak demand and surplus tonnage weighed on rates for shipments across the Atlantic and from South America in April/May. However, in June, a shortage of tonnage in nearby positions and solid demand for grains and soyabeans lifted Atlantic Panamax rates, particularly on routes from the US Gulf, South America and Europe. Ballasters from the Indian Ocean into a more lucrative Atlantic market helped to improve earnings in the Pacific. The firm trend continued in July/August, underpinned by good demand for grains and soyabeans. In September, though, Atlantic rates retreated on routes to Far East Asia and across the Atlantic on limited grains trading and a build-up of available tonnage, as well as weaker demand for minerals. Overall, from early April to mid-September, the Baltic Panamax Index (BPI) increased by 21 percent.

A similar picture was observed in the **Supramax** sector: after some weakness in April/May, rates in June were boosted by increased grains chartering activity, notably on routes to Far East Asia and across the Atlantic. South America, the US Gulf the Black Sea remained the major loading areas. In July/August, rates continued to rise on transatlantic routes due to tightness of early tonnage. Rates in the Pacific were supported by mineral business from

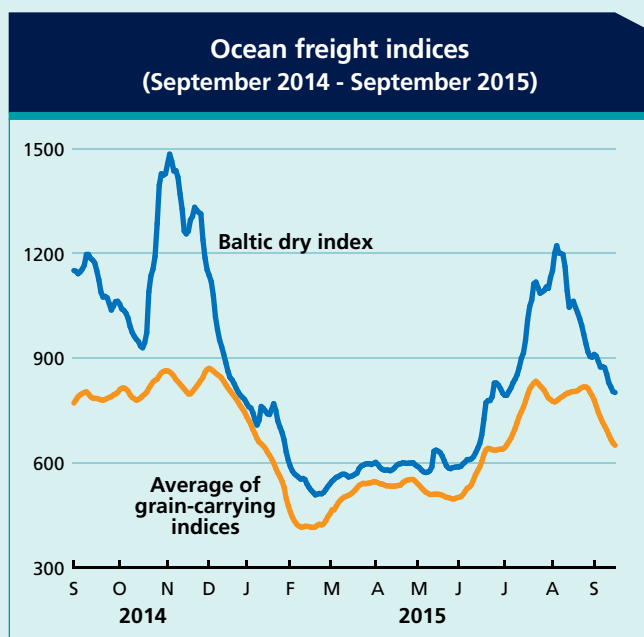
Selected routes (monthly averages) USD/tonne

|                | Brazil/EU ARAH | US Gulf/EU ARAH | US Gulf/Japan | US Gulf/S. Korea |
|----------------|----------------|-----------------|---------------|------------------|
| Vessel size    | Handysize      | Panamax         | Panamax       | Panamax          |
| Origin         | Brazil         | US (Gulf)       | US (Gulf)     | US (Gulf)        |
| Destination    | EU (ARAH)      | EU (ARAH)       | Japan         | South Korea      |
| September 2014 | 29             | 17              | 44            | 45               |
| October 2014   | 28             | 17              | 43            | 44               |
| November 2014  | 26             | 14              | 40            | 41               |
| December 2014  | 27             | 15              | 40            | 41               |
| January 2015   | 25             | 12              | 34            | 35               |
| February 2015  | 20             | 9               | 26            | 27               |
| March 2015     | 21             | 10              | 29            | 30               |
| April 2015     | 23             | 11              | 30            | 31               |
| May 2015       | 22             | 10              | 28            | 29               |
| June 2015      | 23             | 13              | 31            | 32               |
| July 2015      | 26             | 15              | 33            | 34               |
| August 2015    | 29             | 19              | 37            | 38               |
| September 2015 | 27             | 13              | 31            | 32               |

Indonesia and the Philippines, mostly to China. However, in September, Atlantic Supramax values came under significant pressure from poor demand and an oversupply of tonnage, exacerbated by ballast from the Pacific. Altogether, over the period April/mid-September, the Baltic Supramax Index (BSI) advanced by 22 percent.

**Handysize** rates were steady-to-firmer over the past six months, underpinned by grains shipments from South America and Europe, with the Baltic Handysize Index (BHSI) gaining 14 percent.

The **Capesize** market, which solely depends on demand for raw materials, remained very volatile. Through the summer months, China's resumed demand for iron ore boosted rates, notably on routes from Brazil and Australia. Overall, since the beginning of April, the Baltic Capesize Index (BCI) surged by 158 percent, despite a sharp fall in August, attributed to concerns about China's economic growth and its reduced demand for minerals.

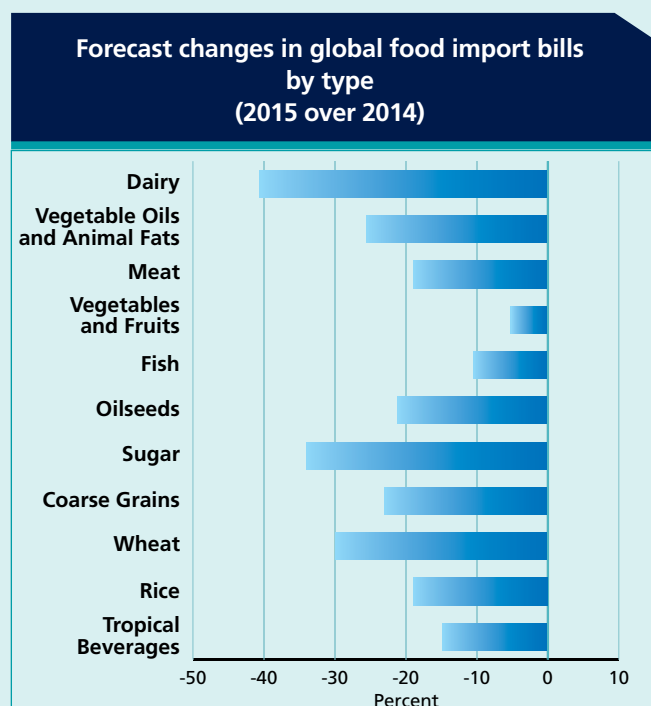


## Food import bills

*Contributed by Adam Prakash, Economist, FAO*

### Global food import bills set to plummet in 2015

The global value of imported foodstuffs is forecast to drop to a 5-year low in 2015. At USD 1.09 trillion, the world bill would be almost 20 percent, or USD 262 billion, below the revised level for 2014, which had reached a record high of USD 1.35 trillion.



Several factors have contributed to bringing the cost of importing food sharply down in 2015. First and foremost, international prices for many commodities have declined substantially, bringing unit costs down. Freight rates, which are expected to remain below last year's levels in spite of their rising in recent weeks, are also likely to contribute to a year-on-year decline in costs. In addition, the abundance of supply for many commodities in major importing countries has lowered international demand. Imports have also been deterred by weakening currencies against the US dollar.

The global commodity import bills set to undergo the largest absolute declines in 2015 are those for cereal-based foodstuffs and dairy products, which are likely to fall by around USD 44 billion (24 percent) and USD 40 billion (40 percent), respectively. Considerably lower quotations compared with last year, especially in the case of dairy, are driving bills of these food groups down, compounded by contractions in global imports. The annual decline in world expenditures on imported meat, at USD 29 billion or 19 percent, is also noteworthy, driven again by the combination of lower unit costs and smaller volumes. The global sugar bill could fall to a 9-year low of USD 33 billion, a sizeable contraction is also expected in the cost of importing vegetable oils, mostly due to lower quotations.

While the bills of all foodstuffs look set to fall in 2015, global import costs of fish, vegetables and fruit, and tropical beverages are showing some resilience. Exporters

## Import bills of total food and major foodstuffs (USD billion)

|                                | World        |                | Developed  |                | Developing |                | LDC       |                | LIFDC     |                | Sub-Saharan Africa |                |
|--------------------------------|--------------|----------------|------------|----------------|------------|----------------|-----------|----------------|-----------|----------------|--------------------|----------------|
|                                | 2014         | 2015<br>f'cast | 2014       | 2015<br>f'cast | 2014       | 2015<br>f'cast | 2014      | 2015<br>f'cast | 2014      | 2015<br>f'cast | 2014               | 2015<br>f'cast |
| <b>TOTAL FOOD</b>              | <b>1 346</b> | <b>1 085</b>   | <b>797</b> | <b>654</b>     | <b>549</b> | <b>431</b>     | <b>42</b> | <b>32</b>      | <b>86</b> | <b>67</b>      | <b>47</b>          | <b>37</b>      |
| Vegetables and Fruits          | 235          | 224            | 168        | 160            | 67         | 64             | 4         | 4              | 11        | 10             | 4                  | 4              |
| Cereals                        | 178          | 135            | 80         | 62             | 99         | 73             | 12        | 9              | 20        | 16             | 14                 | 11             |
| Fish                           | 145          | 130            | 98         | 92             | 47         | 38             | 1         | 1              | 4         | 3              | 4                  | 3              |
| Meat                           | 177          | 144            | 116        | 94             | 62         | 50             | 3         | 3              | 4         | 4              | 4                  | 3              |
| Dairy                          | 100          | 59             | 61         | 36             | 39         | 23             | 2         | 2              | 5         | 3              | 3                  | 2              |
| Vegetable Oils and Animal Fats | 99           | 74             | 43         | 32             | 55         | 42             | 6         | 5              | 19        | 14             | 6                  | 4              |
| Oilseeds                       | 86           | 68             | 26         | 19             | 60         | 49             | 1         | 1              | 2         | 2              | 1                  | 1              |
| Sugar                          | 50           | 33             | 26         | 17             | 24         | 16             | 4         | 3              | 7         | 4              | 4                  | 3              |
| Tropical beverages             | 109          | 93             | 82         | 70             | 27         | 23             | 2         | 2              | 4         | 4              | 2                  | 2              |

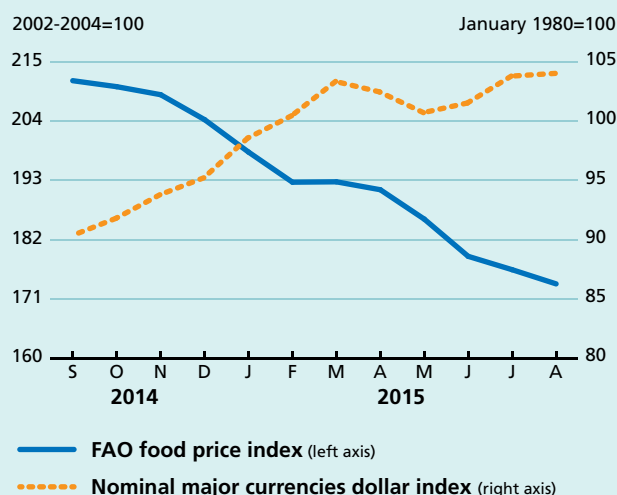
of these have keenly met sustained global demand, facilitated by the weakness of their own currencies vis-a-vis the US dollar.

The propensity at the world level for substantially lower import bills in 2015 will benefit many of the most economically vulnerable nations, such as those in the groups of Least Developed Countries (LDCs) Low-Income Food-Deficit Countries (LIFDCs), and those geographically situated in sub-Saharan Africa. Indeed, their food import bills appear set to decline by more than the global average, with falls ranging between 22 and 23 percent among these groups.

As for LDCs, lower bills will not necessarily come at the expense of volumes, as imported food quantities could rise above the previous year's levels, in contrast to the global trend. This is because shortfalls in the production of staples in many of these economically disadvantaged countries have led them to rely more on the global marketplace to meet domestic needs. But this brings with it a severe burden on foreign exchange reserves, especially when international purchases are required to be paid in US dollars. Although the strong US dollar is generally beneficial to net merchandise exporters, who can pay for food imports, it can prove onerous to many of the most vulnerable countries which are net importers of necessities, notably of foodstuffs.

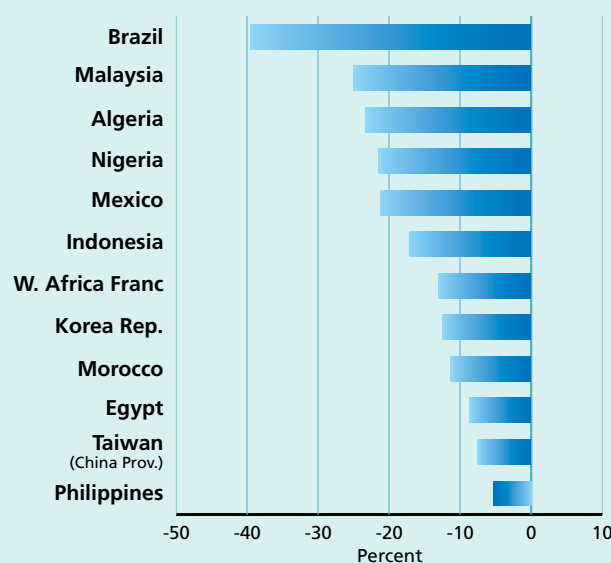
## Strengthening USD and falling food prices

The US Dollar continues to rise uninterrupted against major currencies, reaching a 13-year high in August of this year. All things being equal, a strong dollar tends to lower international demand and with it commodity prices as most are US Dollar-denominated. Gains to importing countries will be influenced by the degree to which their currencies have withstood depreciation. As for exporters, benefits will tend to accrue if local currencies fall more than international quotations.



## % changes in the currencies of major importers against the USD (Sept 2014 - Sept 2015)

The graph below shows the extent of currency movements against the dollar over the past 12 months for major international buyers of foodstuffs. The sheer size of the falls is of concern as many of them are net importers of commodities.



# FAO price indices<sup>1</sup>

## The FAO Global Food Consumption Price Index down 15 percent since January<sup>2</sup>

The **FAO Global Food Consumption Price Index** tracks changes in the cost of the global food basket as depicted by the latest FAO world food balance sheet (see <http://faostat3.fao.org/download/FB/FBS/E>).

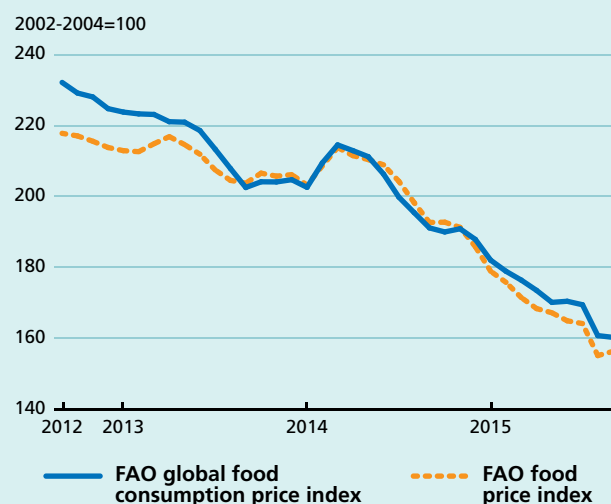
The index has fallen almost uninterruptedly over the past 18 months, losing considerable further ground since the last Food Outlook report. From May 2015 to September 2015, the index has lost around 6 percent of its value. The overall decline, however, is less pronounced when compared with the trade-weighted **FAO Food Price Index (FPI)**. This is because international prices of foodstuffs that carry a much higher weight in trade than in typical consumption have fallen at a much greater pace (notably livestock products and especially dairy).

## The FAO Food Price Index up in September, but just by one point<sup>3</sup>

The **FAO Food Price Index** averaged 156.3 points in September 2015, up one point from its sharply reduced August value, but still 18.9 percent less than one year ago. The quotations of sugar and dairy products firmed last month, while those of the other commodities remained close to, or slightly below, their respective August levels.

The **FAO Cereal Price Index** averaged 154.8 points in September, nearly unchanged from August and 13.1 percent down year-on-year. International cereal prices have been under downward pressure since the beginning of 2015, amid large inventories and generally good crop prospects. Wheat is now over 20 percent cheaper than in September last year, following this season's record production. Influenced by an expected decline in world maize production, coarse grains quotations have been more resilient, subsiding only 1.4 percent compared to September 2014. Despite prospects of crop shortfalls, rice quotations have continued to slide, albeit by only 1.7 percent in September, extending the declining trend to a thirtieth consecutive month.

The FAO global food consumption and food price indices  
(September 2012 - September 2015)



The **FAO Vegetable Oil Price Index** averaged 134.2 points in September, marginally below the previous month (0.5 percent) but the lowest level since March 2009. The September fall was mainly driven by lower palm oil quotations, reflecting abundant export availabilities, especially in Malaysia where a weak currency is sustaining exports. International soy oil prices also declined, on ample supplies in South America and a favourable 2015/16 global production outlook. Meanwhile, prices of rape and sunflowerseed oils increased somewhat on concerns about lower than anticipated global availabilities.

The **FAO Dairy Price Index** averaged 142.3 points in September, up 6.8 points (5 percent) from August. The rise followed a sharp fall in the Index in the previous month. While the prices of all dairy commodities firmed, those of milk powders exhibited the largest increase. This was associated mainly with higher quotations from New Zealand, where a substantial reduction in payouts has caused farmers to scale-back production.

<sup>1</sup> All changes referred to in this section, in absolute or percentage terms, are calculated based on unrounded figures.

<sup>2</sup> The FAO Global Food Consumption Price Index is published twice a year in *Food Outlook*.

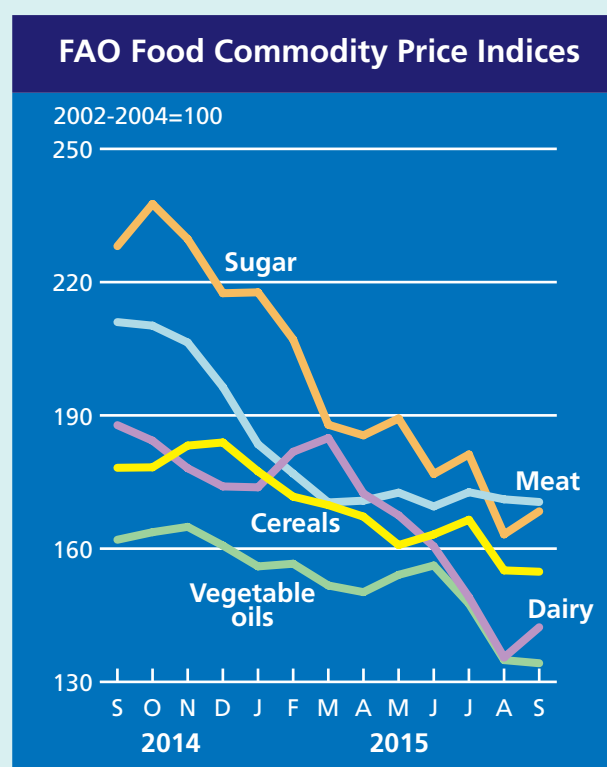
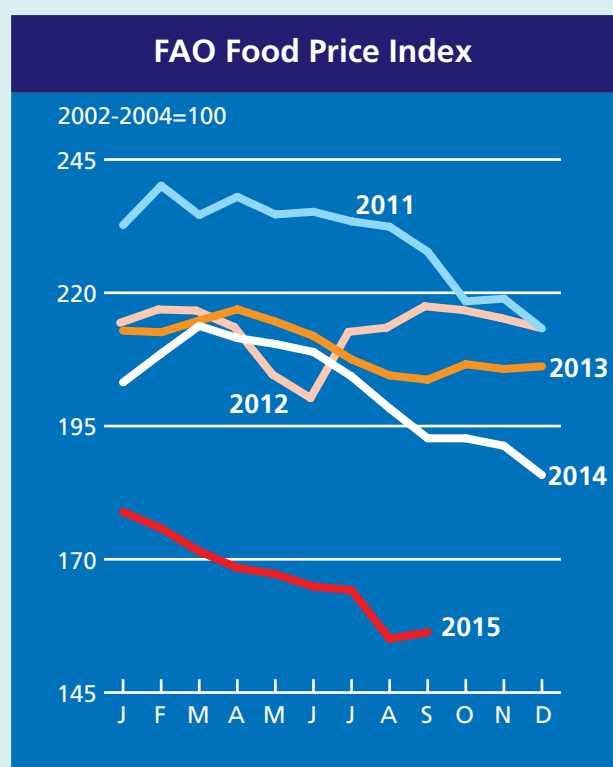
<sup>3</sup> The FAO food price indices are updated on a monthly basis and are available on: <http://www.fao.org/worldfoodsituation>



The **FAO Meat Price Index**<sup>4</sup> averaged 170.5 points in September, almost unchanged from the previous month. The Index has moved within a narrow range since March 2015. Over this seven-month period, prices of poultry declined, supported by lower feed costs, while strong demand, combined with limited supplies, caused those of bovine meat to rise; meanwhile, quotations for pigmeat were relatively stable. Prices of ovine meat showed more variation, in part reflecting seasonal supply.

<sup>4</sup> Unlike for other commodity groups, most prices utilized in the calculation of the FAO Meat Price Index are not available when the FAO Food Price Index is computed and published; therefore, the value of the Meat Price Index for the most recent months is derived from a mixture of projected and observed prices. This can, at times, require significant revisions in the final value of the FAO Meat Price Index which could in turn influence the value of the **FAO Food Price Index**.

The **FAO Sugar Price Index** averaged 168.4 points in September, up 5.2 points (3.2 percent) from August. The increase was largely weather driven, under the El Niño negative effects. In Brazil, the world's largest sugar producer, excessive precipitation in the main producing region significantly curtailed sugarcane harvesting, while in India, the world's second largest producer, below average monsoon rains impacted negatively on cane yields. Similarly, official reports in Thailand, the world's second largest sugar exporter, pointed to a smaller sugarcane harvest in 2015/16, as result of a protracted drought. Given current prospects for Brazil, India and Thailand, the anticipated production deficit in 2015/16 is likely to be wider than originally anticipated.



## FAO food price index

|      |           | Food Price Index <sup>1</sup> | Meat <sup>2</sup> | Dairy <sup>3</sup> | Cereals <sup>4</sup> | Vegetable Oils <sup>5</sup> | Sugar <sup>6</sup> |
|------|-----------|-------------------------------|-------------------|--------------------|----------------------|-----------------------------|--------------------|
| 2000 |           | 91.1                          | 96.5              | 95.3               | 85.8                 | 69.5                        | 116.1              |
| 2001 |           | 94.6                          | 100.1             | 105.5              | 86.8                 | 67.2                        | 122.6              |
| 2002 |           | 89.6                          | 89.9              | 80.9               | 93.7                 | 87.4                        | 97.8               |
| 2003 |           | 97.7                          | 95.9              | 95.6               | 99.2                 | 100.6                       | 100.6              |
| 2004 |           | 112.7                         | 114.2             | 123.5              | 107.1                | 111.9                       | 101.7              |
| 2005 |           | 118.0                         | 123.7             | 135.2              | 101.3                | 102.7                       | 140.3              |
| 2006 |           | 127.2                         | 120.9             | 129.7              | 118.9                | 112.7                       | 209.6              |
| 2007 |           | 161.4                         | 130.8             | 219.1              | 163.4                | 172.0                       | 143.0              |
| 2008 |           | 201.4                         | 160.7             | 223.1              | 232.1                | 227.1                       | 181.6              |
| 2009 |           | 160.3                         | 141.3             | 148.6              | 170.2                | 152.8                       | 257.3              |
| 2010 |           | 188.0                         | 158.3             | 206.6              | 179.2                | 197.4                       | 302.0              |
| 2011 |           | 229.9                         | 183.3             | 229.5              | 240.9                | 254.5                       | 368.9              |
| 2012 |           | 213.3                         | 182.0             | 193.6              | 236.1                | 223.9                       | 305.7              |
| 2013 |           | 209.8                         | 184.1             | 242.7              | 219.3                | 193.0                       | 251.0              |
| 2014 |           | 201.8                         | 198.3             | 224.1              | 191.9                | 181.1                       | 241.2              |
|      |           |                               |                   |                    |                      |                             |                    |
| 2014 | September | 192.7                         | 211.0             | 187.8              | 178.2                | 162.0                       | 228.1              |
|      | October   | 192.7                         | 210.2             | 184.3              | 178.3                | 163.7                       | 237.6              |
|      | November  | 191.3                         | 206.4             | 178.1              | 183.2                | 164.9                       | 229.7              |
|      | December  | 185.8                         | 196.4             | 174.0              | 183.9                | 160.7                       | 217.5              |
| 2015 | January   | 178.9                         | 183.5             | 173.8              | 177.4                | 156.0                       | 217.7              |
|      | February  | 175.8                         | 176.9             | 181.8              | 171.7                | 156.6                       | 207.1              |
|      | March     | 171.5                         | 170.4             | 184.9              | 169.8                | 151.7                       | 187.9              |
|      | April     | 168.4                         | 170.8             | 172.4              | 167.2                | 150.2                       | 185.5              |
|      | May       | 167.2                         | 172.6             | 167.5              | 160.8                | 154.1                       | 189.3              |
|      | June      | 164.9                         | 169.5             | 160.5              | 163.2                | 156.2                       | 176.8              |
|      | July      | 164.2                         | 172.7             | 149.1              | 166.5                | 147.6                       | 181.2              |
|      | August    | 155.1                         | 171.1             | 135.5              | 155.1                | 134.9                       | 163.2              |
|      | September | 156.3                         | 170.5             | 142.3              | 154.8                | 134.2                       | 168.4              |

**1 Food Price Index:** Consists of the average of 5 commodity group price indices mentioned above, weighted with the average export shares of each of the groups for 2002-2004: in total 73 price quotations considered by FAO commodity specialists as representing the international prices of the food commodities are included in the overall index. Each sub-index is a weighted average of the price relatives of the commodities included in the group, with the base period price consisting of the averages for the years 2002-2004.

**2 Meat Price Index:** Computed from average prices of four types of meat, weighted by world average export trade shares for 2002-2004. Commodities include two poultry products, three bovine meat products, three pig meat products, and one ovine meat product. There are 27 price quotations in total used in the calculation of the index. Where more than one quotation exists for a given meat type, a simple average is used. Prices for the two most recent months may be estimates and subject to revision.

**3 Dairy Price Index:** Consists of butter, SMP, WMP, and cheese price quotations; the average is weighted by world average export trade shares for 2002-2004.

**4 Cereals Price Index:** This index is compiled using the International Grains Council (IGC) wheat price index, itself an average of 10 different wheat price quotations, 1 maize export quotation and 16 rice quotations. The rice quotations are combined into three groups consisting of Indica, Japonica and Aromatic rice varieties. Within each variety, a simple average of the relative prices of appropriate quotations is calculated; then the average relative prices of each of the three varieties are combined by weighting them with their assumed (fixed) trade shares. Subsequently, the IGC wheat price index, after converting it to base 2002-2004, the relative prices of maize and the average relative prices calculated for the rice group as a whole are combined by weighting each commodity with its average export trade share for 2002-2004..

**5 Vegetable Oils Price Index:** Consists of an average of 10 different oils weighted with average export trade shares of each oil product for 2002-2004.

**6 Sugar Price Index:** Index form of the International Sugar Agreement prices with 2002-2004 as base.



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