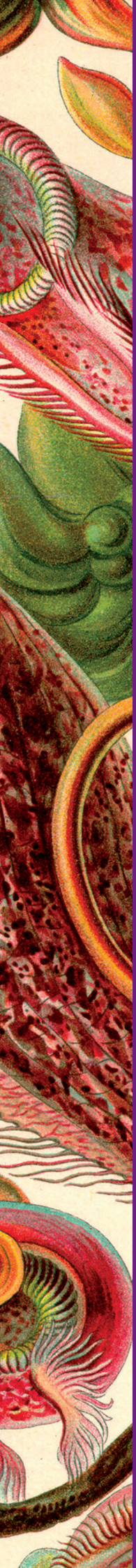

CAPACITY DEVELOPMENT

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

OCT 2023

ENG

E-commerce

A guide to managing the pest risk posed by goods ordered online and distributed through postal and courier pathways

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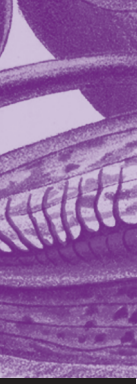
Abstract

This guide highlights some of the key challenges that national plant protection organizations (NPPOs) face in managing the pest risk associated with e-commerce trade, where small parcels containing plants, plant products and other regulated articles are ordered online and distributed internationally through postal and courier pathways. It provides practical guidance for improving cooperation and collaboration with key stakeholders involved in e-commerce supply chains, including national customs administrations, postal operators, courier services, e-commerce platforms and marketplaces, and the general public. The guide also highlights pre-border and border activities, including risk-based phytosanitary inspection, that NPPOs may use to help mitigate pest risk on postal and courier pathways, how to identify and respond to non-compliance, and the importance of monitoring regulated articles moving on postal and courier pathways in order to respond to new technologies and trends. Case studies are provided from around the world, highlighting some of the risks to plant health associated with e-commerce trade and the innovative approaches being taken by NPPOs to address these risks.

Contents



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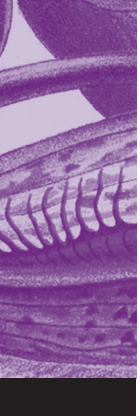
Abbreviations

ASYCUDA	Automated System for Customs Data Management
CDS	Customs Declaration System (of the Universal Postal Union)
CPM	Commission on Phytosanitary Measures
B2B	business-to-business (transactions)
B2C	business-to-consumer (transactions)
DPO	designated postal operator
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
IPPC	International Plant Protection Convention
ISPM	International Standard for Phytosanitary Measures
MSME	micro, small and medium enterprises
NPPO	national plant protection organization
P2P	person-to-person (transactions)
PRA	pest risk analysis
RPPO	regional plant protection organization
SPS Agreement	Agreement on the Application of Sanitary and Phytosanitary Measures (of the World Trade Organization)
TFA	Trade Facilitation Agreement (of the World Trade Organization)
WTO	World Trade Organization
UPU	Universal Postal Union
US	United States of America



Purpose of this guide

The purpose of this guide is to provide national plant protection organizations (NPPOs) with accurate and easy-to-understand technical information about e-commerce. National plant protection organizations may use this information to build national phytosanitary capacity and implement harmonized measures to prevent pest introduction and spread and to minimize the impacts of pests on food security, trade, economic growth and the environment. The guide serves as a useful reference for countries that wish to develop national legislation, policies and procedures to address the challenges posed by the large number of parcels moving through postal and courier pathways, noting that only a small proportion are likely to contain plants, plant products or other regulated articles. It highlights best practices that NPPOs may use to establish and operate effective phytosanitary systems with the dual objective of ensuring that plants, plant products or other regulated articles meet the phytosanitary import requirements of the destination country while not hindering the trade of articles that do not pose a risk to plant health.

Effective management of e-commerce and postal and courier pathways will result in the following key outcomes:

- High-risk plants and plant products that are sold through e-commerce and shipped via postal or courier services will meet the phytosanitary import requirements of the destination country.
- National plant protection organizations will be aware of the pest risk associated with e-commerce trade, particularly by business-to-consumer and person-to-person transactions.
- Contracting parties will update their legislation and authorities to address e-commerce challenges, considering digital innovations, available technologies and new business models.
- Lists of regulated articles will be prepared and maintained, and will be available to all relevant e-commerce stakeholders, including other government departments and stakeholders in other countries.
- National plant protection organizations will identify key stakeholders and establish communication, education and outreach programmes to make online buyers, sellers, e-commerce platforms and marketplaces, and others involved in the e-commerce supply chain aware of the regulatory requirements, risks and responsibilities associated with transactions involving regulated articles.
- Contracting parties will apply risk-management measures to identify and intercept e-commerce consignments that have an unacceptable risk of non-compliance, while facilitating legitimate e-commerce trade (e.g. by use of electronic advance data, screening methods and non-intrusive inspection methods).
- National plant protection organizations will share information, cooperate, and collaborate with their national customs administration, postal operators and courier services to address pest risk associated with e-commerce trade.
- National plant protection organizations will gather data and monitor non-compliances, inspections and regulatory activities in collaboration with their national customs administration and will be able to demonstrate a measurable reduction in non-compliance associated with postal and courier pathways.

Users of the guide are encouraged to provide feedback on the guide to help strengthen future editions of the guide and other training resources.[1]

[1] Send email to ippc@fao.org

Executive summary

The global rise of e-commerce has brought about a transformative shift in the way goods are bought and sold and moved in international trade. While presenting economic opportunities, the growth in e-commerce also poses significant challenges to national plant protection organizations (NPPOs) because of the potential spread of plant pests through parcels moving on postal and courier pathways. This guide highlights the challenges in managing the pest risk posed by goods ordered online and distributed through postal and courier pathways and offers some solutions.

The guide emphasizes the need for NPPOs to adapt to the complexities of e-commerce in order to mitigate pest risk while facilitating global trade. As well as establishing robust regulatory frameworks, NPPOs can better manage the pest risk associated with e-commerce by adopting innovative strategies such as targeted inspections, close collaboration with customs and other national agencies, raising stakeholder awareness, and advocating for compliance with import requirements. Data gathering and risk profiling are also key since they allow for efficient allocation of resources and prioritization of inspections, thereby enhancing border security while facilitating legitimate trade. Establishing procedures to detect and effectively deter fraud and smuggling is also crucial and requires strong collaboration between NPPOs, customs, and law enforcement.

Education and communication are powerful tools that may be used to promote compliance and mitigate pest risk. National plant protection organizations should ensure that buyers in importing countries, sellers in exporting countries and e-commerce platforms have easy access to information that will allow them to determine if an article for purchase or sale is prohibited or if there are specific phytosanitary import requirements that must be met. In addition, NPPOs are advised to engage with e-commerce platforms, marketplaces and online groups to raise awareness of phytosanitary import requirements and encourage their collaboration. A comprehensive understanding of the e-commerce supply chain is vital since sellers, e-commerce platforms and marketplaces, buyers, and postal and courier services all play key roles in ensuring compliant trade.

By effectively addressing the challenges posed by e-commerce, NPPOs can ensure the safe movement of goods while safeguarding plant health and preventing the introduction and spread of pests.

1. Introduction to e-commerce

The growing trade in cross-border e-commerce has revolutionized the way businesses and private individuals market, sell and purchase goods. The internet has become a convenient means of promoting, selling and distributing products and has resulted in a major shift in retail buying and distribution patterns. It has also opened global economic opportunities to micro, small and medium enterprises (MSME) in terms of providing wider access to overseas markets. Consequently, e-commerce is particularly important in developing countries, where it is an increasing component of economic growth.

However, the exponential increase in buying and selling goods over the internet has resulted in a surge in small parcels moving on postal and courier pathways. Parcels containing plants, plant products and other regulated articles may be a pathway for the introduction and spread of plant pests, particularly if they do not meet the phytosanitary import requirements established by the importing country.

E-commerce transactions involve the sale or purchase of goods or services between businesses, households, individuals, governments, and other public or private organizations, conducted over the internet (OECD, 2002).

For the purposes of this guide, e-commerce is only considered to include those electronic transactions, whether selling, trading or gifting, that result in the movement of physical goods that are packaged and shipped as small parcels across one or more international borders via postal or courier carriers.

Small parcels are individually labelled packages that are moved by small-package shipping carriers such as postal or courier services and delivered individually to each customer's address. Both couriers and postal operators impose strict limitations on package dimensions and weight; parcels must be small enough to fit in the sorting machines used and light enough to be safely lifted and delivered.

In contrast, **freight shipping** involves shipping a collection of goods or packages by pallet, container or truckload as a group and the consignments are usually destined for a warehouse or a business rather than being shipped directly to individual consumers.

1.1 TYPES OF E-COMMERCE TRANSACTIONS

E-commerce transactions can be grouped into three main types: (i) transactions between businesses (B2B); (ii) transactions between a business and an individual consumer or consumers (B2C); and (iii) person-to-person transactions where neither the seller nor the buyer is a business but rather a private citizen or a casual trader (P2P). Each of these types of transactions has different characteristics and poses different challenges to national plant protection organizations (NPPOs).

Historically, most international trade has involved businesses in one country exchanging goods or services with businesses in another country. These types of business-to-business (B2B) transactions often reflect long-term business relationships and the businesses involved are generally keen to meet import requirements in order to avoid clearance delays or trade disruptions. Often, at least one of the parties in B2B transactions is familiar with import and export processes and aware of relevant phytosanitary import requirements. Business-to-business e-commerce transactions generally follow the traditional model of shipping and customs clearances, even though these transactions are carried out electronically over the internet.

Business-to-consumer (B2C) e-commerce sales follow the traditional retail model, where a business sells to individuals, but the transaction is conducted online through an e-commerce platform and the goods are shipped directly to the buyer. This may mean that there is no need for the business to operate a physical retail store and, unless the business ships consolidated consignments, there may be no need for a warehouse or storage facility.

Person-to-person (P2P) transactions may be conducted using online marketplaces, but they are increasingly common on social media and on sites using dedicated mobile apps. Transactions that are concluded over social media or mobile apps are very difficult to trace because they are generally private and may have little or no monetary value. Securing a proof of sale is often very difficult, if not impossible.

In addition, plant material moving in P2P transactions is often obtained from private gardens or the natural environment. The plant species may not be correctly identified and the material is typically not subject to phytosanitary control measures. These plants may escape the scrutiny of border agencies, particularly if the packaging does not clearly identify the contents as potentially regulated goods or if the contents are intentionally mis-declared. Examples of these types of transactions include sales or trading of hand-collected seeds, plant cuttings from private gardens or other plant materials to members of a social-media group for gardening enthusiasts and plant collectors.

See **case study 1** (United States of America) about social media.

1.2 CHALLENGES POSED BY E-COMMERCE

The ease of buying and trading products over the internet coupled with simple online payment options has resulted in an unprecedented number of parcels and small packages moving across international borders through postal and courier supply chains. The increased volume of small parcels associated with e-commerce trade, coupled with the demands from industry and consumers for rapid delivery, puts pressure on the normal components of both phytosanitary export systems (e.g. inspection and export certification) and import systems (e.g. risk-based intervention, inspections at the border, verifying documentation, sampling and testing).

The internet provides a simple and effective mechanism for processing commercial and non-commercial transactions between groups and individuals and has increased direct sales to consumers. This has resulted in many new, casual or infrequent sellers and buyers (B2C and P2P, in particular) who are unaware that they need to comply with the phytosanitary import requirements of the destination country. In addition, many buyers may not be aware that the products they are purchasing originate in another country and may assume that if a product is available for them to purchase online then it must comply with their country's import requirements.

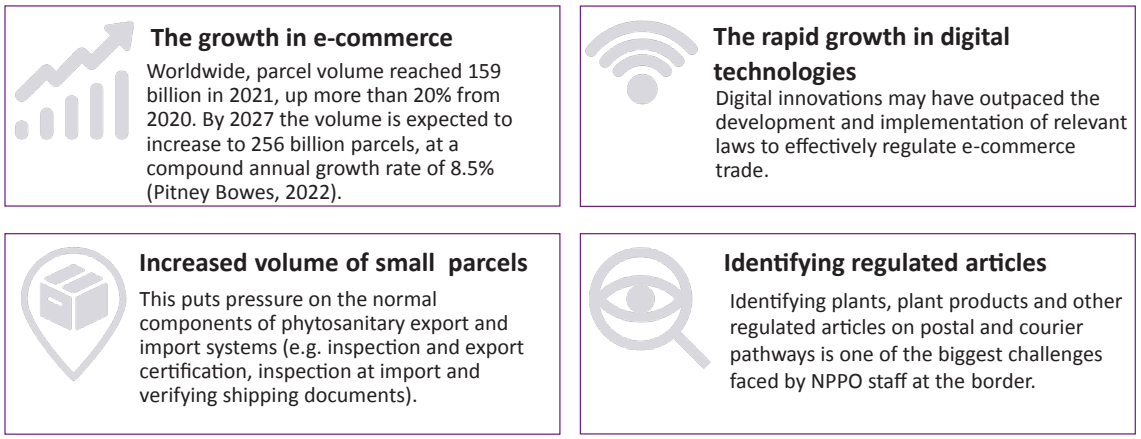
Sellers may not be aware of the import requirements of their customers' countries or may choose to ship non-compliant goods on the assumption that most consignments will not be intercepted by border agencies and will reach the buyer. This poses a significant challenge for regulators, as the seller may simply consider seized consignments and any associated fines to be a normal business cost. Compliance with regulatory controls may therefore have less impact on the businesses involved in B2C sales than is the case for B2B transactions, particularly for low-value shipments.

Detecting regulated articles along postal and courier pathways is one of the biggest challenges facing NPPO staff at the border. The customs declaration that is required to send small parcels through postal or courier systems is simple and often does not provide a detailed description of the consignment. In addition, the information contained in the declaration is provided by the sender and is not usually verified, which creates scope for legitimate errors as well as for deliberate misrepresentations and fraud.

As shown in Figure 1, the increase in e-commerce transactions and the subsequent increase in the volume of small parcels moving in international trade pose new challenges to governments and businesses alike and amplify the problems NPPOs are already facing with respect to the allocation of resources to certify exports of small non-commercial consignments and address high-risk pathways.

Although traditional and established management strategies remain key components of an NPPO's phytosanitary system, these components face increased pressure because of the inherent complexity and diversity of trade through e-commerce. This fast-evolving trading environment requires comprehensive solutions from all stakeholders and NPPOs, to manage growing volumes and to address the associated security and safety risks, in addition to the pest risk, while continuing to facilitate safe trade.

Figure 1: Challenges to NPPOs resulting from the growth in e-commerce



Source: Author's own elaboration.

1.3 E-COMMERCE IN THE INTERNATIONAL PHYTOSANITARY FRAMEWORK

When establishing or enhancing national regulatory and legislative frameworks related to international e-commerce trade, contracting parties should consider the World Trade Organization (WTO) Trade Facilitation Agreement (TFA), the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), the International Plant Protection Convention (IPPC), recommendations of the Commission on Phytosanitary Measures (CPM) and relevant International Standards for Phytosanitary Measures (ISPMs). In addition, in 2018 the Convention on Biodiversity conference of the parties (COP-14) adopted a decision that recognizes the growth in e-commerce and encourages global collaboration to minimize the associated risks and prevent the introduction and spread of invasive alien species of concern (CBD, 2018).

The TFA came into force in 2017 and applies to all WTO members. This agreement is focused on expediting the movement, clearance and release of goods and sets out measures for effective cooperation between customs and other border agencies, including the NPPO, on trade facilitation and compliance issues. A central feature of the TFA is the streamlining of clearance processes by allowing pre-arrival submission and processing of shipping documentation, with provisions for moving towards entirely digital processes. Another important tool in the TFA is the implementation of a "single window", which allows traders to submit the relevant documents or data requirements and be notified of a decision to release the goods from border control through a single portal, rather than dealing individually with multiple government agencies. The TFA also encourages members to use information technology to support the single window, which may allow for the use of electronic phytosanitary certificates, or even to employ artificial intelligence and "big data" tools to develop algorithms that help authorities undertake risk management of specific consignments. Implementation of TFA at a national level enables engagement between the NPPO and customs administrations and streamlines the regulation and border-clearance operations for e-commerce goods.

The SPS Agreement sets out the basis for the regulation of plant health, animal health and food safety, recognizing the international standards approved by three standard-setting bodies as international reference standards. It allows countries to set their own requirements provided they are scientifically justified and based on risk assessment. It specifies that measures should be applied only to the extent necessary to protect plant, animal or human life or health and should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail. It recognizes standards, guidelines and recommendations developed under the auspices of the IPPC Secretariat as the only international standards, guidelines and recommendations for plant health and encourages their use where they exist.

The IPPC aims to protect cultivated plants, non-cultivated or unmanaged plants, wild flora and aquatic plants by preventing the introduction and

spread of pests. The provisions of the convention extend beyond plants, plant products and other regulated articles to include packaging, soil and any other organism, object or material capable of harbouring or spreading plant pests, particularly where international transportation is involved. The IPPC also seeks to enhance cooperation among its contracting parties to prevent the international spread of pests without creating unnecessary barriers to transport and trade, thereby facilitating safe and harmonized trade.

In order to focus attention on the pest risk associated with the increased volume of e-commerce trade, in 2014 the ninth session of the CPM (CPM-9) adopted the CPM recommendation on *Internet trade (e-commerce) in plants and other regulated articles* (R-05). This recommendation encourages NPPOs and regional plant protection organizations (RPPOs) to work globally towards ensuring that consignments moving in international e-commerce trade comply with relevant phytosanitary regulations and are accompanied by appropriate phytosanitary certification. It further encourages NPPOs and RPPOs to:

- develop mechanisms for identifying e-commerce traders based within their countries and regions;
- establish mechanisms to identify products of concern that may be purchased via e-commerce, with a focus on potential high-risk pathways such as plants for planting, soils and growing media, and living organisms, and to explore

The guidelines for phytosanitary import regulatory systems and the requirements for a phytosanitary certification system as described in the following three ISPMs apply equally to goods sourced through e-commerce and transported through postal and courier pathways and to goods that are imported and exported as freight through more traditional distribution channels.

ISPM 20 (*Guidelines for a phytosanitary import regulatory system*)
https://www.ippc.int/en/publications/602/
This standard describes the structure and operation of a phytosanitary import regulatory system and the rights, obligations and responsibilities that should be considered in establishing, operating and revising the system.
The objective of a phytosanitary import regulatory system is to prevent the introduction of quarantine pests or limit the entry of regulated non-quarantine pests with imported commodities and other regulated articles. A phytosanitary import regulatory system should consist of two components: a regulatory framework of phytosanitary legislation, phytosanitary regulations and phytosanitary procedures; and an official service, the NPPO, responsible for operation or oversight of the system. The legal framework should include legal authority for the NPPO to carry out its duties; phytosanitary measures with which imported commodities should comply; prohibitions and other phytosanitary measures concerning imported commodities and other regulated articles; and phytosanitary actions that may be taken when incidents of non-compliance or incidents requiring emergency action are detected.

ISPM 7 (*Phytosanitary certification system*)
https://www.ippc.int/en/publications/613/
This standard contains requirements for, and describes components of, a phytosanitary certification system to be established by NPPOs. The NPPO of the exporting country has the sole authority to undertake phytosanitary certification and should develop and maintain a phytosanitary certification system for certifying compliance of plants, plant products and other regulated articles with the phytosanitary import requirements of importing countries as well as their freedom from regulated pests. The NPPO should have the sole legal authority to conduct, develop and maintain a phytosanitary certification system related to exports and re-exports, and should bear the legal responsibility for its actions in using this authority, in accordance with Article IV.2(a) of the International Plant Protection Convention. Some NPPOs may have the authority to prevent the export of consignments that do not meet phytosanitary import requirements.

ISPM 12 (*Phytosanitary certificates*)
https://www.ippc.int/en/publications/609/
Phytosanitary certificates facilitate international trade in plants, plant products and other regulated articles by attesting that they meet the phytosanitary import requirements of the importing country and are in conformity with the certifying statement. Many plants, plant products and other regulated articles that are traded internationally require a phytosanitary certificate, regardless of how the articles are ordered or shipped. Phytosanitary certificates should either accompany the consignment or be transmitted by other means.
For example, where agreed between countries, NPPOs may use electronic phytosanitary certificates.

risk-management options ensuring they comply with appropriate phytosanitary regulations based on risk assessment;
- investigate the phytosanitary risks posed by all forms of distance selling and, if necessary, to include these purchasing methods in their risk-management activities;
- strengthen coordination with postal and courier services to ensure that relevant information about phytosanitary risks and phytosanitary measures are conveyed to e-commerce traders;
- promote compliance by customers and traders operating through e-commerce with the phytosanitary import requirements of importing countries and provide adequate information on the risks posed by bypassing such requirements; and
- raise awareness of the risks of bypassing phytosanitary regulations.

1.4 E-COMMERCE WITHIN THE NATIONAL FRAMEWORK

The lack of an appropriate national legislative framework or the lack of efficient, effective procedures to support systematic and harmonized regulatory actions can result in phytosanitary vulnerabilities in the cross-border e-commerce supply chain. In some cases, the rapid growth in e-commerce and innovations in digital tools and technologies have outpaced the development and implementation of relevant laws to effectively regulate e-commerce trade. As a result, some of the existing national or regional legal and regulatory provisions on plant protection may not be adequate for the challenges posed by new e-commerce business models or with the digital tools that are used to effect these transactions.

The legislative framework for the import, export and domestic movement of plants, plant products and regulated items should be risk-based and founded on the existing international principles of good governance, fairness and transparency, while meeting the new and emerging requirements. As specified in the SPS Agreement, legal and regulatory frameworks should address, among other issues, how to facilitate safe and secure trade and control physical goods moving internationally on postal and courier pathways and how to do this in a fair and non-discriminatory manner. Such legal frameworks should also cover e-commerce transactions.

Contracting parties are encouraged to evaluate their regulatory framework of phytosanitary legislation, regulations and procedures through the lens of e-commerce and consider areas of strength, any significant weaknesses and national needs and priorities, such as:
- whether all imports and exports of plants, plant products and regulated articles are subject to NPPO control, including articles for personal use;
- whether NPPO staff have adequate training to keep pace with new technologies and developments in e-commerce;
- whether mechanisms or procedures have been established to monitor the internet within the context of general surveillance and pest risk analysis (PRA), to identify potential products of concern that may be imported through e-commerce;
- whether e-commerce-platform and marketplace providers are accountable for the products that are advertised and sold on their websites and whether they are obligated to remove prohibited items from their websites when they become aware that they have been listed for sale;
- whether e-commerce-platform and marketplace providers are obligated to record the contact details of sellers and to make this information available to buyers and regulatory authorities upon request;
- whether payment-service providers, banks and other financial authorities are obligated to collaborate with the NPPO and whether they are authorized to provide information about e-commerce transactions and the parties involved in those transactions when requested;
- whether the import-verification system needs to be enhanced to allow for closer scrutiny of parcels entering the country through postal and courier pathways (e.g. restricting the points of entry of the traded products to facilitate inspection or applying non-intrusive inspection methods);
- whether the NPPO is authorized to carry out inspections of e-commerce imports moving on postal and courier pathways and to apply technically justified phytosanitary actions regarding the disposal (treatment or destruction) of non-compliant consignments;
- whether the NPPO has appropriate authority to allow investigation and follow-up of notifications

of non-compliance received from importing countries, given that e-commerce sellers and buyers may include private citizens and investigation may require access to private premises;

- whether there is any national legislation pertaining to information sharing, privacy, collection of electronic information, and so on, that impacts the NPPO's ability to share information with other government agencies, other countries or e-commerce stakeholders;
- whether national phytosanitary legislation regulates the export of articles to ensure that they meet the requirements of the importing country (e.g. Canada's Plant Protection Act, Article 7 (Canada, 1990));
- whether the NPPO has established formal collaborative arrangements with its customs administration or other government agencies working at the border, to address the pest risk associated with e-commerce trade;
- whether single-window and electronic-advance-data systems have been established to facilitate communication and data sharing between relevant parties involved in e-commerce supply chains, customs administrations and other relevant government agencies (e.g. NPPOs) to allow pre-arrival screening of small parcels that may contain plants, plant products, and other regulated articles; and
- whether systems are in place to issue and accept electronic phytosanitary certificates associated with small, low-value parcels ordered online and moving on postal and courier pathways.

It is important to recognize that many of the challenges posed by e-commerce are not unique to plant health and that many other sectors face similar challenges. E-commerce and postal and courier pathways pose a challenge for the control of the international flow of a wide range of illicit and regulated products, including drugs, dangerous goods, pirated and counterfeit goods, wildlife and wildlife parts, food, animal and animal products, and so on. Ideally, contracting parties should encourage open dialogue among all impacted sectors within their country and consider all relevant national legislation holistically, rather than modifying phytosanitary legislation in isolation from other legislation, such as that regulating trade, commerce, digitalization, and consumer protection. In addition, it is important to establish clear processes to facilitate an effective interface with criminal law when cases of fraud or illicit trade are detected by an NPPO (see section 7.3).

2. Items for sale

Items that are relatively small and not highly perishable tend to be well-suited to e-commerce trade. These types of items are easy to package in parcels and can be delivered directly to the end user by postal or courier services. These articles may pose a pest risk, either because the item may be a pest itself or because the item may be infested or contaminated with pests.

To adequately regulate e-commerce trade and monitor postal and courier pathways, the NPPO of the exporting country and the NPPO of the importing country both need to be aware of the types of regulated articles that are available for sale on the internet, as well as the sources or suppliers of these products. This highlights the importance of establishing mechanisms and procedures that allow the NPPO of the importing country to monitor the internet to identify potential products of concern that may be imported via these pathways.

This chapter discusses PRA and some commonly regulated articles that can be ordered over the internet and are frequently intercepted in small parcels moving in e-commerce trade. These include seeds, bulbs, corms, tubers, cuttings and rootstocks in the case of plants for planting; novelty items and ecological products with seeds, soil, plants or plant products; handicrafts such as wood carvings and woven products; insects for biological control or pets; and aquatic plants (IPPC Secretariat, 2012).

2.1 PEST RISK ANALYSIS

Phytosanitary measures, including the requirement for a phytosanitary certificate, should be based on PRA. Appropriate phytosanitary measures should apply to a commodity regardless of how it is purchased (whether this be by internet, mobile phone app, telephone or fax) or how it is transported (whether this be by traditional conveyance, such as sea freight, air freight or land transport, or by a postal or courier service).

Any plant, plant product, or other organism, object or material that is capable of harbouring or spreading pests may be considered a regulated article and require phytosanitary measures, particularly where international trade is involved. Generally, the highest pest risk is posed by plants and other articles

The conclusions from a pest risk analysis (PRA) should be used to decide the phytosanitary measures that will be applied to reduce the pest risk of a pest or pathway to an acceptable level for the importing country. Several ISPMs provide guidance on PRA, including the following:

ISPM 11 (*Pest risk analysis for quarantine pests*)
https://www.ippc.int/en/publications/639/
This standard describes the process for conducting PRA to determine if pests are quarantine pests. It discusses both the integrated processes to be used for risk assessment as well as the selection of risk-management options.

ISPM 32 (*Categorization of commodities according to their pest risk*)
https://www.ippc.int/en/publications/587/
This standard provides criteria for NPPOs on how to categorize commodities according to their pest risk when considering import requirements. This categorization should help in identifying whether further PRA is required and if phytosanitary measures are needed. The concept of categorization of commodities according to their pest risk takes into account whether the product has been processed and, if so, the method and degree of processing, the commodity's intended use and the consequent potential for the introduction and spread of regulated pests.

ISPM 38 (*International movement of seeds*)
https://www.ippc.int/en/publications/84340/
This standard provides guidance to help NPPOs in identifying, assessing and managing the pest risk associated with the international movement of seeds for sowing.

that provide a direct pathway for pest establishment. National plant protection organizations should consider e-commerce when conducting PRAs because e-commerce increases the speed of trade and changes the potential distribution of commodities. Buyers receiving the commodities may be distributed across a country or they may be concentrated in urban centres. National plant protection organizations may decide to consider urban locations as a "dead end" for some pest pathways if the likelihood of establishment and spread is considered low.

It is important to note that transactions conducted through the internet do not necessarily result in an increased pest risk. Nonetheless, e-commerce presents a pathway by which many small and often not easily recognizable consignments of plants, plant products and other regulated articles move across international borders into countries and across continents. It can also result in the domestic movement of regulated articles, which may pose a challenge with respect to maintaining pest free areas or other regulated areas within a country.

2.2 REGULATED ARTICLES

2.2.1 Seeds for sowing

Seeds are widely promoted for online sales because they are small and well-suited to shipping in small parcels via postal or courier services. For example, seeds are regularly packaged in small parcels and shipped internationally for commercial and research purposes. In these situations, the businesses involved in the transactions are likely to be aware of the phytosanitary import requirements of the importing country and to seek to comply with them, and the receiver is very likely to be authorized to import the particular species of seed.

However, not all seeds traded in this manner are commercially produced, appropriately packaged, and certified as meeting the phytosanitary import requirements of the importing country. For example, some gardening enthusiasts and plant collectors may trade homegrown or locally collected seeds with hobbyists in other parts of the world. Consequently, there is a risk that the seeds in the consignment may not be correctly identified, the consignment may be infested or contaminated with regulated pests, or the seed species itself may pose a pest risk and may not meet the phytosanitary import requirements of the importing country. In addition, the receiver may not be aware that the seeds originate in another country when they place their order. There are also many recent examples where unsolicited seeds have been added to parcels with other goods, without the request or knowledge of the receiver (ISF, 2020).

It is not easy to detect small parcels that contain seeds. Many items such as cones, dry grasses, herbs, and cultural items like rattles or musical instruments include seeds, but these items may be sold as ornamental or food items, rather than as seeds *per se*. In addition, many paper products (e.g. greeting cards, bookmarks) may be made from seed-impregnated paper. Seeds may also be embedded into other products and novelty items that can be planted after use (e.g. biodegradable face masks). In these situations, the shipper may declare the contents of the parcel as face masks or greeting cards, not realizing the importance of, or sometimes deliberately avoiding, specifying that these products also contain seeds. Consequently, the product description on the parcel may not identify that seeds are present, let alone what species of seed they are. The pest risk may also vary depending on the end use or level of processing. In some cases, the risk could be very low, even if the article contains seeds.

See **case study 2**, which describes the experience of the NPPO of Belgium intercepting seeds in imported small parcels.

2.2.2 Plants for planting (excluding seeds)

Other types of propagative plant materials, including both terrestrial and aquatic species, are considered to pose a high pest risk. The international movement of plants for planting has resulted in the introduction and spread of numerous plant pests globally. The plants may be pests themselves or the plants and any soil or growing media associated with them may harbour pests and provide a pathway for their introduction and spread into new areas. Upon arrival at their destination, the plants are generally planted in the environment, allowing them to establish and potentially transfer pests to other hosts.

The growth of e-commerce has made it possible for consumers, hobbyists and serious plant collectors to obtain propagative plant material from anywhere

around the globe. Bare-root plants, rooted plants in media, bulbs and tubers, cuttings, budwood, graftwood and meristem tissue-culture plants are quite easy to ship in small parcels and generally survive to be planted at destination. Plant-export businesses often use the internet to facilitate the sale of propagative plant material to other businesses and to home gardeners, in compliance with phytosanitary import requirements.

The internet may also be used by hobbyists and collectors to facilitate the exchange of plant material that is homegrown or collected from the environment. These individuals may be unaware that sending plant material to someone in another country may pose a pest risk and that the importing country's phytosanitary import requirements must be met. However, there are many examples where the contents of parcels containing propagative plant material have been mis-declared, either in error or to prevent interception and seizure.

2.2.3 Wooden handicrafts and ornaments

Small wooden items, including handicrafts and ornamental items, may also be ordered online and shipped internationally via postal or courier services. Wooden objects can harbour eggs or larvae of wood-boring insects and it is not uncommon for exotic insects to emerge from imported wooden handicrafts or decorative items. National plant protection organizations should consider the degree of processing and the intended use of the commodity when considering whether pests associated with it could pose a risk.

2.2.4 Other plant products

Plant-based food and medicinal items are widely available for sale on the internet and many types of products are well-suited for distribution in small parcels through postal and courier pathways. In cases where a plant product has been commercially processed, the method and degree of processing may affect the risk of introduction and spread of pests via these pathways. For example, herbs, nuts, grains, fruits and vegetables that have been dried, chopped, crushed or polished may still pose some risk. However, plant products that have been commercially processed by methods such as cooking, sterilizing, pureeing or roasting (see Appendix 1 of ISPM 32 (*Categorization of commodities according to their pest risk*)) are unlikely to be infested with quarantine pests and no phytosanitary measures should be required.

2.2.5 Other living organisms (non-plant)

Living organisms can be purchased over the internet and may be transported internationally by postal or courier services. These living organisms may include beneficial insects such as pollinators and biological control agents from commercial production facilities, but also live insects for exhibits or research. Also, several insects are advertised and commonly sold on the internet as pets, including butterflies, mantids, beetles, stick insects, ants and snails. These living organisms may be invasive alien species or regulated pests themselves, or they may act as a carrier or pathway for plant pests, hyperparasitoids, hyperparasites or entomopathogens.

2.2.6 Soil

Most countries restrict or prohibit the entry of soil because it is a high-risk pathway for the introduction and spread of pests including bacteria, fungi, insects, nematodes and weed seeds. However, small quantities of soil or items contaminated with soil can be easily packaged in small parcels and shipped internationally by postal or courier services.

2.3 LISTS OF REGULATED ARTICLES

A central tenet of the IPPC and the SPS Agreement is that governments should use the least restrictive measures to achieve their appropriate level of protection and that phytosanitary measures should be technically justified, transparent, and based on either international standards or risk assessment. To ensure transparency, and in accordance with ISPM 20 (*Guidelines for a phytosanitary import regulatory system*), NPPOs should prepare and maintain lists of regulated articles.

Lists of regulated articles should be easily available to all e-commerce stakeholders, including other government departments and stakeholders in other countries. The lists should be accurate, up-to-date and presented in a format that is easily understandable. As a minimum, they should indicate whether an article is prohibited or restricted and include a statement explaining that restricted goods may have additional import requirements to ensure that they do not pose a threat to agriculture or natural ecosystems.

Providing easy access to this information will enable buyers in importing countries, sellers in exporting countries and e-commerce platforms to determine if an article is prohibited or if there are specific phytosanitary import requirements that must be met. For example, New Zealand's Product Import and Export Requirements tool (PIER Search) is a database for seeds, nursery stock and other plant products that can be searched to find out whether a particular plant species is admissible and, if so, what import requirements apply to it (Ministry for Primary Industries, n.d.). The United States of America's Agricultural Commodity Import Requirements database (USDA, n.d.) is a similar tool.

Establishing effective communication channels will promote compliance by encouraging cooperation, thereby helping to reduce the number of non-compliant consignments moving on postal and courier pathways. Ultimately the goal is to ensure that sufficient official phytosanitary information is available and can be used as the basis for ensuring safe trade, safeguarding food security and protecting the environment from plant pests.

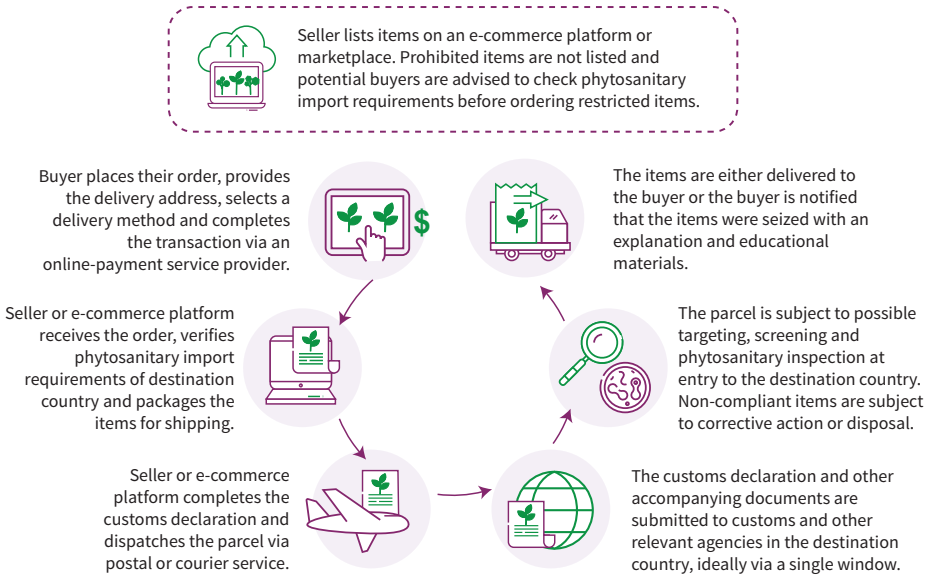
3. E-commerce supply chains

It is important for NPPOs to understand the main steps in the e-commerce supply chain, who the key stakeholders are, and what role these stakeholders can take in helping to minimize the risk of introducing or spreading plant pests (see Figure 2).

Typically, the seller lists items for sale on an e-commerce platform or marketplace. The buyer finds the seller's listing and orders the goods and completes the payment transaction online. The seller is responsible for obtaining any required documentation (e.g. a phytosanitary certificate) and completing a customs declaration before packaging the goods and arranging delivery to the seller, generally using either the postal service or a courier. The parcel must clear customs in the importing country and may be subject to document verification and inspection by the NPPO to ensure that it meets phytosanitary import requirements and does not contain prohibited goods. Non-compliant items are generally destroyed but in some cases they may be remediated and released. Once a parcel has been cleared and released, it is delivered to the buyer by either the postal service or a courier in the importing country.

It is important to note that there may be variations in the e-commerce supply chain and other parties may be involved. For example, customs brokers, freight forwarders and third-party logistics providers are generally not part of the supply chain for low-value parcels that are delivered directly to consumers by a postal or courier service, as illustrated in Figure 2. These types of companies are most commonly used to facilitate shipping and clearance of large or high-value transactions between businesses. However, they are also increasingly utilized for consolidated e-commerce shipments that are shipped to a distribution centre that may be located in another country, where they are broken down and injected into the domestic postal supply chain or delivered to the buyer by courier

Figure 2: Example of a typical e-commerce supply chain for small parcels shipped directly to the buyer by a postal or courier service, with suggested actions to mitigate the pest risk at each step



Note: National plant protection organizations should consider the steps in the e-commerce supply chain and identify opportunities to enhance the controls for e-commerce goods that pose a pest risk.

Source: Author's own elaboration.

(see section 5.3). In these situations, customs brokers, freight forwarders and third-party logistics providers may be hired to coordinate the shipment of goods from origin to destination on behalf of the importers and exporters; help importers clear their goods through customs in the importing country; or assist with distribution, storage and delivery.

3.1 E-COMMERCE PLATFORMS AND MARKETPLACES

Online transactions are generally conducted through e-commerce platforms and marketplaces or using mobile apps or social media. All of these options create a venue for the purchase and sale of goods and mechanisms for completing transactions, and they can either encourage compliant trade or enable non-compliant trade.

National plant protection organizations should be aware that access to a particular e-commerce platform or marketplace may be international. This means that an e-commerce platform or marketplace that sells products to buyers in their country could be based in their country but they may operate from another country and the information on their website could be in a different language.

An **e-commerce platform** is a software program that is used to create a customized web shop (also known as an online shop or online store) where products are displayed and where consumers can place their orders, make payments and select a delivery method. The vendor has their own website, using a unique domain name or their business name, and independently operates their online sales programme. Examples of common e-commerce platforms include Shopify, BigCommerce, Magento, WooCommerce and Wix.

An **e-commerce marketplace** is an e-commerce site or mobile app that facilitates shopping from many different sources. The marketplace's operator does not own any inventory but hosts product listings from multiple sellers and provides services to the vendors, such as enabling transactions. Examples of online marketplaces include Amazon, Alibaba, eBay and Etsy, but many other large and small sites exist.

E-commerce transactions can also take place over **social media**, including through online fora and using other networking tools. Examples of social-media sites that are commonly used for e-commerce trade include Facebook, Instagram and Pinterest, but there are many others.

One of the key challenges faced by all e-commerce stakeholders, including platforms and marketplaces that sell plant material online, is that they may not know how or where to find the phytosanitary import requirements of the destination country. As discussed in Chapter 2, all countries should ensure that their list of regulated articles and phytosanitary import requirements are accessible to NPPOs and e-commerce stakeholders in other countries. Many countries have developed trade information portals – websites that provide easy access to information about the phytosanitary import requirements and procedures for goods moving in international trade.

Some countries have also established indexes or systems to help exporters in identifying the import requirements of the countries to which they are exporting. For example, Australia's *Manual of importing country requirements* (Department of Agriculture, Fisheries and Forestry, n.d.) outlines the requirements for Australian agricultural products to be accepted for import into specific overseas countries. A similar system is in place in the Kingdom of the Netherlands, which provides the requirements for over 200 countries as a resource for exporters of Netherlands plants and plant products. While these systems are likely to be aimed at large-scale commercial exports, they can also be used to identify regulated articles and phytosanitary import requirements relevant to goods purchased online and shipped in small parcels.

When the NPPO of an importing country identifies a platform or marketplace, based in another country, that offers regulated or prohibited items for sale, it should engage directly with the platform or marketplace to make them aware that they are selling prohibited or restricted products or species on their website. The NPPO should use the opportunity to educate, promote compliance and encourage cooperation.

Case study 3 describes how New Zealand worked with an e-commerce platform in Australia to prevent further sales of prohibited plants to buyers in New Zealand.

National plant protection organizations of exporting countries should request that the providers of e-commerce platforms and marketplaces clearly indicate the identity and location of sellers on their platforms

and marketplaces. In addition, these providers should be asked to design their websites so that goods are only viewable to people in locations where compliant trade can occur, or to restrict delivery to those locations where the trade would be compliant with phytosanitary import requirements. One way that e-commerce platforms and marketplaces may comply with this request is by linking their web interface directly to the plant import databases of the countries to which they export so that prohibited items are listed as "out of stock" at checkout. For example, some platforms put delivery restrictions in place so that when a buyer enters their delivery address an alert comes up indicating that "delivery is unavailable to country X at this time". This blocks the transaction before the payment is made, so the order cannot be placed.

Case study 4 describes how the United States' NPPO worked with e-commerce platforms to prevent sales of foreign-origin seed to buyers in the United States.

Legitimate e-commerce platforms and marketplaces have a vested interest in customer satisfaction and are generally responsive to requests by an NPPO to change their sales practices to comply with the requirements of the importing country, once they are aware that there is an issue.

For example, some e-commerce platforms and marketplaces are already able to block viewing options based on internet connection addresses or delivery restrictions as described above. In addition, or where this is not possible, e-commerce platforms and marketplaces may implement "seller policies" that specify categories of items that cannot be sold to buyers in other countries or that are geographically restricted. Alternatively, they may add some general explanatory text to the product web page that encourages potential buyers to check phytosanitary import requirements before they buy. Details about the risks and consequences of failing to meet these import requirements could also be included and the providers of e-commerce platforms and marketplaces should be encouraged to make these details readily visible to both the buyer and the seller.

Making them aware that the customer's goods will be subject to intervention or seizure at the border if the country's phytosanitary import requirements are not met can convince many e-commerce-platform and marketplace providers to cooperate to avoid complaints. However, if a provider is not receptive to a request by the NPPO to voluntarily remove non-compliant products from their website or take other steps to avoid further sales of non-compliant goods to buyers located in their country, then the NPPO of the importing country should consider asking the NPPO of the exporting country for assistance. If this is not effective, then the NPPO of the importing country may decide to add the e-commerce platform or seller to a watch list and apply additional measures at the border to screen and inspect consignments originating from this source.

3.2 SELLERS

Sellers are the individuals and companies that sell or offer for exchange (trade) and ship (export) the commodity to the buyer (importer) in another country. They are a diverse group and may include retailers, small businesses, resale entities, collectors, and members of the public. One of the reasons that the volume of e-commerce trade is growing so quickly is that it offers many benefits to sellers, including a short or highly simplified supply chain and direct access to consumers with relatively low infrastructure costs.

Sellers are responsible for obtaining a phytosanitary certificate for any plants, plant products and regulated articles that require one, before they dispatch the shipment. National plant protection organizations of exporting countries should encourage sellers to verify that the products they sell meet the phytosanitary import requirements of the countries to which they are shipping and avoid listing items for sale that do not meet the importing countries' requirements.

It is important for NPPOs to identify e-commerce sellers operating in their country or region who export plants, plant products and other regulated articles to buyers in other countries. Identifying these sellers is an important step towards ensuring that plants, plant products and other regulated articles sold through e-commerce and shipped via a postal or courier service meet the phytosanitary import requirements of the destination country.

Identifying sellers is often not straightforward since the e-commerce platform or marketplace may not clearly identify the seller or their location and some sellers are not legally registered businesses.

In addition, some online marketplaces allow sellers to create a username, and this may make it difficult to identify the seller, let alone find a shipping address or the country where the seller is located. The situation may be even more complex, because some sellers may operate on multiple e-commerce marketplaces simultaneously or they may use multiple usernames or change their username to remain anonymous.

One avenue that countries may wish to explore is to set up a mechanism where sellers require a specific license or permit to sell products online. This could be accomplished by modifying existing seller licenses or permits by adding new criteria to authorize online sales.

See **case study 5** to learn about the steps that Argentina has taken to register e-commerce platforms and marketplaces.

3.3 BUYERS

Buyers are the individuals or businesses in the importing country that order products online, either through an e-commerce platform or marketplace or even through social media or a mobile app. They may include resale entities, retailers, small businesses, special interest groups, collectors and the public. Buyers are usually the ones initiating the transaction and may not be aware of their country's regulatory requirements for imported goods. It is important to note that e-commerce does not always involve financial transactions and plants, plant products and other regulated articles may be traded, sent unsolicited or mailed as gifts. The buyer, or importing party, is responsible for ensuring that the products they purchase are lawful and comply with the laws and regulations of their country. However, one of the challenges is that members of the public may be unaware of the potential pest risk associated with purchasing plants, seeds and other articles online. This may be a result of a lack of awareness of the risk to plant health, or because they assume that if an item is available for purchase it must be authorized or that necessary steps have already been taken to ensure compliance with importing requirements.

In many cases, buyers may not be aware that they are importing unauthorized or prohibited goods when they make online purchases. This is why it is so important to reduce the risk of unintentional non-compliance by raising buyers' awareness before they purchase items online. The key is to improve understanding of the potential risks, consequences and requirements and make the public recognize that they have an important role to play in reducing the introduction and spread of pests through e-commerce. The public can help by:

- being aware of the phytosanitary import requirements for imported plants, seeds and other living organisms that may be pests, irrespective of the method of purchase or delivery;
- consulting their NPPO before purchasing to confirm if the article is prohibited or restricted and whether an import permit or phytosanitary certificate is required;
- avoiding buying plants, seeds, insects, snails and other regulated articles online unless they are accompanied by a phytosanitary certificate issued by the NPPO; and
- reporting websites that sell prohibited articles, and incidents such as pest detections and unsolicited parcels containing plant materials, to their NPPO.

See **case study 6** from Canada about e-commerce education and awareness initiatives.

Initiatives to inform e-commerce buyers, gardeners, hobbyists and online groups of plant collectors and plant traders about phytosanitary import requirements, explain the potential economic, environmental or sociocultural impact of new pest introductions, and seek their cooperation are many and varied. The methods used to communicate with stakeholders may include websites, social-media campaigns, print-media campaigns, factsheets, presentations, workshops, webinars, and educational resources, to name a few. Please refer to Chapter 8 for additional discussion about promoting compliance with phytosanitary import requirements.

4. Payment and dispatch

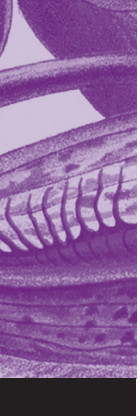
Once the buyer has selected the item or items that they would like to purchase on the seller's website, e-commerce platform or marketplace, they are generally required to select their preferred shipping option, provide the delivery address and make an online payment via a payment-service provider in order to complete the transaction. It is important to note that the seller generally only receives the order from the e-commerce platform or marketplace after the buyer has placed their order and the payment transaction has been successfully completed.

Once an order has been received, the order will be prepared for shipping. This includes preparing the documentation required for the consignment to be cleared by the national customs administration in the importing country, assembling and packaging the goods, and arranging delivery. Other necessary documentation may include applications for import or export permits, phytosanitary certificates, certificates of origin, licenses, trading invoices, and so on. In some cases, the NPPO will have established an authorized phytosanitary-export programme to facilitate e-commerce trade for low-volume consignments of plants and plant products.

Case study 7 describes the phytosanitary certification programme that the NPPO of Jamaica established to facilitate exports of small quantities of dried medicinal herbs.

National plant protection organizations of exporting countries should encourage sellers to verify, before preparing an order for shipping, that any national export requirements are met. Sellers should also be encouraged to confirm that the articles are allowed to enter the destination country and to ensure that any phytosanitary import requirements are met, including obtaining a phytosanitary certificate, if required. Articles that are prohibited from entering the destination country, or do not have the required certification or do not otherwise meet the phytosanitary import requirements of the importing country, should not be shipped.

Unfortunately, in many cases the items will be dispatched regardless of whether import requirements have been met and the necessary documentation, such as phytosanitary certificates, have been obtained. This is because the seller would need to cancel the non-compliant order and refund the transaction, resulting in a cost to the seller in terms of both processing time and any fees charged by the e-commerce platform or marketplace.



5. Transportation and distribution

5.1 POSTAL SERVICES

The international postal network includes more than 670 000 postal outlets in 192 countries and generally provides the least expensive option for delivering small items directly to the receiver. Because of this, the rapid growth in e-commerce has resulted in an unprecedented number of small parcels moving internationally through the postal system (UPU, 2022).

The *Universal Postal Union (UPU) e-commerce guide* (UPU Digital Economy and Trade Programme & Corredera, 2020) provides practical recommendations, technical assistance, and tools to help national postal services develop their e-commerce capabilities and work with other partners in the supply chain to move mail safely and efficiently across borders.

5.1.1 Universal Postal Union Customs Declaration System Prohibitions Compendium

The UPU Customs Declaration System (CDS) Prohibitions Compendium (available at UPU, n.d.) is an online repository that identifies articles that are prohibited or restricted from moving through international mail, including dangerous goods and illicit items. The information in the compendium is country-specific and is maintained by the UPU with the cooperation of the postal services in UPU member countries.

The Prohibitions Search Tool (available at UPU, n.d.) provides an interface that is used by postal operators across the globe to access and search the CDS Prohibitions Compendium. This search tool is also accessible to the public, who are encouraged to use it to determine whether an item from a particular origin is prohibited or restricted by the destination country. Designated postal operators of UPU member countries may update the compendium to include additional country-specific restrictions and prohibitions in coordination with their customs administrations and other national regulatory agencies. Although postal services may inform customers of these prohibited and restricted items, the customer is responsible for certifying that the parcels and other items they send by post do not contain these items.

National plant protection organizations are encouraged to review their country-specific information in the CDS Prohibitions Compendium and identify any regulated or prohibited articles that are not listed. If any such articles are identified, NPPOs should contact their national postal service and ask that they update the list accordingly. Countries that are members of UPU and require further information or access to the system should contact: customs@upu.int.

5.1.2 Customs declaration for parcels moving in the postal system

The customs declaration associated with parcels moving in the postal supply chain is required to include the following seven data elements, in addition to a parcel identifier:

- consignor name;
- consignor address;
- consignee name;
- consignee address;
- number of packages;
- total gross weight; and
- merchandise description.

The customs declaration should provide a description of any items that are subject to quarantine regulations (i.e. plants, animals or food items). However, the designated postal operator (DPO) relies on the sender to provide correct and reliable product descriptions. Because this information is certified by the sender and is not usually verified, there is an opportunity for legitimate errors as well as fraud (see section 7.3).

The data in the customs declaration are transmitted electronically from the DPO at origin to the DPO and customs at destination. This allows customs administrations to use the electronic information to screen parcels and enables them to notify a DPO if an item has been rejected during the screening process. This, in turn, allows the postal service to better track packages as they make their way through the supply chain and can even be used to prevent further conveyance of individual items.

Tips

National plant protection organizations are encouraged to strengthen cooperation, coordination and collaboration with their national postal operator and with couriers operating in their country to reduce the introduction and spread of pests. This may include interagency training and other activities, such as:

- ensuring that the list of prohibited and restricted articles in the Universal Postal Union Customs Declaration System Prohibitions Compendium for their country is accurate and that a link to their country's phytosanitary import requirements and other relevant information is provided;
- cooperating with the national postal operator and courier businesses to promote compliance for incoming and outgoing parcels;
- sharing data and analyses related to plants, plant products and other regulated articles moving internationally in small parcels; and
- collaborating to address non-compliances and illicit trade and stay abreast of new trends in e-commerce trade.

5.2 COURIER SERVICES

Courier services (also known as express carriers) also deliver small, low-weight parcels directly to the receiver. Sending a parcel by courier tends to be quite expensive, compared to a postal service, and is therefore most commonly used for shipping higher-value articles. Couriers typically provide door-to-door delivery services from the seller to the buyer and maintain chain of custody over the goods throughout the export, transit and import processes. When the courier collects the shipment from the seller, they also gather information about the nature of the goods, their value and their destination, as declared by the seller. The completed customs declaration must be provided to the customs administration in the destination country. Generally, it is transmitted electronically with the shipping invoice and any other required documents before the consignment arrives at the point of entry.

Courier associations, such as the Global Express Association, also work with customs administrations to improve data and information exchange. Most large courier businesses provide door-to-door services that are tracked and traced electronically, and this generally involves collecting additional information concerning the shipper, product and recipient. This provides a potentially rich data source that could be very helpful to NPPOs when conducting risk assessment. However, depending on the country, there may be privacy and confidentiality concerns that first need to be addressed. In addition, as with postal transactions, the information in the declaration is provided by the exporter and it may contain errors or deliberate misrepresentations, or be fraudulent.

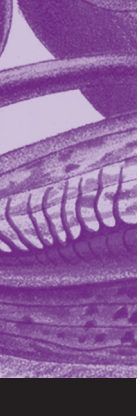
5.3 DISTRIBUTION CENTRES AND CONSOLIDATED SHIPPING

Distribution centres (also known as fulfilment centres) are becoming increasingly common since they offer a mechanism for reducing shipping costs and delivery times. Some large e-commerce platforms and marketplaces operate their own distribution centres, although others are run by third-party businesses. The services offered may include order management, warehouse management, inventory control, unpacking and repacking of goods, printing relevant shipping documentation and delivery services. Distribution centres may be located offshore, or in a free-trade zone or bonded warehouse, or elsewhere in the exporting or importing country.

A **free-trade zone** is a geographical area where goods may be imported, stored, handled, or reconfigured and then re-exported under specific customs regulation. These zones are generally established around major seaports, international airports, and land borders, allowing for faster delivery of products without incurring additional costs related to import duties.

Consolidated shipping is increasingly used to combine multiple small e-commerce shipments into a full container shipment. In this case, shippers only pay for the space they use as part of the consolidated cargo, so consolidated shipping allows them to share the cost and may be more cost-effective than using postal or courier services.

Consolidated parcel freight can contain multiple small shipments from one business or consolidators may combine shipments from multiple businesses. After the consolidated shipment clears customs and arrives at a distribution centre in the destination country, it is broken down into individual shipments for delivery to the buyer.



6. Risk-based border management

As discussed in section 1.3 and section 2.3, contracting parties should apply the least restrictive phytosanitary measures available to prevent the introduction and spread of regulated pests while minimizing impediments to trade. Similarly, the TFA states that border agencies, including NPPOs, should, where feasible, assess risks, focus measures on high-risk consignments and expedite the release of low-risk goods.

The implementation of risk-based border measures is key to improving the efficiency and effectiveness of plant-protection services while facilitating safe trade. Beyond the obligations in the IPPC and the TFA, NPPOs are continually working to improve management systems, use resources effectively and prevent the introduction and spread of pests.

Rather than relying on policies that prescribe routine inspection, sampling or testing of commodities, NPPOs are increasingly evaluating the results of inspections, sampling and testing, and then prioritizing border interventions to address the highest risks. This process of risk prioritization can help focus resources while at the same time facilitating safe trade. Such risk-based processes are becoming more and more important, given increasing volumes of trade and fixed phytosanitary resources.

The purpose of this chapter is to provide NPPOs with guidance on the gathering of data or intelligence about the pest risk posed by regulated articles moving in e-commerce trade and to highlight the importance of working with customs and other relevant government agencies to implement procedures to manage pest risk both offshore and at the border. It underscores the importance of detecting and addressing high-risk consignments and intercepting small parcels containing regulated articles that do not comply with import requirements, while expediting the clearance and release of low-risk goods and goods that meet import requirements. Such procedures will improve the efficiency and predictability of the e-commerce supply chain for traders and consumers while ensuring optimal utilization of regulatory resources.

6.1 NATIONAL CUSTOMS ADMINISTRATIONS

Customs administrations have an important role in controlling the movement of goods across national borders. The main functions of a national customs administration are to control the cross-border flow of goods, ensure compliance with government rules and regulations, collect revenues in the form of duties and taxes, protect the country against the import of prohibited and restricted goods, and provide statistical information on foreign-trade transactions, depending on the country.

Customs administrations have the authority to inspect cargo and goods shipped into, through and out of a country and to expedite entry, refuse entry or exit, and allow re-export. At the same time, they are responsible for sharing the documentation associated with a consignment with the relevant agencies to coordinate approvals and facilitate other related activities, such as inspection. Customs administrations, working in coordination with other relevant government agencies, are generally responsible for establishing and maintaining national clearance procedures that include pre-arrival processing and risk assessment of cross-border e-commerce shipments, and procedures for immediate release of low-risk shipments on arrival or departure.

In order to carry out these duties, customs administrations require information about the goods being imported. Obviously, the accuracy and adequacy of the data provided in customs declarations are crucial to risk management and the decision-making process. Ideally, the customs declarations associated with parcels containing plants, plant products and other regulated articles will include an accurate description of each item in the parcel, including what each item is made from and where it originated.

National plant protection organizations are strongly encouraged to establish cooperation frameworks with their national customs administration and with other national agencies to develop cohesive and coordinated

responses to pest risk associated with cross-border e-commerce. This may include:

- ensuring that the customs administration refers consignments containing plants, plant products and other regulated articles to the NPPO before clearance;
- sharing data related to plants, plant products and other regulated articles moving internationally in small parcels and developing non-compliance risk profiles, based on joint analysis of relevant import data, that may be used to identify and target high-risk goods and pathways, including low-value shipments;
- implementing data analytics and screening methodologies to strengthen phytosanitary controls and focus inspections on the highest-risk consignments while facilitating the release of goods that have been legitimately traded by e-commerce and of low-risk shipments;
- conducting risk assessments to identify and target high-risk consignments;
- establishing coordinated risk-based management approaches to ensure inspection efforts remain focused on the highest-risk pathways, even in a changing environment;
- detecting and intercepting illicit and non-compliant goods moving through postal and courier pathways; and
- developing joint procedures and emergency measures that are specific to the context for handling non-compliant shipments moving through e-commerce channels, and collaborating with both customs administrations and stakeholders to address non-compliances and illicit trade and to identify trends in e-commerce trade.

It is important to recognize that there are other global standards and tools, such as those developed by the World Customs Organization and directed at national customs administrations, that may be relevant to managing the pest risk associated with e-commerce trade. Some of these are presented in Appendix 1.

6.2 OTHER NATIONAL BORDER AGENCIES

It is important to recognize that NPPOs are not the only national agencies that have responsibilities and interests related to e-commerce trade. National customs administrations, border agencies, postal operators and other national agencies, such as those involved in protecting animal health or food safety or preventing trade in endangered species, all face challenges similar to those faced by NPPOs. Growing volumes of cross-border e-commerce shipments present challenges at the border in terms of ensuring rapid release and clearance while managing safety and security risks and monitoring pathways to prevent illicit trade, illicit financial flows, intellectual property rights infringement, counterfeit, piracy, and commercial fraud.

Better border management requires strong coordination and cooperation among all the relevant authorities involved in border security and in applying regulatory requirements to passengers, goods and conveyances that are moved across borders. Cooperation among government agencies is particularly important for detecting and intercepting illicit and non-compliant goods moving through postal and courier channels. Collaboration may also provide additional benefits, particularly if information on risks and risk materials, compliance, platforms that sell risky commodities, compliance promotion, enforcement strategies, and so on, are shared between agencies and between international partner agencies. Such information can help NPPOs to focus their efforts on high-risk shipments and facilitate the rapid release of low-risk shipments.

National plant protection organizations are encouraged to build both informal and formal relationships with other key national agencies working at the border. This may include the national authorities responsible for animal health, food safety and the Convention on International Trade in Endangered Species, among others. It is important to consider that collaboration to address pest risk on e-commerce pathways may involve different agencies and different processes than existing collaborations associated with traditional cargo pathways. The objective should be to raise awareness of threats and risks, including pest risk, among all government agencies involved in e-commerce and to promote cooperation and collaboration. Securing cooperation from customs administrations and postal and courier operators may be helped if these are approached jointly by phytosanitary, veterinary and food-safety authorities.

In addition, NPPOs, customs administrations and other national agencies often work in the same

physical space at the border. They may inspect the same consignments but be governed by different legislation or they may be fully integrated and have shared responsibilities, depending on the country. Strengthening cooperation at the border is ultimately about regulatory agencies within the same country, as well as like-minded regulatory agencies in other countries, putting in place integrated operating procedures, official measures, mechanisms and communication channels to ensure that regulatory processes are streamlined and effective.

Some countries have established border-control agencies that are responsible for securing and regulating the movement of people and goods across national borders. These border-control agencies may have different functions depending on the country but are often involved in facilitating legitimate trade, preventing smuggling and cooperating with other border agencies and international partners.

6.3 SINGLE WINDOW AND ELECTRONIC ADVANCE DATA

Under the TFA, all members are encouraged to establish and maintain a national single-window system, supported by information technology. The single-window system is a trade facilitation concept that allows parties involved in international trade and transportation to submit all documents required by various border agencies at once using a single portal. Documents typically include customs declarations, applications for import or export permits, phytosanitary certificates and other sanitary and phytosanitary attestations and licenses, certificates of origin and trading invoices. One of the key objectives of the single window is to reduce the regulatory burden for traders when completing import, export and transit-related procedures. However, because the single window shares the documents with all relevant agencies, it also allows border agencies to coordinate approvals, inspections and other related activities. Such systems allow the customs administration to manage and review the documents associated with consignments and to use these data to screen consignments before they arrive at the point of entry. The intent of screening is to identify which consignments are low risk and may be cleared immediately and which consignments require additional scrutiny or should be referred to the NPPO.

Providing data in an electronic format before the consignment arrives at the point of entry can improve the efficiency of the supply chain while ensuring compliance with regulatory requirements. Of course, implementing robust and effective risk-management techniques depends on having access to high-quality data – the data must be timely, complete and accurate.

Common messaging standards and harmonized and standardized datasets are important to facilitate the exchange and analysis of these data. The World Customs Organization has developed a list of common data elements that customs administrations could require for cross-border e-commerce consignments. This list, WCO Data Elements for Cross-Border E-commerce, may be a useful guide for contracting parties developing their own requirements (WCO, n.d.).

Case study 8 describes a pilot programme in Australia that uses electronic advance data to manage biosecurity risks.

Electronic advance data
Electronic advance data refers to electronic messages with information about the shipper, the recipient and the contents of individual small parcels being moved internationally by postal or courier services. Many customs administrations use electronic advance data to identify and intercept packages from foreign countries that may contain illicit, prohibited or restricted articles.

Electronic data interchange
Electronic data interchange is a standardized way of exchanging information by electronic means between and within businesses, organizations, government entities and other groups. The standards specify the formats, character sets and data elements used in the exchange of business documents and forms.

Many countries develop and implement their own national single-window, electronic-advance-data and electronic-data-interchange systems. However, many developing and middle-income countries use the Automated System for Customs Data Management (ASYCUDA) to provide electronic advance data between traders and their customs administration. This system covers most foreign-trade procedures, including manifests and customs declarations, accounting

procedures, transit and suspension procedures. It also generates trade data that can be used for statistical economic analysis and can be configured to suit the national characteristics of individual customs regimes, national tariffs and legislation. The ASYCUDA software is developed by the United Nations Conference on Trade and Development. For more information, see UNCTAD (n.d.).

Consequently, as discussed in section 1.4, it is important that countries establish a legal and regulatory framework to require advance electronic exchange of data between relevant parties involved in the e-commerce supply chain, and customs administrations and other relevant government agencies. Establishing and enhancing the timely exchange of information using national electronic interfaces, such as single windows, offers an effective tool for risk management and may be used for pre-arrival risk assessment and screening.

6.4 GATHERING DATA

Data can be gathered from multiple sources and then used as intelligence to support risk profiling and targeting of high-risk pathways as described later in this chapter. Focusing on how the information will be used may be an effective way of deciding what types of information are needed and how best to collect and analyse the data collected. Data and its analysis may come at a significant cost, so NPPOs may initially focus on what they can source from their own systems or from others at minimum cost and maximum value.

Although many NPPOs maintain databases that document phytosanitary inspections and interceptions, they may not gather data related to e-commerce. Ideally, the data that are collected from inspecting parcels on postal and courier pathways would include information such as the point of entry, seller or shipper information, e-commerce platform, conveyance or shipping method, declared contents, description of any non-compliance and the disposal (treatment or destruction) of the goods. Such data are helpful for the reporting of non-compliance to an exporting country, as well as for monitoring trends in e-commerce trade, including identifying new commodities and where particular types of regulated articles originate. The data may also be useful for risk analysis or profiling, targeting consignments and coordinating border activities with other agencies.

Risk-based inspection provides the basis for objectively measuring and comparing the non-compliance risk of different consignments based on past interceptions. Data on past interceptions can be used by NPPOs to guide the design of their inspection programme in order to generate statistically valid data that, in turn, support further risk-based or targeted inspection (NAPPO, 2020). Each inspection and pest interception, and the collective history represented by all these data, has the potential to contribute valuable information and improve understanding of the risk associated with e-commerce trade. Ideally, NPPOs should consider the history of non-compliance by sellers (exporters), buyers (importers), e-commerce platforms and other stakeholders involved in the e-commerce supply chain when evaluating the probability of non-compliance of a consignment. Clearly, the probability that a supplier with a history of non-compliance will export another non-compliant product is higher than a supplier with a history of good compliance.

Web crawlers and web scrapers

One way of gathering intelligence and identifying sellers and e-commerce platforms that trade regulated articles is to use automated data-collection tools, in the form of web crawlers and web scrapers. These tools are computer programs that have been developed to search web pages (crawlers) and extract specified information (scrapers). They systematically search website content and other information on the internet for specified keywords and create an index that can be reviewed manually.

Several web-crawler and -scraper programs are commercially available, and they can be tailored to explore web pages on the internet using keywords selected by the NPPO, thus optimizing the search specificity to products or suppliers of concern. Collected information could include, for example, the item description, scientific name, internet address (URL), price and the name and location of the seller.

Although using a computer program to collect information automatically and systematically on the internet is a powerful tool, web crawlers and scrapers do have limitations. For example, they will not identify products sold on social media and they may not be compatible with some web browsers. In addition, products that are listed in a different language and products that are intentionally mislabelled may not be identified. However, web crawlers that incorporate different types of machine-learning algorithms may make the selection of key words unnecessary and improve the effectiveness and efficiency of these tools.

See **case study 9** from Denmark about using a web crawler to search for web shops.

By consolidating data from the e-commerce supply chain, and enriching it with other data sources, NPPOs can obtain insights into supply-chain activity and relationships. For example, mystery shopping is a method that may be used to measure regulatory compliance and gather specific information about the types of regulated products sold on the internet. Mystery shopping involves pretending to be a normal customer in order to check whether it is possible to purchase regulated articles on the internet. This activity helps to identify trends and can be used to spot suspicious activities such as the movement of restricted or prohibited goods and smuggling. It may also be used as evidence to support outreach activities, such as seeking cooperation from an e-commerce platform or marketplace to close a particular pathway by identifying prohibited or non-compliant items sold on the internet.

The data that are gathered can be used to monitor individual e-commerce stakeholders and customers and identify high-risk players, thus facilitating compliant trade flows while intercepting fraudulent shipments. National plant protection organizations may use this information to create risk profiles that can be shared with their national customs administration and postal operator to improve border risk management and identify high-risk consignments, which may then be the target of physical inspections. It is therefore important to ensure that inspection data and other information feeds back to improve risk and pathway profiling.

6.5 RISK PROFILING

National plant protection organizations are continually working to improve their phytosanitary management systems and make the best possible use of limited resources. This often includes evaluating the results of inspections and then using these data to develop and continuously update risk profiles and prioritize border interventions to address the highest risks. This process of risk prioritization can help NPPOs to focus resources while at the same time facilitating safe trade. National plant protection organizations are encouraged to use risk analysis and import data to evaluate the pest risk posed by a consignment in relation to other imports, based on the commodity, its origin and historical compliance data. Risk-based screening and targeted border management should be used to identify non-compliant pathways and high-risk shipments so that these may be targeted for inspection. Similarly, data can identify pathways that have a high level of compliance, for which intervention levels can be reset to a lower level, with ongoing monitoring to ensure compliance continues or, if it reduces, to trigger a review of measures.

Risk profiling involves gathering intelligence or data to identify trends, high-risk pathways and the individuals or businesses that may be engaged in high-risk activities. Profiling can be used to identify key characteristics associated with high-risk consignments and to create risk profiles. These risk profiles may then be used for pre-border targeting of individual parcels for phytosanitary inspection using the data and documentation submitted by the shipper, postal operator or courier service to the customs administration when seeking clearance.

It is important to develop risk profiles to identify whether unknown traders are compliant. First-time and occasional shippers, buyers or sellers may pose a higher non-compliance risk than regular traders. These risk profiles should be continuously validated and updated through regular audits and identification of changing circumstances to ensure they remain accurate and do not adversely impact legitimate parties.

National plant protection organizations should consider leveraging their risk-assessment techniques, using the results of onsite inspections and sampling to periodically review the effectiveness of their risk-management approaches. Consideration should also be given as to how to detect and adapt to emerging trends, ensure the identification of relevant parties and ensure the traceability of shipments and transactions. Additional data sources should be obtained and integrated into the risk-assessment process to provide greater insight into supply-chain risk. This may include information shared by e-vendors, platforms, marketplaces and intermediaries, both in the importing countries and in the exporting (supplier) countries, where required by international obligations and permitted by domestic legislation.

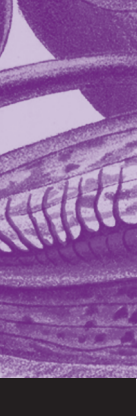
6.6 TARGETING AND SCREENING

National plant protection organizations should consider how they may enhance import verification systems for closer scrutiny of packages entering their country on postal or courier pathways. This could include enhanced cooperation with customs administrations and postal- and courier-service providers, restricting the points of entry of the traded products to facilitate inspection, and targeting or screening incoming parcels.

Targeting involves identifying and separating high-risk parcels from all the other parcels entering a country based on the risk profile of the parcel or based on the outcomes of border security screening. A parcel may be targeted for inspection pre-border using information in the customs declaration associated with the consignment or it may be targeted at the border using screening or non-intrusive inspection techniques.

Non-intrusive inspection generally involves using specialized equipment, such as 3D x-ray machines, to scan small parcels, sometimes in combination with automatic-detection technologies that can identify illicit products in the scanned images using algorithms or machine learning. Ideally, this equipment should be automated and integrated into the parcel-handling systems (i.e. conveyor belts) at points of entry and at international-mail facilities to automatically target, detect and intercept the entry of prohibited items and regulated pests. Such machines are ideal for ensuring that parcels that go through the machine don't contain any forbidden or regulated objects or contraband, while minimizing potential disruptions to the flow of legitimate shipments.

Dogs may also be used to detect contraband either alone or to complement the use of x-ray technology. Canine detectors are often a good option in postal facilities and in airport environments and can be trained to detect a wide range of targets from drugs and contraband to plants, seeds, insects and other regulated goods with defined odour profiles.



7. Border operations

7.1 PHYTOSANITARY INSPECTIONS

While profiling, targeting and screening activities may be undertaken in collaboration with other agencies, activities related to verifying that an individual parcel meets phytosanitary import requirements is the responsibility of the NPPO or a delegated authority. This means that NPPOs need to carry out activities at the border to intercept small parcels and verify whether they contain prohibited articles and whether restricted articles meet national phytosanitary import requirements. This verification is generally carried out by inspecting the documentation and the contents of parcels that have been identified as high risk to verify that the contents of the parcel are accurately described, that there are no prohibited articles and that any restricted articles meet phytosanitary import requirements and are accompanied by appropriate import permits and phytosanitary certificates, if required.

Inspections should focus on parcels identified as high-risk and on suspicious parcels. Suspicious parcels may be mislabelled, be oddly shaped, emit foul odours, be stained or be labelled with fictitious names or addresses. Parcels for which both the sender and receiver appear to be private citizens are often considered to have a higher risk of non-compliance. These types of parcels are often characterized by handwritten labels, thick envelopes or the use of non-commercial boxes.

Contracting parties should have documented and transparent inspection procedures in place. These procedures should:

- specify the legal and operational roles and responsibilities of the NPPO, customs administration and other agencies in coordinating and carrying out both non-intrusive and intrusive inspections;
- clarify whether both inbound and outbound parcels are inspected;
- describe what constitutes non-compliance and how inspection results are recorded, communicated and reported;
- describe how interceptions of non-compliant consignments at the point of entry are handled and how prohibited or illicit goods are treated or destroyed to mitigate pest risk; and
- describe steps to be taken when non-compliant articles are reported after they have been cleared and delivered to the receiver.

7.2 NON-COMPLIANT CONSIGNMENTS

The scale and diversity of e-commerce trade presents regulatory challenges as do transactions between new, casual or infrequent sellers and buyers. Individuals and companies that sell through e-commerce may not be legally registered businesses and may not disclose their operating location. These types of traders frequently fail to acquire the appropriate import permits and phytosanitary certificates or to use appropriate labelling for packages. In addition, postal and courier services rely on customs declarations made by the seller and may be unaware that they are transporting regulated articles that are a potential pathway for regulated pests.

Many of the same compliance and enforcement tools and strategies that are already available to NPPOs can also be used in the e-commerce context. For example, when an imported e-commerce consignment is found that does not comply with phytosanitary regulations, the consignment should be refused entry and appropriate phytosanitary actions should be applied to address the pest risk. The type of phytosanitary actions taken should depend on the circumstances and should be the minimum necessary to reduce the pest risk identified. However, in the case of low-value parcels moving on postal or courier pathways, the most common phytosanitary action in response to non-compliance is destruction of the consignment.

Some of the most common non-compliances found in association with small parcels moving in e-commerce trade include the following:

- The parcel contains plants, plant products or other regulated articles that are not as described in the customs declaration or in the import permit relating to the goods.
- The parcel contains plants, plant products or other regulated articles but does not include necessary documentation confirming that import requirements have been met (e.g. phytosanitary certificate).

- The parcel contains plants, plant products or other regulated articles that are prohibited entry to the country.
- A regulated pest is detected.

Interceptions of non-compliant e-commerce consignments

United States' data indicate that, between 2018 and 2022, there were 2 258 seizures of plant and animal products in 49 states, weighing a total of 13 038 kg. These products evaded inspection at the point of entry and were identified as a result of investigations into the e-commerce pathway (USDA-APHIS, personal communication, 2023).

The NPPO of the importing country should notify the NPPO of the exporting country of significant instances of non-compliance with phytosanitary import requirements, whether or not the consignment requires a phytosanitary certificate. Significant non-compliance may include repeated instances of prohibited articles moving in small parcels on postal and courier pathways. Notifications should comply with the requirements of ISPM 13 (*Guidelines for the notification of non-compliance and emergency action*).

When significant non-compliances are detected, the NPPO of the importing country should gather sufficient information to allow the NPPO of the exporting country to trace the source of non-compliance, investigate, and apply corrective actions to avoid reoccurrence. The notification should include as much information about the consignment and non-compliance as possible. Ideally, it will include the identity of the consignee and consignor, country of origin, declared contents or manifest, actual content, photographs, and description of the non-compliance. One common challenge is identifying the country of origin, because the e-commerce platform may be based in one country while the plants are sourced from another or even several other countries.

National plant protection organizations are strongly encouraged to develop relationships with other NPPOs to share information and best practices related to the mitigation of pest risk associated with e-commerce trade. This may include establishing formal or informal meetings between countries that share common phytosanitary interests or trade concerns to improve information sharing and general collaboration. As permitted by domestic laws, NPPOs should consider sharing information about non-compliant sellers and e-commerce platforms with other relevant NPPOs to assist in bringing them into compliance.

Case study 10 describes how cooperation between NPPOs can enhance phytosanitary compliance.

7.3 ADDRESSING FRAUD AND SMUGGLING

Illicit trade includes the import and distribution of goods that are considered illegal by national legislation. Because national criminal law provides the foundation for the powers and tools needed to address illicit trade, the processes between plant-health and criminal authorities should be clear and well communicated.

Fraud and smuggling are the most common types of illicit trade in plants, plant products and other regulated articles. Although countries may have their own definition of fraud, fraud is generally considered to involve wrongful or criminal deception that is intended to result in financial or personal gain. It involves the false representation of facts, whether by intentionally withholding important information or by providing false statements for the specific purpose of gaining something that may not have been provided without deception. Fraudulent activities may, for example, include providing false or incomplete customs declarations (e.g. false consignor name or inaccurate description of contents of parcel), incorrect customs clearance codes or counterfeit phytosanitary certificates.

The online trading environment presents opportunities whereby people or businesses can engage in importing or exporting plants and plant products illegally (i.e. smuggling). The relative anonymity of the internet and the fragmented and direct nature of selling and buying on the internet may make it possible for smugglers to escape scrutiny and avoid repercussions. Furthermore, given that e-commerce platforms allow for individual sales, some sellers may decide to ship goods they know are non-compliant, with false or misleading accompanying documentation, on the assumption that most consignments will not be intercepted and will reach their buyers.

Tips

Actions for NPPOs to address fraud and smuggling

It is critically important that NPPOs establish procedures to analyse and investigate illicit cross-border e-commerce activities, with a view to preventing and detecting fraud and smuggling, deterring individuals and companies from misusing e-commerce channels, and disrupting illicit flows. NPPOs are encouraged to:

- maintain a database of repeat offenders or blacklisted consignees and impose sanctions on those that continue to disregard phytosanitary import requirements and to trade in illicit goods (e.g. target subsequent shipments for inspection);
- ensure that data from incidents of fraud and other illicit trade feed back into risk profiling and risk-based border management;
- cooperate closely with their customs administration and with other national and international authorities to establish procedures and implement effective enforcement tools and strategies to detect, report and investigate fraud and smuggling cases;
- share information related to e-commerce interceptions with national partners and e-commerce stakeholders, and collaborate with them to promote compliance, address non-compliance and reduce instances of fraud and smuggling; and
- cooperate with customs administrations and other law-enforcement agencies to carry out joint investigations at the national and international levels (including, where needed, cooperation with the exporting country where the relevant parties are situated).

Case study 11 provides an example of the steps taken in New Zealand to stop repeated online purchasing of foreign-origin seeds and bulbs.

However, the electronic nature of illicit trade and the complex trail of transactions make the investigation of fraud and smuggling challenging. Not only do NPPOs require the appropriate powers to investigate, but they may also need to develop the capacity to carry out investigations to identify illicit trade channels. This may include following digital traces; handling seized goods; and gathering and managing evidence effectively.

See **case study 12,** which describes the challenges faced by NPPOs in identifying illicit traders and some of the means for meeting these challenges.

8. Promoting compliance

Each time that goods are seized or a parcel is opened for inspection represents an opportunity for the NPPO to raise awareness by making the buyer and seller or e-commerce platform involved in the transaction aware of the pest risk posed by the consignment. This could take the form of educational letters that are sent to buyers and sellers to inform then that their parcel was seized, or educational letters that are included in parcels that are opened for inspection before being delivered to the buyer.

National plant protection organizations should have a simple and well-publicized mechanism that citizens may use to report non-compliant e-commerce consignments or the presence of a pest of concern associated with goods or parcels that they receive. If stakeholders see something unusual or unexpected, they should be encouraged to secure it and then report it to the NPPO as soon as possible. The NPPO should follow up and investigate all reports relating to imported items that arrive through postal or courier services.

Case study 13 highlights the impact that a well-informed online community can have in reporting illegal plant imports.

National plant protection organizations are encouraged to interact proactively with e-commerce platforms and marketplaces that sell plants, plant products and other regulated articles to make them aware of the phytosanitary import requirements associated with the commodities traded on their platform or marketplace. The objective should be to ask the platforms and marketplaces to implement mechanisms that will prevent both the import and export of items that are prohibited or do not meet phytosanitary import requirements.

Countries may wish to consider the possibility of establishing authorized-economic-operator or other trusted-trader programmes in the context of cross-border e-commerce trade. As an incentive, trusted e-commerce platforms and marketplaces that continue to meet specified conditions and criteria regarding compliance and security may be offered simplified clearance procedures or be subjected to a lower rate of inspection than consignments that are from unknown platforms or those that have a poor track record.

Industry associations and other private-sector organizations can also play a role in extending outreach and improving communication about phytosanitary import requirements and plant-health security. Improved cooperation with these entities is a good way for NPPOs to identify emerging trends, evaluate risk and identify mitigation opportunities.

National plant protection organizations are encouraged to also contact internet-trade and hobby groups and online fora in order to raise awareness of phytosanitary import requirements and pest risk and to seek their cooperation and promote compliance with the phytosanitary import requirements of importing countries. As a minimum, plant traders should be encouraged to check phytosanitary import requirements and obtain any necessary permits or phytosanitary certificates before they complete international transactions.

The internet provides the opportunity for anyone to be a buyer or a seller and it means that there are many new traders involved in the e-commerce supply chain who are unaware of the pest risk posed by the goods that they are buying or selling. This highlights the real need for NPPOs to establish mechanisms to raise awareness among these new traders and everyone involved in the e-commerce supply chain to explain phytosanitary regulatory requirements, why they are important and how to comply with them. Robust advocacy and comprehensive awareness-raising, communication, education and outreach activities can be powerful tools by which to promote compliance with phytosanitary import requirements and address the pest risk associated with e-commerce.

9. Case studies

Case study 1

Plant material sales via social media (United States of America)

Contact details of submitter:
Julie Hong-Sakowski
National Operations Manager
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
United States Department of Agriculture
United States of America
Phone: (+1) 919 8557372
Email: julie.hong-sakowski@usda.gov

Location and timeline:
Internet platforms, approximately 2017 to present

Content of the case study:
In approximately 2017, the Smuggling Interdiction and Trade Compliance (SITC) Internet Team of the NPPO in the United States of America (the United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine program) observed a new trend whereby social-media and mobile-app users were advertising and organizing the sale and trade of plant material in both public and private groups. The use of these technologies in this way enabled sellers to have quick and easy access to a large audience, allowing them to share pictures of offerings and encouraging direct messaging (DM) or private messaging (PM) to arrange the sale or trade of items.

Social media has given rise to unlimited interest groups, whereby participants can join or create their own public or private groups with a targeted focus. Groups dedicated to all manner of plant and other agricultural interests flourished on websites such as Facebook and Instagram, especially during the initial years of the COVID-19 pandemic. These interest groups bring together people from all over the globe, facilitating discussions and providing opportunities for participants to make purchases via DM or PM using online payment applications such as PayPal or Venmo.

One particular observation worth noting is the use of seed trains, initiated when someone packages a box full of various seeds and posts the package to another group member. The receiving member removes a packet and replaces with another packet, and ships to another member. This continues until the box is returned to the initiator. As group members could be located anywhere in the world, this results in a box of seeds traversing the globe.

Observers of these groups will also notice dialogue concerning the sale of phytosanitary certificates, tactics used to circumvent border inspections, mis-manifestation, packaging tricks such as using intentionally small envelopes or boxes, and so on.

Regarding mobile apps, it can be more difficult to accurately identify illicit activities, as users are masked by phone numbers. The increasing use of online phone numbers enables ease of use and allows for the same methods as used in social media for the sale of agricultural materials.

In both cases, acquiring proof of sales is nearly impossible unless the regulatory official can issue a subpoena for each incident identified. For NPPO officials in the United States, obtaining a subpoena requires sufficient evidence that a violation of Title 7 of the Code of Federal Regulations (i.e. the part of the code concerning agriculture) has occurred. Despite visual evidence (i.e. screenshots) of an individual stating that they will contact the seller, regulatory officials can only assume a sale may have taken place.

An NPPO could look into facilitating undercover purchases to acquire information from the package label or the payment. However, this method is not used by most NPPOs at this time.

Currently, the SITC Internet Team monitors social-media platforms for proof of sale through a publicly available post and by initiating outreach to businesses and groups. When seller addresses can be determined, SITC officials take action using available options to target incoming shipments and close the pathway.

Case study 2

Trading seeds through e-commerce (Belgium)

Contact details of submitter:

Lieven Van Herzele
IPPC official contact point
Federal Public Service Health Food Chain Safety and Environment
DG Animals, Plants and Foodstuffs
Belgium
Phone: (+32) 2 5247323
Email: lieven.vanherzele@health.fgov.be

Federal Agency for the Safety of the Food Chain
DG Control – Import Team
Email: import@favv-afsca.be

Location and timeline:

Border-control post of Brussels airport and postal and courier businesses nearby, January 2021 to December 2022

Content of the case study:

Background and findings

The NPPO of Belgium (the Federal Agency for the Safety of the Food Chain), in cooperation with customs authorities, applies controls to small consignments of goods sent to natural persons and not intended for marketing, in accordance with Article 10 of Regulation (EU) 2019/2122 (European Union, 2019a). In 2021 and 2022, 138 small shipments of seeds were found that had been imported via Belgium for private individuals. As these consignments did not meet the criteria listed in Article 10 of Regulation (EU) 2019/2122, these consignments were seized and destroyed, in accordance with Article 9 of Regulation (EU) 2019/2122. In accordance with Article 66(5) of the Official Controls Regulation (EU) 2017/625 (European Union, 2017), a common health-entry document for plants and plant products was created for each of these non-compliant shipments (which lacked a phytosanitary certificate). In this way, the European Commission, the EU Member States and the third country (the country of origin) is notified of the non-compliant consignment. Third countries are assumed to take action in order to avoid new non-compliances.

Issues and key challenges

The enormous increase in e-commerce sales of seeds and other products in the last few years has resulted in a sharp rise in the volume of parcels imported from all over the world via postal and courier pathways. Until now, phytosanitary controls have focused on business-to-business transactions and imports on the cargo pathway. Given the fact that small parcels may contain goods that pose a pest risk, it is important to apply appropriate measures to the postal and courier pathways.

Besides the enormous influx of small parcels, some of the issues faced by the NPPO include the following:

- Online shoppers are often unaware that plants and plant products may not be authorized for import or they may only be imported if specific conditions are met.
- The operator responsible for the load (postal and courier businesses) may not notify the NPPO about the consignment, which means that the parcel is not presented to the NPPO for import control.
- It is difficult to intercept consignments that should have been presented for import control but were not, because:
  - the identification of the parcel (description of the content) on the accompanying documents (such as air waybill) and the labelling of the parcel does not always correspond to its content; and
  - the country of origin of the parcel is not always known (e.g. the goods may be ordered using an EU website, but the consignment may be shipped from another country outside the European Union).

Lessons learned and future plans

There are several possible approaches to addressing this problem:

- Raising awareness among e-commerce consumers to promote compliance: Many consumers unknowingly and unintentionally import potentially harmful goods. It can therefore be assumed that part of the problem may be addressed by taking steps to inform consumers and raise their awareness about the risks associated with online shopping and the importance of ensuring that phytosanitary import requirements are met.
- Reminding postal and courier businesses of their responsibilities: A very important component is to ensure that postal and courier businesses are aware that, in accordance with Article 10 of Regulation (EU) 2019/2122 and Article 45 of Regulation 2016/2031 (European Union, 2016), they are required to draw their customers' attention to the entry requirements of the importing country.
- Revision of control methodology: In cooperation with other competent authorities such as customs administrations, the current difficulties will need to be identified and an evaluation made of how, with the available resources, the NPPO should deal with them (for example performing actions with the use of scanning equipment). Cooperation and exchange of knowledge between the competent authorities will be an important element in this.

Given the enormous number of parcels and the international nature of e-commerce, it will be necessary that there is good cooperation between countries to address these problems.

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European Union. 2019a. Commission delegated Regulation (EU) 2019/2122 of 10 October 2019 supplementing Regulation (EU) 2017/625 of the European Parliament and of the Council as regards certain categories of animals and goods exempted from official controls at border-control posts, specific controls on passengers' personal luggage and on small consignments of goods sent to natural persons which are not intended to be placed on the market and amending Commission Regulation (EU) No 142/2011. *Official Journal of the European Union L*, 321: 45–63. http://data.europa.eu/eli/reg_del/2019/2122/2023-02-19

Further reading

European Union. 2019b. Commission Implementing Regulation (EU) 2019/2072 of 28 November 2019 establishing uniform conditions for the implementation of Regulation (EU) 2016/2031 of the European Parliament and the Council, as regards protective measures against pests of plants, and repealing Commission Regulation (EC) No 690/2008 and amending Commission Implementing Regulation (EU) 2018/2019. *Official Journal of the European Union L*, 319: 1–335. http://data.europa.eu/eli/reg_impl/2019/2072/2023-01-11

Case study 3

Seeking cooperation from e-commerce platforms: going to the source to stop plants shipped to New Zealand

Contact details of submitter:

Carolyn Bleach
Plant Health Incursion Investigation Team Manager
Biosecurity New Zealand
New Zealand Ministry for Primary Industries
Email: Carolyn.bleach@mpi.govt.nz

Location and timeline:

International Mail Centre, New Zealand, 2020

Content of the case study:

Staff at the International Mail Centre in Auckland advised the NPPO of New Zealand (the Ministry for Primary Industries) that they had intercepted live plants and soil from Australia. The plants, which had been purchased from the Australian exporter's website, contained three silver sprinkle (*Pilea libanensis* Urb. (Rosales: Urticaceae)) and two string of turtles (*Peperomia prostrata* Williams (Piperales: Piperaceae)) plants. Neither of the species is listed on the New Zealand Plant Biosecurity Index; therefore, they cannot be legally imported and the contents of the parcel had been destroyed. The NPPO of New Zealand confirmed that the importer did not have a history of biosecurity non-compliance so they were issued with information on the correct biosecurity procedure for the importation of plants to New Zealand.

The Australian exporter's website clearly indicated that they did not ship to some Australian states because of interstate quarantine rules. The NPPO of New Zealand sent a letter to the Australian exporter clarifying New Zealand's import requirements and requested that they comply with those regulations or refrain from shipping any organic material (plants, seeds and growing media) to New Zealand.

The Australian exporter was regretful and immediately implemented the same quarantine policy used in their country and ceased posting live plants to New Zealand clients.

This incident led staff at the International Mail Centre, in collaboration with the Plant Health Incursion Investigation team and the NPPO's biosecurity marketing team, to develop the factsheet for Biosecurity Information for International Suppliers to New Zealand, illustrated on the next page.

Biosecurity New Zealand
Tiakitanga Pūtaiao Aotearoa

Biosecurity Information for International Suppliers to New Zealand

Items coming into New Zealand need to pass strict biosecurity requirements to prevent the introduction of harmful pests and diseases. If you are sending goods to New Zealand it is your responsibility to know exactly what is being sent and to meet import requirements.

Check it is allowed in New Zealand

Some goods are a significant biosecurity risk and are not allowed into New Zealand under any circumstances. Other goods may only be allowed if they meet relevant Import Health Standards (IHS).

MPI has a tool to help you get some quick answers to what you can post to New Zealand. You can see this here: www.mpi.govt.nz/bring-send-to-nz/bringing-and-posting-items-to-nz/check-if-you-can-bring-or-send-an-item-to-nz/

Restricted or prohibited items may include:

- Packed seeds and seeds for planting;
- Any packets of food;
- Honey and bee products;
- Plants, bulbs, cuttings, corms or tubers;
- Items restricted under the Convention on International Trade in Endangered Species (CITES) such as coral, ivory, snakeskin, whale bone items, turtle shell and some traditional medicines.

Sending goods

Make sure goods are clean and free of any organic matter (e.g. soil, seeds, plant material). Do not pack items in egg cartons or boxes that have been used to hold fruit, vegetables, or other food items. If you are sending footwear, fishing gear, camping equipment or the like, ensure it is clean, dry, and free of any soil or seeds.

Fill out the postal declaration clearly with a detailed description of each item and what it is made from. If you have any additional requirements under Import Health Standards, ensure these are completed (e.g. phytosanitary certificates for seeds).

Arrival of goods

Incoming mail is screened using the required declaration, X-rays and detector dogs to detect items that may contain restricted goods. Mail that may contain risk goods like food or seeds may be opened and examined and may be detained at the border to ensure compliance with New Zealand's biosecurity requirements.

If risk goods are found these may be treated, reshipped, or destroyed (at the owner's cost). As well as putting New Zealand's environment and primary industry at risk, sending risk goods is likely to affect the experience of your customers in New Zealand.

Further information

The Ministry for Primary Industries manages the risk of new pests and diseases arriving into New Zealand and has extensive controls in place to protect New Zealand from such risk. The Biosecurity Act 1993 provides the legal framework for these controls.

Requirements for the importation of certain products and commodities are outlined in Import Health Standards (IHS). For example, in the case of plants and seeds, the IHS for whole plants is covered by Importation of Nursery Stock 155.02.06 and seeds by Seeds for Sowing 155.02.05.

You can find Import Health Standards and related information for goods to be imported into New Zealand here: https://www.mpi.govt.nz/legal/compliance-requirements/ihs-import-health-standards/

New Zealand Government

Ministry for Primary Industries
Manatū Ahu Matua

Information sheet on Biosecurity information for international suppliers to New Zealand

Case study 4

Banning the sale of propagative material through e-commerce platforms to buyers in the United States of America

Contact details of submitter:

Julie Hong-Sakowski
National Operations Manager
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
United States Department of Agriculture
United States of America
Phone: (+1) 919 8557372
Email: julie.hong-sakowski@usda.gov

Location and timeline:

E-commerce platforms, since 2010

Content of the case study:

The Smuggling Interdiction and Trade Compliance (SITC) Program, under the NPPO of the United States of America (United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine program), has been conducting surveillance activities of e-commerce platforms since 2010. The SITC Internet Team works with e-commerce platforms to deliver outreach, bring sellers into compliance, acquire information on transactions and help block the sale of high-risk items as determined by the NPPO.

Over the years, the NPPO team has successfully recovered thousands of kilograms of regulated agricultural material sold through e-commerce platforms. The team has also had success in having access to items such as high-risk citrus cuttings and federal noxious weeds removed from US-based buyers.

In the summer of 2020, the United States, along with many other countries, experienced a brushing event in which large quantities of supposedly unsolicited seeds were received by US residents, shipped from outside the United States.

Brushing is a technique used in e-commerce whereby, to boost seller ratings, fake orders are created and shipped to an accomplice or unknowing recipient selected at random.

The majority of the packages originated in China, although several other countries were also identified, including the Russian Federation and the Philippines. The results of the investigation determined that many of these shipments were free gifts that had been sent in exchange for users registering on various websites (e.g. Wish.com) or buyers who had forgotten about seeds ordered. The brushing incident paved the way for the NPPO to collaborate with several e-commerce platforms to remove US-buyer access to all propagative seeds and other material. Since the ban on propagative material, the SITC Internet Team has conducted follow-up sweeps of the platforms and confirmed, as of Sept 2021, that there are no active listings for US residents for foreign-origin seeds.

Further reading:

USDA-APHIS (United States Department of Agriculture, Animal and Plant Health Inspection Service). 2020. USDA investigates packages of unsolicited seeds from China. In: *United States Department of Agriculture, Animal and Plant Health Inspection Service.* [Cited 6 September 2023]. https://www.aphis.usda.gov/aphis/newsroom/stakeholder-info/SA_By_Date/SA-2020/SA-07/seeds-china

Botanists from the United States' NPPO analyse unsolicited seeds arriving in packages

Package examined by NPPO botanists to determine if it contains plant pests

*Unsolicited seeds of ivy-leaved morning glory (*Ipomoea hederacea *Jacq. (Solanales: Convolvulaceae)) received by US residents from overseas and examined by NPPO botanists*

Note: For further photos, see: https://www.flickr.com/photos/usdagov/sets/72157715308343856/

Case study 5

Registering e-commerce platforms and marketplaces in Argentina

Contact details of submitter:
Diego Quiroga
Plant Protection Director
National Service for Agri-Food Health and Quality
Argentina
Phone: (+54) 11 4121 5495/5176
Email: dnpv@senasa.gov.ar

Location and timeline:
Argentina, January 2020 to August 2021

Content of the case study:
Digital innovations over the last two decades have contributed to a huge increase in the number of e-commerce businesses involved in buying, selling, handling financial transactions, shipping, and marketing a wide range of products and services. This has also resulted in changes to the agrifood sector, where e-commerce has seen constant growth but where corresponding sanitary and phytosanitary regulations and inspection procedures were not in place. The NPPO of Argentina (the National Service for Agri-Food Health and Quality (SENASA)) identified these regulatory gaps and decided to target the e-commerce pathway in order to prevent the digital sale of prohibited products and of substances that may pose a consumer health risk.

In 2019, the NPPO signed a Reciprocal Cooperation Agreement with Mercado Libre, the most popular e-commerce platform in Latin America and the fifth largest in the world, thus becoming the first animal- and plant-health regulatory body to sign such an agreement with Mercado Libre and enter into the regulation of the e-commerce sector.

In May 2020, the NPPO created the Digital Media Supervision and Monitoring Programme under the authority of the NPPO's Presidency Unit (Resolution 344). The objective of this programme is to create a safer and more reliable e-commerce environment, and to protect online consumers. This is done by monitoring operations and transactions on various digital platforms for products and by-products of animal and plant origin that are under the exclusive authority of the NPPO, as per Article 1 of Argentina's animal- and plant-health legislation (Law No. 27 233).

In December 2020, this work was expanded to include the two social-media networks that have the highest volume of registered users worldwide and more than 30 million active users in Argentina. This invaluable collaboration has allowed the NPPO to work in a coordinated manner to monitor and control products under its authority that may be in violation of current regulations.

During the first quarter of 2021, additional activities were initiated in collaboration with the Argentine Customs Service and Postal Service to revise national standards and update the lists of products categorized as being "prohibited from entering the country". These were key steps toward mitigating the pest risk posed by goods imported into Argentina from other countries through postal and courier services.

In March 2021, in collaboration with the Argentine presidential office that is responsible for operating the ".ar" top-level web domain, a specific area named "Senasa.ar" was established. This area is for the registration of web domains where plants and other products and services within the Agency's scope of competence are traded, and which must be duly registered according to the regulations. It is the first such registration system for web domains to be developed in Argentina and the fifth one internationally (after Brazil, Ireland, Japan, Tunisia and the United Kingdom of Great Britain and Northern Ireland) and it provides to the associated domains a quality seal, providing greater security and transparency to consumers. This initiative is unprecedented in Argentina and incurs no additional cost for the state.

Results and impacts
By August 2023, more than three years after establishing the Digital Media Supervision and Monitoring Programme, 295 047 infringing and

unsubscribed online or social-media posts had been detected on the three main digital platforms with whom the NPPO is working collaboratively.

Of these posts, 68 percent related to regulated articles or veterinary and animal products whose sale is prohibited; 5 percent were products such as animal feed and organic, ecological or biological products without certification; and the remaining 27 percent were related to non-registered agrochemicals and fertilizers, plant-propagation material from non-registered nurseries or protected plant species.

Lessons learned and challenges

The NPPO's regulatory activities related to these types of digital transactions have resulted in a considerable increase in enquiries about the new registration procedures and in registrations of products that previously were not regulated. This allows a greater number of online vendors to sell their goods within the established legal framework, providing improved security to consumers.

The Digital Media Supervision and Monitoring Programme generates regular reports and statistics that allow the NPPO to identify the most sensitive issues in relation to public health, as well as potential sanitary and phytosanitary risks, and to optimize their approach to addressing risks associated with e-commerce trade.

Understanding the e-commerce sector allows the development of clear, comprehensive and scalable strategies. The NPPO of Argentina is recognized by the e-commerce sector as the regulatory authority for sanitary and phytosanitary requirements in Argentina and this programme represents a new step towards transparency of the control processes.

The creation of this new programme has enabled the NPPO to be at the forefront of the development of initiatives and actions aimed at making e-commerce transactions more transparent and safeguarding not only the health of consumers but also the phytosanitary status of the country in international trade. The strengthening of public–private collaboration in e-commerce enables the development of agreements to achieve more collaborative environments and better experiences for those who trade goods through the internet.

Case study 6

Initiatives to raise awareness about e-commerce in Canada

Contact details of submitter:
Bruno Gallant
Senior Legislative Officer
Plant Protection Division
Canadian Food Inspection Agency
Canada
Phone: (+1) 506 9614634
Email: Bruno.gallant@inspection.gc.ca

Location and timeline:
Canada, 2020–2021

Content of the case study:
Goods purchased online may originate from anywhere in the world and be sent directly to consumers who have ordered the goods online and who may not be familiar with import requirements. This presents a significant challenge to regulatory agencies in Canada, including the NPPO (the Canadian Food Inspection Agency).

Awareness-raising campaign
Online retail sales have been rising over time, with an appreciable increase since the beginning of the COVID-19 pandemic. Retail e-commerce sales in Canada grew nearly 21 percent in 2020, reaching over CAD 52 billion.

Starting in 2020, the NPPO implemented a compliance-promotion campaign among online consumers in Canada (Government of Canada, n.d.(a)) to raise awareness about Canada's import requirements for food, plants and animals, and to encourage and promote the adoption of best practices when trading online (e.g. do your research, contact seller if needed, be aware of import requirements). The NPPO's communications and marketing products included social media, an e-commerce topic page (Government of Canada, n.d.(b)), articles (Government of Canada, n.d.(c)), and outreach to key partners and stakeholders to further the reach of the messages.

That said, one of the challenges for the NPPO when communicating about e-commerce is identifying and reaching a public that is not normally one of its regulated parties. Web and social-media materials on NPPO platforms offer detailed information about e-commerce, but their impact is limited because the target audience is largely unaware that it exists and would have to search the internet or follow the NPPO on social media to find guidance.

With the goal of reaching a larger and more relevant consumer base, the NPPO therefore adopted a digital campaign strategy (including paid advertising) starting in November 2020. The campaign was designed to target individuals as they were researching or buying products online that were regulated by the NPPO. For plant health, the focus of the campaign was on items that the NPPO deemed most likely to be purchased online and to possibly escape border scrutiny. This included the following products marketed online to consumers in Canada for direct shipping by postal or courier service, typically in small packages:

- plants and plant products, including seeds and other propagative material;
- living insects and other invertebrates, including snails and earthworms; and
- wooden handicrafts, such as carvings, baskets, boxes, bird houses, picture frames and pens.

The key messages of the overarching campaign included the following:

- Check before checking out – know the rules and the potential risks before buying online.
- Just because an item is available for sale online, does not mean it is approved to be imported or that it meets Canadian requirements.
- Some goods could be harmful to Canada's natural resources and economy.
- Help ensure import requirements for plants, food, animals and related products are met.

Results
Overall, the awareness-raising campaign was considered successful. Some of the key findings are as follows:

- The advertising campaign had good overall visibility, with over 111 million impressions and 274 000 clicks leading to the campaign web pages.
- The timing of the advertising campaign contributed to its performance. Running the campaign during the planting season benefited the plant ads.
- Canadians are generally aware that plant products, live insects and live snails present risks. In comparison, awareness about the roles and responsibilities of online buyers and sellers is generally low.

In order to further promote compliance with its plant-health regulations, the NPPO plans to continue educational and awareness-raising initiatives that target e-commerce buyers and sellers.

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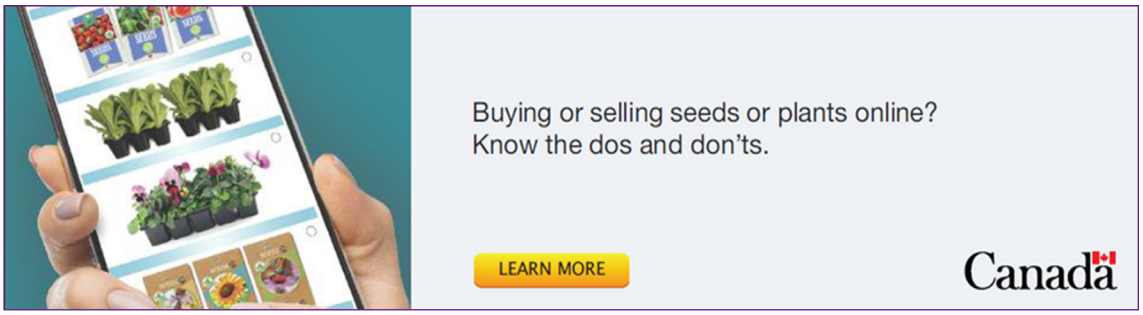
Government of Canada. n.d.(e). Riding the e-commerce wave: be aware of risks of some online purchases. In: *Government of Canada*. [Cited 21 July 2023]. https://inspection.canada.ca/inspect-and-protect/plant-health/riding-the-e-commerce-wave/eng/1611103500562/1611103736547



Example of a seed- and plant-specific digital campaign ad

Case study 7

Exporting regulated articles from Jamaica in small quantities through retail e-commerce

Contact details of submitter:

Damian Rowe
Chief Plant Quarantine/Produce Inspector (Acting)
Ministry of Agriculture, Fisheries and Mining
Jamaica
Phone: (+1) 876 9776401
Email: damian.rowe@moa.gov.jm

Location and timeline:

Jamaica, 2021

Content of the case study:

Jamaica is known worldwide for the use of plants (herbs) for medicinal purposes and with the explosion of e-commerce, coupled with the COVID-19 pandemic, the country has seen a significant increase in the export of small quantities of regulated articles primarily to major export markets.

Jamaica's NPPO, in recognizing the problem, has undertaken the following activities:

- The NPPO has identified the most frequently exported plant material and created a database on the identification of such material, providing the public and small exporters with the scientific names of plants for input into the Generic ePhyto National System before inspection. This improves the efficiency of the inspection and phytosanitary certification process.
- The NPPO has analysed the pest risk posed by each plant material and has identified the requirements for inspection protocols to be followed by inspectors.
- Inspection guidelines have been established by the NPPO for all plant materials, including drying requirements, minimal processing requirements (frozen, slicing, etc.), pest free requirements, and so on.
- The NPPO has conducted a series of awareness or sensitization activities, such as training sessions and workshops, for national customs officials, e-commerce providers, freight forwarders, exporters and importers.
- Official correspondence has been sent from the NPPO to the major courier and shipping businesses (DHL, FedEx, etc.), the customs authority and the postal service regarding the requirements for the export of regulated articles.
- The NPPO has worked closely with customs authorities to input the import and export requirements for plants, plant products and other regulated articles into the customs database (Automated System for Customs Data Management (ASYCUDA) border management system).
- Posters, public service announcements, radio broadcasting and social-media platforms (Facebook and Instagram) have been used by the NPPO to engage stakeholders.
- Four additional inspection and certification points or sites have been opened in major towns across the country to allow easier access for e-commerce users to these services and to ensure a more effective inspection and phytosanitary certification system.
- The NPPO has introduced an inspection and export-certification sticker and seal to accompany all small quantities of regulated articles being exported. Once export phytosanitary inspection of small quantities is completed and all the requirements for packaging are met, the packaging is sealed with a tamper-proof tape and a sticker is attached. These serve as identifiers for border-protection agencies such as the Security & Customs Authority in Jamaica, confirming that the shipment has been certified by the NPPO and meets the export requirements. The use of the seal and sticker provides assurance that the items being exported through postal or courier services have been inspected by the NPPO and have not been subject to tampering. In summary, this measure ensures that only items inspected and certified by the NPPO are presented to courier services for export.
- The NPPO uses the Generic ePhyto National System to certify small parcels containing regulated articles

for export. As phytosanitary certificates can be sent electronically, this has helped the NPPO to maintain the integrity of the phytosanitary certificate and has reduced the time and cost compared with the manual phytosanitary certification process.

Results

The activities described above have resulted in the following benefits:

- a reduction in non-compliance reporting from NPPOs in major e-commerce export markets;
- an increase in the compliance of major shipping and courier businesses with Jamaica's export requirements;
- closer relationships with the customs authority, courier and shipping businesses, and the postal service, with a greater understanding, appreciation and commitment from all stakeholders associated with port management; and
- an increase in the number of online users (public, small exporters, businesses, etc.) requesting inspection and export-certification services from the NPPO.

Poster promoting the guidelines for non-commercial export procedures published by the Jamaica Ministry of Agriculture

Case study 8

Using advanced data to manage biosecurity risks in Australia

Contact details of submitter:

Steve Harris
Director, Profiling and Targeting Section
Australian Department of Agriculture, Fisheries and Forestry
Australia
Phone: (+61) 2 62765544
Email: steve.harris@aff.gov.au or ippc.contactpoint@agriculture.gov

Location and timeline:

Australia, ongoing pilot

Content of the case study:

The NPPO of Australia (the Department of Agriculture, Fisheries and Forestry) has been undertaking a pilot programme that uses electronic advance data to help it manage biosecurity risk at the border.

What are electronic advance data?

Advance data, which include those data known as electronic advance data, include data on international-mail articles transmitted by sender postal organizations to receiving postal organizations. Electronic advance data are submitted to border agencies before the physical arrival of the international mail to which they relate and can be used to intercept controlled or prohibited items, such as plants (including seeds), before they reach their intended recipient.

Electronic advance data include sender and recipient details, the contents of the package, and its intended purpose. These data can be analysed using statistical algorithms and other tools to identify packages that may contain prohibited or controlled items. These include items such as food, seeds, live plants, animal products, or counterfeit goods. Once flagged, these packages can be assessed more thoroughly by biosecurity officials, who can then seize any prohibited items and take appropriate enforcement action.

Another type of advance data is electronic advance passenger information, known in Australia as expected movement records. Like electronic advance data, the goal is the same: to detect and prevent the import of prohibited or restricted items, and to identify individuals that may require further assessment or intervention before arrival.

Methods

The use of advance data allows NPPO and other border-protection agencies to employ automated systems that scan and assess packages and passengers, looking for patterns or anomalies that can indicate illegal activity. Operational examples of this include identifying high-risk countries or individuals, checking for prohibited items, or detecting signs of illegal smuggling or trafficking.

For example, a system may flag a package if the sender or recipient has a history of sending or receiving illegal items, or if the package contains items that are known to be commonly used in the transportation of contraband. Other factors for consideration include the origin and destination of the package, the value and weight of the contents, and any other information provided in the advance data.

One common method is using algorithms and other data analysis tools to identify patterns or anomalies that may indicate the presence of prohibited or controlled items. For example, certain combinations of sender and recipient information, or certain types of contents described in the package, may be flagged as suspicious. Additionally, advance data can be cross-referenced with other databases, such as those containing information about known offenders or previous smuggling attempts, to identify goods that may be associated with illicit activity.

The NPPO proposes to use intelligence information, developed internally and from other government agencies, or information gathered through surveillance and investigations, to help identify suspicious packages. Electronic advance data and electronic

advance passenger information will then be fed into the intelligence cycle and into the regulatory system.

Officials may also use artificial intelligence and machine learning to risk-assess packages and provide indicators of those more likely to contain contraband. Through this process, risk-management principles can be applied to the growing volume of mail items, directing limited resources to those posing the greatest risk.

Another method is to use data visualization tools. These allow biosecurity officials to view the data in a graphical format and identify patterns or trends that may indicate the presence of contraband. This is useful for the development of intelligence to inform decision-making.

Once flagged as suspicious, packages may be subject to additional intervention by biosecurity officials, including physical inspection of the packages and contents. This can also include the use of other detection methods, such as x-ray machines or biosecurity-detector dogs trained to detect contraband. If prohibited items are found, the package will be seized, and the sender and recipient may face criminal or civil penalties.

Currently, the NPPO is using advance data in a small-scale pilot targeted at known non-compliant entities. These entities were identified from previous detections in the mail, traveller, or cargo pathways. Automated systems do not yet exist; however, the NPPO is using manual data matching to identify international-mail articles sent to these entities and identify opportunities for automation.

This work is the first step in using the data to achieve consistency between the international-mail and cargo pathways and is based upon collaboration between the NPPO and its partners.

The automated systems resulting from this initiative will produce efficiencies by more effectively identifying items likely to contain controlled or prohibited goods, resulting in benefits for all parts of the supply chain.

Case study 9

Denmark's experience using a ParseHub to search for web shops

Contact details of submitter:

Jeppe Rendbæk Andersen and
Lise Kjærgaard Steffensen
Academic Officers
The Danish Agricultural Agency
Denmark
Phone: (+45) 51438802
Email: Planter&Biodiversitet@lbst.dk

Location and timeline:

Copenhagen, from July 2019

Content of the case study:

Key challenge

The EU Plant Health Regulation (Regulation (EU) 2016/2031 (European Union, 2016)) states that operators who sell plants or plant products through distance sales need to be registered with the competent authority. Furthermore, it requires such operators to attach plant passports to the plants and plant products for the final user. In order for the Danish NPPO (the Danish Agricultural Agency) to comply with this requirement, it is therefore obliged to register web shops selling plants or plant products.

Activity

The first step in the registration programme was for the NPPO to define the type of operators that were within the scope of the regulation. Web shops were considered to be within the scope, although the NPPO determined that two exceptions would be web shops offering a "click & collect" option and web shops where the web shop itself delivered to the customer, as these were not using an external courier service for shipping. The rationale for the exceptions was that the web shop and the customer would be in direct contact, which is comparable to the situation of buying in a physical shop.

In order for the NPPO to search the internet effectively, it used the ParseHub web-scraping tool. ParseHub can be used to search for web pages with specific content by using keywords. The initial input was based on a manual search in Denmark's Central Business Register and on Google, using different relevant keywords such as "potted plants" or the name of specific plant species and then scanning and comparing the results in order to refine the search. The NPPO decided to repeat the search every six months to find new web shops, although not necessarily using ParseHub each time.

Lessons learned and areas for improvement

The major obstacle in using ParseHub was that it could not be used with Google; the NPPO therefore changed to using Bing instead. In addition, the NPPO recognized that only web shops using the search words in their name or description would appear in the search results. Most importantly, however, ParseHub did not allow searches for shops that sell plant products via social-media platforms such as Facebook or Instagram.

The NPPO still needs to evaluate whether using ParseHub is an efficient technique or whether it misses too many operators who should have been targeted according to the EU Plant Health Regulation. Mystery shopping, whereby the NPPO buys plants online without revealing its identity as an authority, could be a useful technique to determine regulatory compliance. However, the NPPO has not been able to use mystery shopping because it lacks a national legal basis to do this.

The work done by the NPPO thus far has also highlighted another challenge in enforcing the registration requirement of the EU Plant Health Regulation: the many different types of shops that may sell plants or plant products. Our search results included wholesalers, pet shops, furniture shops, lifestyle shops, plant nurseries, and so on. Some of these shops were obviously not considered to be within the scope of the regulation based on their product portfolio. In some lifestyle shops, the only plant for sale is the air plant, *Tillandsia* L. (Poales: Bromeliaceae), which the NPPO does not consider a "plant for planting" and regulated in the specific situation.

Finally, the NPPO recognizes that the requirement for operators to be registered in Denmark imposes a fee and an administrative burden that has an adverse effect on web shops and their willingness to register. This burden has a greater relative impact on small businesses; therefore, the NPPO needs to carefully consider the justification for registration in each case.

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Case study 10

Cooperation between NPPOs to enhance phytosanitary compliance (New Zealand)

Contact details of submitter:

Carolyn Bleach
Plant Health Incursion Investigation Team Manager
Biosecurity New Zealand
New Zealand Ministry for Primary Industries
Email: Carolyn.bleach@mpi.govt.nz

Location and timeline:

United States of America and New Zealand, July 2020

Content of the case study:

Marimo moss balls (*Aegagropila linnaei* Kützing (Cladophorales: Pithophoraceae)) are prohibited from being imported to New Zealand but a New Zealander purchased some from an online platform and they arrived in New Zealand by express freight from the United States of America. After placing the order, the buyer read some online articles and realized that their entry to New Zealand was prohibited.

The buyer attempted to cancel the order but was too late and they were delivered to the buyer by New Zealand's postal service. The contents of the parcel had been correctly declared as giant living marimo moss balls. The now-informed importer contacted the NPPO of New Zealand (the Ministry for Primary Industries) via the exotic pest and disease emergency hotline, requesting assistance on what to do with the prohibited goods.

The package was collected by the NPPO and assessed by an NPPO botanist, who confirmed that it contained five live marimo moss balls (*A. linnaei*). The marimo moss balls were destroyed by the NPPO.

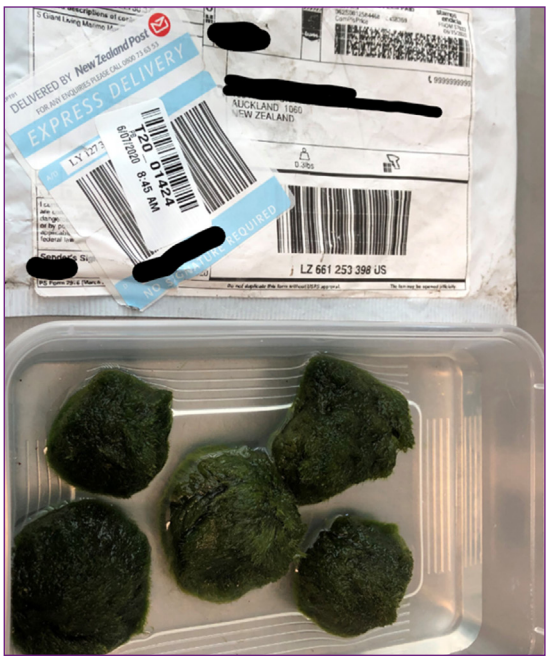
The NPPO investigator emailed the online-platform seller, informing them of the import regulations, and requested that they stop shipping the prohibited moss balls to New Zealand. However, no reply was received.

The NPPO then reached out to e-commerce experts within the NPPO of the United States and requested that they contact the seller on behalf of New Zealand.

Soon after, the NPPO of New Zealand received a response from the seller, stating that they were not aware that the online platforms they used to sell the marimo moss balls offered shipping options to all countries by default. They have since put internal systems in place to ensure that none of their listings on either Etsy, eBay or Amazon will allow marimo moss balls to be shipped to New Zealand. The online platform checked and confirmed that no other shipments consigned to New Zealand had contained marimo moss balls.

This is an example of successful collaboration between NPPOs to engage with an online seller of "risk goods" overseas to gain their cooperation.

Preventative engagement with a range of online platforms has since been undertaken to ensure that plants that are not permitted for import are either not shown as being available to buyers within New Zealand or are shown as being not delivered to any address in New Zealand.



Five marimo moss balls turned over to the NPPO of New Zealand by an online shopper

Case study 11

Efforts to stop repeated online purchasing of foreign-origin seeds and bulbs (New Zealand)

Contact details of submitter:

Carolyn Bleach
Plant Health Incursion Investigation Team Manager
Biosecurity New Zealand
New Zealand Ministry for Primary Industries
Email: Carolyn.bleach@mpi.govt.nz

Location and timeline:

Tauranga, New Zealand, 2019

Content of the case study:

A member of the public contacted the NPPO of New Zealand (the Ministry for Primary Industries) after receiving a letter notifying her that some packages of seed addressed to her had been destroyed. She reported that she had made multiple orders and had already received some other parcels containing seeds and bulbs, and she then surrendered these to the NPPO for destruction.

The importer had ordered seeds and bulbs online from suppliers based in China after seeing an advertisement on Facebook. After her initial interaction with the NPPO, she wanted to circumvent arrival of the outstanding packages, but despite her best efforts, she received multiple packages. In total, she received about 30 packets of seed and several packets of bulbs; most of them had been incorrectly declared on the customs declaration as something other than seeds.

The importer stated that one of the suppliers had sent her text messages to find out whether the seeds had arrived, and she had replied "yes" to stop further shipments, but the remaining consignments of seeds continued to arrive.

The NPPO of New Zealand provided information to the importer on how to correctly import seeds and other plant material in compliance with New Zealand's import-health standards and advised her to contact the NPPO if she received other prohibited or incorrectly declared seeds and plants. A description of the incident and the follow-up actions were filed in the NPPO's compliance database for reference should the importer attempt to again import non-compliant goods posing a pest risk.

Activities undertaken since include preventative engagement with other e-commerce platforms.

Packets of seeds intercepted post-border

Case study 12

Addressing the smuggling of agricultural products in the United States of America

Contact details of submitter:

Julie Hong-Sakowski
National Operations Manager
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
United States Department of Agriculture
United States of America
Phone: (+1) 919 8557372
Email: julie.hong-sakowski@usda.gov

Location and timeline:

United States of America, 2010 to present

Content of the case study:

The Smuggling Interdiction and Trade Compliance (SITC) Program, under the NPPO of the United States of America (United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine program), was created to address smuggling activities that were first detected in California, Florida and the Canadian border. Since its creation, field staff from the programme have worked in various environments outside the point of entry, as well as conducting online monitoring of agricultural smuggling. The internet component of the SITC Program has expanded to meet changes in technology. Whereas once the focus was solely online auction platforms, the SITC Internet Team has expanded to monitoring other e-commerce platforms, social media and mobile apps.

Both the field staff and the SITC Internet Team have been addressing smuggling pathways by identifying US-based entities, reviewing manifest information, and investigating how US residents are illegally importing agricultural products into the country.

With the popularization of the internet, users can access public platforms or create their own private sites to trade or sell agricultural products. These sites enable users to both easily purchase regulated materials and hide this from the eyes of regulatory officials.

One challenge is that many sites allow the use of usernames, forcing the regulatory official to use law-enforcement tools to attempt to identify the user. If there are no outside relationships beyond the platform in question, this can make it very hard to identify an individual. In order to take regulatory action, the SITC Internet Team must correctly identify the violator, the extent of their online presence, and which platforms may be willing to assist with bringing the violator into compliance.

A second challenge, commonly encountered by the SITC Internet Team, is that after a violator has been identified, especially if located outside of the United States, they often change usernames. This results in an endless "cat and mouse" game whereby the violator continuously adapts to the tactics of the regulatory official by changing their online identity. The SITC Internet Team works with various platforms to filter IP addresses, usernames, email addresses, and so on, with some success. The seller eventually stops selling non-compliant products or changes to using to a different website.

A third challenge is e-commerce sellers intentionally mis-manifesting their packages with non-agricultural words in an attempt to avoid border inspections. Officials from the NPPO work with agricultural specialists from the US Department of Homeland Security Customs and Border Protection to identify the shipper addresses of packages containing regulated products and then proactively target these addresses for future shipments. In addition, if non-compliant products can be traced back to a platform, the SITC Internet Team can work with the platform to identify the seller and close that pathway down for violating the terms of their user agreement by mis-manifesting packages.

Finally, SITC staff often observe the use of fake company names on entry documents as well as the illegal use of e-commerce platforms to circumvent border inspections or obfuscate the identity of the true company. These companies often change names

one or more times per year, in addition to using a variety of shipping services to import regulated products. One example is the use of courier pathways in which the seller contacts the courier post-entry to change the destination address from what is identified on the entry documents. In commercial container shipments, some sellers will intentionally place fake box labels on exterior boxes or hide smaller parcels within containers and air shipments to bypass inspections.

Working with customs and border-protection staff, sharing information and using mapping software helps the NPPO to identify the responsible parties and target incoming shipments. Officials from the NPPO have successfully closed pathways and targeted shipments based on identified criteria. Instances in which these entities engage in evasive tactics because of shipments being held and seized are proof that the NPPO is successfully identifying violators and closing pathways.

Case study 13

Engaging with online buyers of prohibited plants via social-media groups (New Zealand)

Contact details of submitter:

Carolyn Bleach
Plant Health Incursion Investigation Team Manager
Biosecurity New Zealand
New Zealand Ministry for Primary Industries
Email: Carolyn.bleach@mpi.govt.nz

Location and timeline:

Auckland and Tauranga, New Zealand, 2020

Content of the case study:

In 2020, the exotic pest and disease hotline run by the NPPO of New Zealand (Ministry for Primary Industries) received multiple reports of Facebook posts about plants suspected to have been illegally imported from the United States of America. The imported plants included string of turtles (*Peperomia prostrata* Williams (Piperales: Piperaceae)) and *Rhaphidophora tetrasperma* Hook.f. (Alismatales: Araceae). Neither species are listed on the New Zealand Plant Biosecurity Index and so it is not permitted to import either of them.

The customs declaration on one of the parcels incorrectly declared the contents as a "scarf" rather than *R. tetrasperma* plant material. It is unknown how the string of turtles plant was declared. By the time the NPPO investigator spoke with the persons of interest, both plants had been destroyed. It is likely that the negative comments and messages from other Facebook users about the illegality of their imports prompted that action.

The investigator provided the importers with an educational letter about the phytosanitary import requirements for plant material and they both expressed remorse for their actions. Both incidents were noted in the NPPO's compliance database for reference should these importers attempt to illegally import plant material again.

These incidents highlight the importance of having a well-informed online community, such as the Facebook users who reported this activity and reminded other online users to comply with New Zealand's phytosanitary import requirements. Continuing to raise public awareness about the risks posed by unauthorized plant imports engages those individuals in New Zealand's biosecurity system, thereby building a five-million-strong biosecurity team.

Biosecurity New Zealand
Ministry for Primary Industries
Manatū Ahu Matua

11 September 2020

Dear

Possession of illegally imported string of turtles plant

Biosecurity New Zealand (Biosecurity NZ) was notified that you imported a 'string of turtles' plant which did not get stopped at the border.

It is the importer's responsibility to ensure that they know exactly what is being exported to New Zealand and to meet the import requirements. Biosecurity NZ manages the risk of new pests and diseases arriving into New Zealand and has extensive controls in place to protect New Zealand from such risk. The Biosecurity Act 1993 provides the legal framework for these controls. Requirements for the importation of certain products and commodities, including seed and nursery stock, are outlined in Import Health Standards (IHS). Seeds or nursery stock that do not meet the IHS for Seeds for Sowing or Nursery Stock cannot enter the country as they may carry pests or diseases that may put our primary industries and environment at risk.

The Plant Biosecurity Index (PBI) is a database which lists plants that can or cannot be imported into New Zealand. It states whether plants are 'Basic', 'Entry Prohibited', or have 'Additional requirements' prior to importation. Plant species identified as 'Entry Prohibited' on the PBI **cannot** be imported into New Zealand. Furthermore, if a plant does not appear on the PBI it **cannot** be imported into New Zealand.

Seed of plant species listed on the PBI as 'Basic' can be legally imported by meeting the requirements of the IHS 155.02.05 – "Seeds for Sowing". Nursery stock of plant species listed on the PBI as 'L2 (Basic)', L1, L2, or L3' can be legally imported by meeting the requirements of the IHS 155.02.06 – "Importation of Nursery Stock" - but you should also check if there are additional conditions or restrictions.

String of turtles (*Peperomia prostrata*) is **not** on the PBI and therefore cannot be imported to New Zealand. Although you reported that the plant arrived 'dead', it may still carry pests and diseases and must be disposed of in a quarantine bin to mitigate this biosecurity risk.

You can find further information about the requirements for importing seeds and nursery stock into New Zealand here:

Video - Importing seeds for sowing into New Zealand
Plant Biosecurity Index - search scientific name
Steps to importing Seeds for Sowing – Biosecurity NZ website
Steps to importing Nursery Stock – Biosecurity NZ website

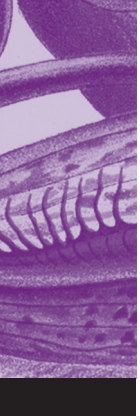
I would appreciate it if you could contact me at your earliest convenience to arrange quarantine disposal of the dead string of turtles plant by email or phone provided **below**. Please also advise the country of origin and exporter/website where this plant was purchased for Biosecurity NZ's records. Should you have any questions about the importation process please contact plantimports@mpi.govt.nz.

Yours sincerely

Growing and Protecting New Zealand

Biosecurity Surveillance & Incursion Investigation
Diagnostic & Surveillance Directorate
231 Morrin Road, Saint Johns, PO Box 2095
Auckland 1140, New Zealand
www.mpi.govt.nz

Educational letter about imported string of turtles



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- Phytosanitary systems: https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/
- IPPC guides and training materials: https://www.ippc.int/en/core-activities/capacity-development/guides-and-training-materials/

North American Plant Protection Organization

- Resources and learning tools for risk-based sampling: https://nappo.org/english/learning-tools/Resources-and-Learning-Tools-for-Risk-Based-Sampling

Universal Postal Union resources

- Country-specific prohibitions and items not admitted: https://www.upu.int/en/Postal-Solutions/Programmes-Services/Postal-Supply-Chain/Customs#prohibitions.-items-not-admitted
- Electronic advance data (EAD) customs declarations app: https://www.upu.int/en/Postal-Solutions/Technical-Solutions/Products/EAD-Customs-Declarations-app#
- Postal supply chain: https://www.upu.int/en/Postal-Solutions/Programmes-Services/Postal-Supply-Chain
- Universal Postal Union e-commerce guide (EN/FR/ES): https://www.upu.int/en/Postal-Solutions/Programmes-Services/E-commerce

World Bank Group

- Risk prioritization in phytosanitary management: https://thedocs.worldbank.org/en/doc/186841605045083824-0090022020/original/WBGRiskPrioritizationinPhytosanitaryManagementFINALweb.pdf

World Customs Organization resources

- World Customs Organization e-commerce package (EN/FR): http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/frameworks-of-standards/ecommerce.aspx
- Framework of standards on cross-border e-commerce (2022 edition, EN/FR/ES/AR): http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/activities-and-programmes/ecommerce/wco-framework-of-standards-on-crossborder-ecommerce_en.pdf?db=web
- Technical specifications (2023 edition): http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/activities-and-programmes/ecommerce/technical-specifications_en.pdf?db=web
- Immediate release guidelines (EN/FR): http://www.wcoomd.org/en/Topics/Facilitation/Instrument%20and%20Tools/Tools/Immediate%20Release%20Guidelines

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Definitions

The definitions below are sourced from the IPPC *Glossary of phytosanitary terms* (ISPM 5) and include only those glossary terms that are most relevant to this guide. The complete and updated glossary is maintained at: https://www.ippc.int/en/publications/622. The glossary is updated annually based on decisions taken by the Commission on Phytosanitary Measures of the International Plant Protection Convention. The definitions below are accurate as of July 2023.

Commodity
A type of plant, plant product, or other article being moved for trade or other purpose

Consignment
A quantity of plants, plant products or other articles being moved from one country to another and covered, when required, by a single phytosanitary certificate (a consignment may be composed of one or more commodities or lots)

Country of origin (of a consignment of plants)
Country where the plants were grown

Entry (of a consignment)
Movement through a point of entry into an area

Inspection
Official visual examination of plants, plant products or other regulated articles to determine if pests are present or to determine compliance with phytosanitary regulations

Interception (of a consignment)
The refusal or controlled entry of an imported consignment due to failure to comply with phytosanitary regulations

International Plant Protection Convention
International Plant Protection Convention, as deposited with FAO in Rome in 1951 and as subsequently amended

International Standard for Phytosanitary Measures
An international standard adopted by the Conference of FAO, the Interim Commission on Phytosanitary Measures or the Commission on Phytosanitary Measures, established under the IPPC

National plant protection organization
Official service established by a government to discharge the functions specified by the IPPC

Pathway
Any means that allows the entry or spread of a pest

Pest
Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products. Note: In the IPPC, "plant pest" is sometimes used for the term "pest"

Pest risk (for quarantine pests)
The probability of introduction and spread of a pest and the magnitude of the associated potential economic consequences

Pest risk (for regulated non-quarantine pests)
The probability that a pest in plants for planting affects the intended use of those plants with an economically unacceptable impact

Pest risk analysis (agreed interpretation)
The process of evaluating biological or other scientific and economic evidence to determine whether an organism is a pest, whether it should be regulated, and the strength of any phytosanitary measures to be taken against it

Phytosanitary action
An official operation, such as inspection, testing, surveillance or treatment, undertaken to implement phytosanitary measures

Phytosanitary certification
Use of phytosanitary procedures leading to the issue of a phytosanitary certificate

Phytosanitary import requirements
Specific phytosanitary measures established by an importing country concerning consignments moving into that country

Phytosanitary legislation
Basic laws granting legal authority to a national plant protection organization from which phytosanitary regulations may be drafted

Phytosanitary procedure
Any official method for implementing phytosanitary measures including the performance of inspections, tests, surveillance or treatments in connection with regulated pests

Phytosanitary measure (agreed interpretation)
Any legislation, regulation or official procedure having the purpose to prevent the introduction or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests

Phytosanitary regulation
Official rule to prevent the introduction or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests, including establishment of procedures for phytosanitary certification

Plants
Living plants and parts thereof, including seeds and germplasm

Plants for planting
Plants intended to remain planted, to be planted or replanted

Plant products
Unmanufactured material of plant origin (including grain) and those manufactured products that, by their nature or that of their processing, may create a risk for the introduction and spread of pests

Point of entry
Airport, seaport, land border point or any other location officially designated for the importation of consignments, or the entrance of persons

Prohibition
A phytosanitary regulation forbidding the importation or movement of specified pests or commodities

Quarantine pest
A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled

Re-exported consignment
Consignment that has been imported into a country from which it is then exported. The consignment may be stored, split up, combined with other consignments or have its packaging changed

Regulated article
Any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harbouring or spreading pests, deemed to require phytosanitary measures, particularly where international transportation is involved

Regulated non-quarantine pest
A non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party

Regulated pest
A quarantine pest or a regulated non-quarantine pest

Release (of a consignment)
Authorization for entry after clearance

Seeds (as a commodity)
Seeds (in the botanical sense) for planting

Technically justified
Justified on the basis of conclusions reached by using an appropriate pest risk analysis or, where applicable, another comparable examination and evaluation of available scientific information

Appendix 1.
World Customs Organization standards and tools related to e-commerce

FRAMEWORK OF STANDARDS ON CROSS-BORDER E-COMMERCE

These standards (WCO, 2022) provide guidance to national customs administrations on establishing and enhancing the legislative, policy and operational structures for managing cross-border e-commerce. The framework is based on guiding principles for cross-border e-commerce, which are aimed at helping customs and other government agencies, businesses and other stakeholders in the international e-commerce supply chain to understand, coordinate and better respond to the current and emerging challenges.

TECHNICAL SPECIFICATIONS

These technical specifications (WCO, 2023) explicitly recognize phytosanitary risks and that the international movement of plants, pests and other invasive alien species is a key area to be addressed under the banner of safety and security.

IMMEDIATE RELEASE GUIDELINES

These guidelines (WCO, 2018) aim to facilitate the pre-arrival processing and risk management of consignments based on advance electronic information; streamline and expedite the handling of the consignments upon arrival; and assist customs administrations in determining data requirements and the exact procedure to be applied.

The guidelines recommend that consignments presented to customs for release are divided into four categories based on their contents and their value:

- Category 1 – correspondence and documents (only minimal information required);
- Category 2 – low-value consignments (below the *de minimis** threshold) for which no duties and taxes are collected because the amount applicable would be negligible and low-value goods that are not dutiable and taxable in their own right (only minimal information and declared value of the goods required);
- Category 3 – low-value dutiable consignments (simplified customs declaration); and
- Category 4 – high-value consignments and consignments containing regulated articles, regardless of their value (full customs declaration).

Small parcels containing plants and plant products often have little monetary value and may very well be below the *de minimis* threshold set by the importing country. Customs administrations do not collect duties or taxes on such low-value consignments and their release may be expedited if the packaging does not clearly identify the parcels as containing regulated articles. This means that there is an increased risk that low-value parcels may escape the scrutiny of border agencies if the contents or value are mis-declared.

* *De minimis* threshold: a minimum value and/or a minimum amount of duties and taxes, established by the national legislation, below which no duties and taxes will be collected (WCO, 2018).

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IPPC

The International Plant Protection Convention (IPPC) is an international plant-health agreement that aims to protect global plant resources and facilitate safe trade.

The IPPC vision is that all countries have the capacity to implement harmonized measures to prevent pest introductions and spread, and minimize the impacts of pests on food security, trade, economic growth, and the environment.

Organization

- There are over 180 IPPC contracting parties.
- Each contracting party has a national plant protection organization (NPPO) and an official IPPC contact point.
- 10 regional plant protection organizations (RPPOs) have been established to coordinate NPPOs in various regions of the world.
- The IPPC Secretariat liaises with relevant international organizations to help build regional and national capacities.
- The secretariat is provided by the Food and Agriculture Organization of the United Nations (FAO).

Did you read this guide?

Please send an email to ippc@fao.org and share your feedback.

Your responses will help the IPPC Secretariat and the IPPC Commission on Phytosanitary Measures (CPM) Implementation and Capacity Development Committee (IC) strengthen this and other guides and training resources.

International Plant Production Convention Secretariat
ippc@fao.org | https://www.ippc.int

Food and Agriculture Organization of the United Nations
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