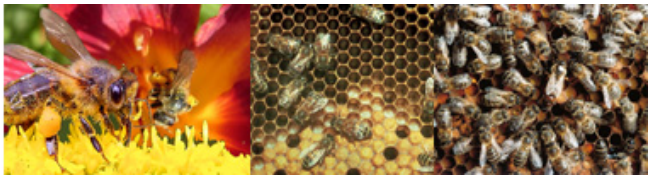
PROPOLIS EXTRACT

Food and Agriculture Organization of the United Nations

Honey Processing Toolkit



PROPOLIS EXTRACT

1.- Propolis Extract General information

The bees use the propolis in order to close both the openings and entrance of the nest, therefore avoiding the cold air stream during winter and the action of predators. Because their bactericidal and fungicidal properties, the propolis is also used to clean the colony as well as to isolate a part of the nest or some strange body that cannot be removed from the colony. Its composition, color, odor and medicinal properties rather depend on the species of plant available to bees. Nowadays, the propolis is mainly used by the cosmetics and pharmaceutical industries.

2.-Propolis Extract Processing Details

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A.-Scratching / Classification

The propolis may be obtained from beehives either on frames or cover and natural beehive openings or those constructed by the beekeepers, where the bees deposit the higher amount of propolis. After the collection of propolis from the beehive using an inox knife, it should be initially stored in a freezer in order to kill insect eggs and to facilitate its cleaning (removal of debris) and fragmentation, if necessary.

B.-Fragmentation

Some types of propolis after kept for 24 hours in a freezer can be fragmented into small parts in order to facilitate the removal of any debris or before it is processed using a properly solvent.

C.-Immersion into Alcohol

The propolis is directed to the extraction room, where it will be extracted by immersion into a food grade ethanol (produced from cereals) or other solvents according to the purpose of its use. Since most important active components of the propolis show high solubility in aqueous ethanol 70%, this alcohol has been the most used solvent.

The time spends for propolis processing (extraction of the active compounds) is dependent of temperature and the agitation of propolis solution. Under room temperature and eventual agitation of the solution, satisfactory time for extracting has been about 30-60 days using daily agitation. This time of extraction can be reduced using higher temperature (85 Celsius degrees) for about 3 hours or some few days with five minutes of agitation for each hour.

D.-Centrifugation / Settling

After extraction, the propolis will be centrifuged at 2000 rpm for five minutes and the supernatant will be collected. If this procedure is not possible, the solution can stay decanting for one day, and then the supernatant is collected.

E.-Filtration of Supernatant

After being extracted, the solution of propolis can be drained to a stainless steel bucket by passing through a nylon or paper filter appropriate for food.

F.-Packaging

Ethanol extracts of propolis can be packaged in the amber glass flasks (usually 30 mL capacity).