

Propolis: Quality and methods of collection

Dr. Félix Adanero Jorge, a graduate in Pharmacy and in Food Science and Technology, presented his thesis on propolis at the University of León.

Currently it belongs to the Official Pharmaceutical Services of the Junta de Castilla y León.

In recent months he has given several conferences and workshop in Galicia on this highly demanded beekeeping product.

Propolis is a bio-active cement or putty with a mainly resinous character that bees process in a natural form from oleo-resinous substances that are collected from different parts of various plants near the apiary.

It has been known for thousands of years for its pharmacological properties and in recent years its demand has increased notably, Spain being a clearly importing country, so there is a wide market for beekeepers Spanish professionals who wish to market it.

Some of the requirements that are necessary for bees to make propolis are:

- Outside temperature between 21-28 °C.
- Vegetation available for the hive of resinous, rubbery and aromatic plants, such as poplar, chestnut, oak, willow, elm, beech, alder,
 - Birch, pine, rockrose, heather, rosemary, thyme, lavender, etc.
- It is necessary for the hive to have additional needs to propolis, such as its own immunity (at individual and social level),
 - immobilization of structures (frames, combs, etc.),
 - preparation of the hive in cold months, sealing of gaps or cracks, placement
 - of meshes or grids to collect propolis, etc.
- Other factors that condition the production of propolis are the time of year (more towards the end of summer and towards autumn),
 - the strength of the colony, the genetics of the bees or the structure to be propolyzed .

Since the composition of propolis is highly variable, and it mostly contains resins (45-80%), between 8 and 40% waxes, impurities (5-40%) and pollen (5%), these are the parameters taken into account when evaluating a better or worse quality propolis.

On the other hand, to avoid the presence of residues of products in the propolis with which the hive is treated, it is very important when meshes or grids are used, remove them and respect the waiting time of the product used, and once the time is completed, the mesh / grid could be repositioned.

Once the propolis is extracted, it must be subjected to a cleaning and selection, for its subsequent labeling and storage at low temperatures of refrigeration (2-8°C) or freezing (-18°C) in containers suitable for food use and hermetically closed.

Methods for the extraction of propolis from hives:

Scraped off

The advantage of this method is that this is a fast and cheap method that allows for greater production. In addition, it favors the cleaning of the hive and in some hives it is the only way to obtain it. Its drawbacks are that it has a high content of impurities, it is a poor quality propolis, which also makes its subsequent processing difficult. It is not currently marketed for consumption.

Plastic grids for food use

On the positive side, this is a convenient method that allows obtaining a limited production (from 50 to 200 grams per hive) but of very good quality, while its extraction and cleaning is easy. The drawbacks are that they can only be used in industrial hives, and the bees sometimes do not propolis the grid. It requires additional cold equipment for its extraction, in which the grates sometimes break due to low temperatures

Plastic meshes for food use

Its advantages are that it allows a higher production (up to 300 g), of very good quality, and with an easy subsequent processing. Handling these nets in the hive is also easy and they last longer than other methods. As a counterpoint, they also require additional cold equipment for extraction. In addition, they present a higher degree of pulverization and require movement in the hive.

Side openings in the hive (Pirassununga)

The main advantages of this Brazilian method are that it allows for greater propolis production and that handling is easy. As drawbacks, it requires modifying the hive, the subsequent processing is difficult and is subject to external contamination. It also favors a high content of impurities-

Other methods

Other methods that can be used are metal frames, mosquito nets, rolls of plastic fabrics, mesh of cloth / plastic bags ... etc.

The advantages are that some are very inexpensive, such as fabric mesh, and allow great versatility. However, when dealing with elements

Metals or plastics, can oxidize or contaminate propolis, and it is also unknown if it is suitable for food use.

What is propolis well rated?

The propolis best valued and paid to the beekeeper is the one that meets these characteristics:

- Ecological
- Low% waxes and impurities and high% resins
- High degree of freshness: less than a year.
- Extracted by mesh or grid
- Good organoleptic characteristics
- Uniform, not heterogeneous
- With proper preservation, packaging and labeling
- That has been scientifically studied and analyzed in a laboratory that certifies its composition.

Therefore, it is mandatory that the product may present a certified laboratory analysis.

It is, therefore, very important that the beekeeper knows the type of propolis he produces through a quality and contaminant analysis.

in a specialized laboratory.

Recommendations for the consumption of propolis

Finally, some warnings regarding the use of this product:

-It is not recommended its consumption in crude oil, due to the presence of impurities and other pollutants, being recommended its

use of processed form (in tincture, extracts, etc.) Neither in pregnant women, in lactation nor in children under 4 years.

-A small percentage of propolis consumers may have an allergy to some of its components, so special caution must be taken.

