

ORGANIC BEEKEEPING AND BEE PRODUCTS

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Abstract

Romania is well known in the delivery field of bee products and beekeeping, is known for this ancient occupation. Beekeeping in Romania leads to large amounts of bee products. As the main purpose of ecological beekeeping is obtaining quality products without the use of other replacement substances. To achieve organic beekeeping must follow these steps: organizing a hive, the first step in beekeeping, apiary hearth choice, choice of hive type, bee families purchase. Both conventional and ecological beekeeping have similarities and differences. Conventional beekeeping is losing ground to the ecological because now customers consume more and more eco products without various additives and is more natural. To be considered ecological bee products must pass a period of one year; in this time these products are not considered ecological. In ecological beekeeping rules need to be observed and also labor is different from that used in conventional beekeeping. Also, nutritional value and quality of ecological products are different from conventional. As a conclusion, both types of beekeeping are differentiated by the process of obtaining the product, but are similar in the principles for achieving sustainable production. The ecological beekeeping and the conventional need collaboration at the national and international level for these industries to develop more and more.

Key words: conventional, nutritional value, organic, Romania, quality.

INTRODUCTION

As a scientific discipline, bioagriculture was founded by Italian Girolamo Azzi, in 1920, in Research Committee report from the Academy of Italy, who said that: "this branch of science", ecology can claim to have its own existence in biology, which presents a character and a scientific purposes, because they study the plant as an organism that grows in the environment that surrounds him [6].

In 2010, the main producer of honey in the world was China with 398,000 tones, followed by Turkey with 81.115 tones. Romania ranks only 22,222 tones, but the importance of development on organic beekeeping places our country on the second place in Europe with 7.70% organic hives from total of 84,700 hives, after Italy with 8.00% organic hives from total 103,000 hives [1].

In the context of globalization, beekeeping takes a new connotations, with its practice, not only the economic importance but also important scientific, ecological and social aspects.

The main objective of organic beekeeping is to obtain pure bee products of the best quality, avoiding the use of synthetic chemicals [2]. Also, another goal is to obtain food with authentic taste and quality but also safe to consumers approved by the inspection organisms. To realize this objective, is essential to increase the quality of honey, which can be achieved by permanent collaboration of several producers. In consequence, we see that there is a strong link between conservation and continuous improvement of the genetic local beekeeping and making technologies to maintain the bee families to implement a sustainable management of the farms and bee resources according to E.U. requirements [3].

Starting with 2007, until 2010, forecasts indicate a 6.5% growth of bee colonies number and the number of beekeepers being estimated at 45,000 [1].

For ecological apiculture is necessary to identify areas with honey polluting or non-polluting resources and to increase the organic production, but for this organic beekeeping requires new collaborations both nationally and internationally to attract

different sources of financing necessary to achieve the objectives listed above.

Steps to organic beekeeping

Beekeeping is an activity that gives practitioners many satisfactions. Those who love this activity have in common: love for bees and nature. In beekeeping exists a material side where we obtain honey, pollen, wax and propolis, but there exists a spiritual side and a professional qualifications. For beekeepers framing ecological systems, must follow several steps:

Organizing a hive: the provision of hives, bee families, bee equipment and materials, must be made carefully after a preliminary research and documentation. The first step in beekeeping usually starts with a limited number of hives (2-3 pieces), and as you gain experience, apiary will increase the number and the quality. In 3-4 years we can lead to have created powerful families of bees, apiary productions bring important quantity of honey and other bee products, but for that it need to have patience.

Election precincts apiary is based on several criteria. It is important to know that the bee is flying range of 3 km, and this area should provide a rich harvest, highly active throughout the active season. It sits more than 30 beehives on a hearth considering that a family consumes 90 kg of honey and 30 kg of bee pollen in a year. In a good year from a hive can get 25-30 kg of honey, 800 g of wax and 3-4 kg of pollen out of what bees consume [4].

Beehives are placed facing south-east, at a distance of 2 m between them and 4-5m between rows. Between two neighboring apiaries, there must be a distance of 2-3 km (depending on the potential honey in that area). They should be placed in a sunny area during spring and autumn, near the big rivers, far away from high traffic roads and polluting sources.

Choosing the type of hive: there are two kinds of hives: horizontal and vertical, both being used for apiculture. They must be sturdy, well made after specific standard and, last but not least, efficient [4].

Care must be taken to the chosen of hives because the bees need conditions of living as close to those of nature. Horizontal hive is suitable for stationary beekeeping, while the vertical to the pastoral beekeeping [4].

A big influence on the apiary has the location. For example, in the south spring is accelerated, beekeepers recommendation is to use multi-hives, and in hilly, mountainous and northern hives with vertical and horizontal storage.

Purchase of bee families: the bees must be strong and young, healthy and more adapted to the area where they are located. And swarms are good, the necessary condition is to be equipped with a queen young and productive.

Comparison between organic and conventional beekeeping

Both conventional and ecological beekeeping have in common principles of sustainable production, but there are specific aspects that differentiate them.

Unlike conventional beekeeping, the ecological one has an important role in obtaining pure bee products with high quality. Thus, conventional beekeeping losing ground because the population has turned its interest to progressive bio products, naturally derived, without use of synthetic chemicals.

The organic beekeeping principles are: to get a good product, but also to be careful by the treatment of hives, environmental quality, conditions of extraction, processing and storage of its product. However, organic beekeeping is currently more expensive than the conventional, which increases the price of the finished product. It is found a considerable increase in sales but organic honey, not only in our country, but also outside, which shows that people understand the nutritional superiority and eco products.

Between the organic and conventional beekeeping exists significant differences: the organisms genetically modified, the pesticides and synthetic fertilizers, the growth stimulators and hormones, the antibiotics applied to intensive beekeeping are prohibited. In ecological beekeeping focus is

mainly on product quality and nutritional value.

Organic beekeeping has a labor force bigger than the conventional, because the process of obtaining a bio product cover through a longer period, which is another advantage of organic beekeeping by creating new work places.

From the conventional to the organic beekeeping there is a conversion period of one year, time in which bee products obtained can not be sold as organic products. Hence to differentiate the conventional by the organic product, on his label is necessary to maintain the mode of production (ecologic or conventional) and the code of inspection organism that issued the organic product.

In organic beekeeping some rules need to be respected concerning the choice and location of hives, to achieve a strong link between environment and bees. The location should be placed in unpolluted area and it should not allow for external factors to intervene on living beings and their habitat. Therefore bio product is used mainly in the pharmaceutical component entering certain creams, medicines or syrups. Conventional products are used more in natural state, many people choosing them especially for their low prices, which are directly proportional to their nutritional value. In conclusion both organic beekeeping and conventional are based on the principles of sustainable production, but are differentiated by the complexity of obtaining the goods ecologically superior product quality, achieved naturally, without using synthetic chemicals.

Honey organic certification laws

Organic honey is obtained in accordance with the rules and principles of ecological beekeeping decided by EU and national legislation in the field. These rules applied by the beekeepers are checked by inspection and certification body, their actions applies for the entire chain of honey process.

General principles: pursuant to Section I of HG 917/2001, Article 21, paragraph 3, we can say that if an operator runs several beekeeping units in the same area, it is imperative that all

units meet the requirements of these methodological norms. Otherwise, the product is not sold as organic.

All this article refers to qualifications of bee products to be obtained by organic production methods (treatments applied to hives, environmental quality, conditions of extraction, processing and storage of beekeeping products) [5].

In Section 4 of HG 917/2001, Article 24 speaks about the location of hives, namely: to ensure that bees have sufficient natural sources of nectar, sweet secretions, pollen and water, to keep a distance enough to all non-agricultural production sources that can cause pollution to ensure that within a radius of 3 km around the site hives, pollen and nectar sources are made of organically produced crops and / or vegetation or the cultures that do not meet these methodological rules, but are subjected to treatments that have little impact on the environment [5].

Section 7 has all of the HG 917/2001, Article 27 reads:

"(1) The destruction of bees in the combs as a method associated with the harvesting of beekeeping products.

(2) Mutilation of bees as, for example, cutting off the wings queen bees is prohibited.

(3) Allows the replacement queen bees by killing the old queen.

(4) Destruction of male brood is permitted only to limit infection with *Varroa jacobsoni*.

(5) Is forbidden the use of chemical synthetic repellents during the honey extraction operations.

(6) The area where hives are placed is registered with the identification of the hives. Inspection and certification bodies should be informed of any movement of them, within agreed.

(7) In order to guarantee operation extraction is given special attention for processing and storage of beekeeping products it should be recorded all steps taken to comply with these methodological rules [5].

(8) Remove the upper layers of wax and honey extraction operations shall be recorded in each registry hive. "

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