

ORGANIC BEEKEEPING SITUATION IN TURKEY

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ABSTRACT

Honey bee (*Apis mellifera*) is the world's most important pollinator species. In addition to pollination, bees provide great benefits to human health with the products they produce. These products; honey, propolis, royal jelly, pollen, bee venom, bee air, Perga. In our country, beekeeping is carried out in three ways: nomadic beekeeping, fixed and organic beekeeping. Ministry of Agriculture and Forestry, the Organic Farming Information System (OTBIS) by 2019, 249 organic beekeeping in Turkey who do business in organic beekeeping, the organic in all number of hives is 50.100 pieces. The total amount of organic honey production is 576.76 tons. At the same time the Ministry of Agriculture and Forestry, according to the Organic Farming Information System in 2019, engaged in beekeeping in the transition process in Turkey 159 existing businesses, it has a total of 21 484 hives in transition. Organic beekeeping in Turkey 01.12.2004 and 25 659 numbered published in the Official Gazette 5262 No. "Organic Agriculture Law" with this law in accordance August 18, 2010 date and 27 676, which entered gazette "Organic Agriculture on the Principles and Implementation It is carried that out according to the provisions of the Regulation. In this review, in Turkey the development of organic agriculture and the status of the inspection and certification process is intended to inform all citizens.

Keywords: organic beekeeping, organic farming, organic honey, organic colony

INTRODUCTION

The green revolution came to the fore between 1960 and 1970 in order to cultivate enough food for people due to the increasing population. In other words, efforts to increase production, not quality, have been accelerated. For this reason, the use of chemical drugs, mineral fertilizers and hormones has been encouraged to increase production per unit area. These used inputs used to increase production over time caused residues in food. These remains threaten human health, pollute the environment and have reached the level to disrupt the natural balance. For this



reason, consumers and producers have started to prefer the production and consumption of agricultural products grown with an ecological and health-friendly production method (Kaftanoğlu, 2003; Kuzukiran et al., 2016; Sevin et al., 2018). Chemicals used in agricultural production and animal production cause broad damage to human health in the long term. For this reason, Organic farming has emerged as an alternative to the traditional farming method and some countries have named this method of production as Organic, Biological or Ecological agriculture. Organic farming is a production method that aims to grow completely natural products that are human and nature friendly and do not use any chemical fertilizers in the production stage, controlled at every stage. In Organic Agriculture, it is aimed to increase the quality of the product, not the amount of production. (Ayla and Altıntaş, 2017). Pioneers such as the Soil Association (England), Swedish Biodynamic Association (Sweden), Rodale Press (USA), Soil Association (South Africa) and Nature et Progres (France) questioning the production inputs and production techniques used in organic agriculture (France) were founded on 5 November 1972. France), and held the General Assembly of the International Federation of Organic Agriculture Movements (IFOAM). International and national standards have been developed by the International Federation of Organic Agriculture Movements as well as by the Food-Agriculture Organizations, the European Union and the United Nations. Organic agriculture first started in the United States of America (USA) and European countries and has spread to other continents over time (Demiryürek, 2011). In 2018, there are 92.27 million Beehives in the world. In 2018, India is a leader in the world with a total of 13 million beehives. China follows India with an average of 9 million beehives (FAO, 2019). According to the 2019 Turkey Statistical Institute data; The number of holdings beekeeping in Turkey 80,675 units, the number of new sleeve 7,929,368 pieces of old sleeve Number 198,992 total of honey obtained 109,330 tons, the total wax broth obtained is 3971 tons (TSI, 2019). Bee products are honey, royal jelly, bee venom, propolis, pollen and beeswax. Among bee products, honey has the highest production and consumption (Karadal and Yıldırım, 2012; Mutlu et al., 2017). The difference of organic beekeeping from conventional beekeeping is that it does not come from any cultivated plant, it comes from wildflower or wild trees, and it produces residue-free honey without medication. The transition period in organic beekeeping is one year. During this period, hives should be replaced with unpainted hives and combs with organic honeycombs (Anonymous 2019a). Organic beekeeping; After the bee products are produced, chemical spraying and artificial feeding are not used until they reach the consumer. At the same time, it

is an activity that takes place in places with undisturbed nature balance and structure (Ertürk et al., 2013).

MATERIALS AND METHODS

The data of the Ministry of Agriculture and Forestry Organic Agriculture Information System (OTBİS) for 2019 were used and phone calls and emails were used with the personnel responsible for OTBİS in the ministry. At the same time, it was tried to reach all books, magazines, newspapers and all related documents published as material. Turkey Statistical Institute, Ministry of Agriculture and Forestry, the World Food Organization (FAO) data were been obtained from institutions such as the web pages.

RESEARCH FINDINGS

ORGANIC BEEKEEPING IN TURKEY

Organic beekeeping is the collection of nectar, propolis, pollen from the mountain by bees and turning them into different beekeeping products. It is a contracted production technique that is audited and certified by a control and certification company at every stage of chemical spraying and artificial feeding, from production to consumer. Organic beekeeping is also an activity in ecological farming areas with intact vegetation (Konak and Gokçe, 2003).

Agriculture and Forestry Ministry, the Organic Farming Information System (OTBİS) By 2019, organic beekeeping engaged in Turkey 249 businesses to make organic beekeeping, which beekeeping in the transition process in Turkey 159 operating (Figure 1) is available (Anonymous 2019b).

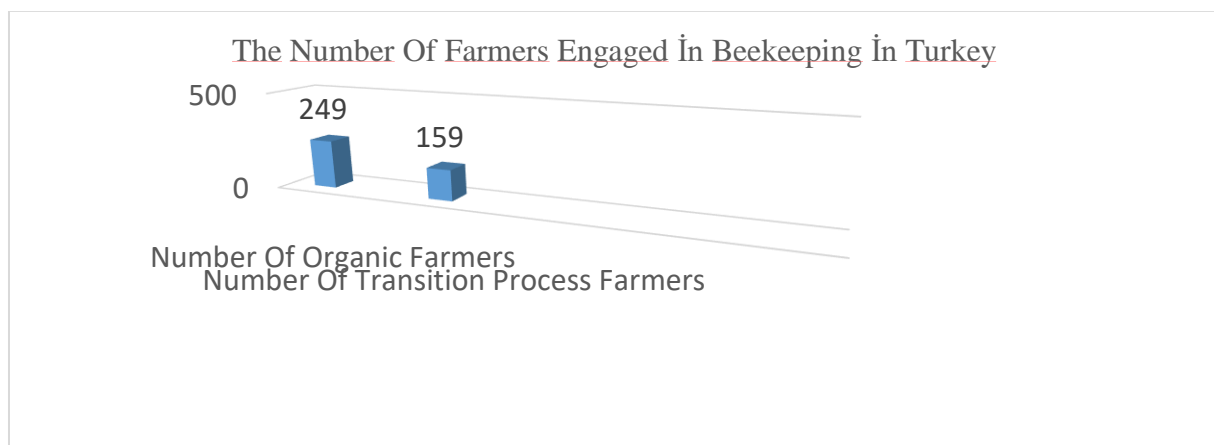


Figure 1. Number of Organic Beekeeping and Transition Process Farmers in 2019

Ministry of Agriculture and Forestry, the Organic Farming Information System (OTBİS) by 2019, the number of organic hives 50,100 in Turkey, a total of 21,484 hives in transition (Figure 2) are available (Anonymous 2019c).

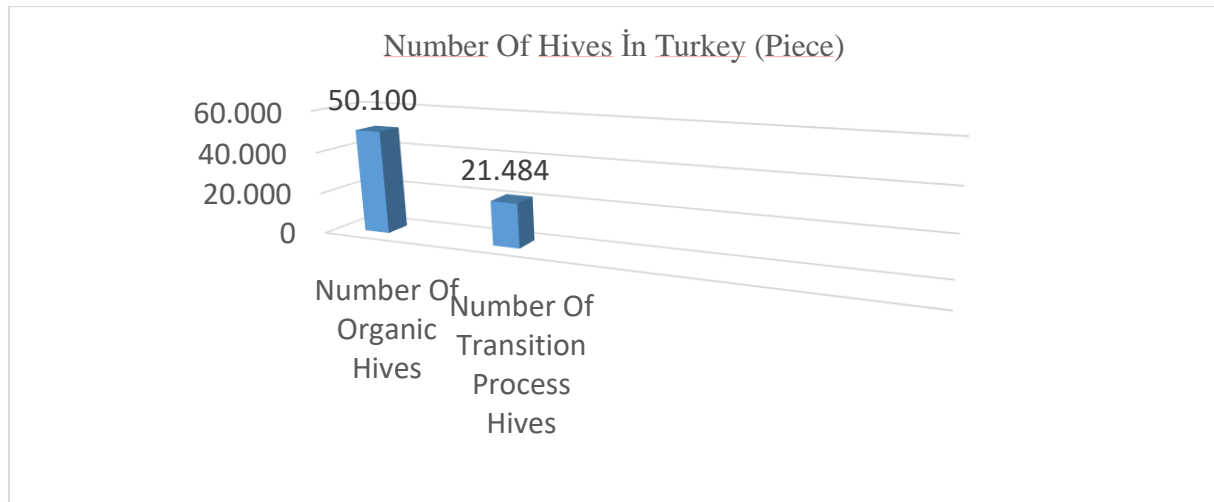


Figure 2. Organic Beekeeping and Transition Process Number of Hives in 2019

WHY ORGANIC BEEKEEPING

Organic beekeeping aims at a production method that is controlled and certified at all stages from production to the consumer without using drugs that threaten human health by using the inputs allowed by the regulation, except for the area where conventional agriculture is carried out (Korkmaz 2001; Tutun et al., 2019). Most of the drugs used in conventional production can kill honey bee larvae and adults. Depending on the chemical density of the drugs used in conventional production, the bees in the region die before or after returning to the hive (Tutkun and İnci 1992). The importance of organic beekeeping has come to the fore worldwide. Because the residue of the chemical drugs used in the fight against diseases in bee colonies in the produced produce and honey also threatens human health (Gül et al., 2005; Tutun et al., 2018). IFOAM (International Federation of Organic Agriculture Movements), EC (European Community), Codex Alimentarius and Turkish Food Codex criteria in organic beekeeping (Anonymous 1993, 1998, 2000). Honey, one of the popular bee products, is used by consumers for treatment purposes apart from feeding. Organic honey is spread rapidly around the world due to this curative feature, and therefore it is the consequence for in Turkey as well. (Gül et al., 2005). Not only in the world areas but also Turkey especially who live in rural and for



farmer without land Beekeeping is an attractive profession for farmers. Despite this, bees face the danger of extinction rapidly (Ayan et al, 2019). Producers are supported with different supports and loans to popularize organic beekeeping to benefit human health and control the danger of extinction of bees (Anonymous 2019d).

LEGAL REGULATION IN ORGANIC AGRICULTURE

"Regulation on Principles and Application of Organic Agriculture" was published in the Official Gazette on 18.08.2010 with the number 27676. The published regulation is been structured according to the organic agriculture law numbered 5262 and dated 01.12.2004. Besides, this regulation complies with the EU's legislation numbered 834/2007 and dated 01.01.2009. This regulation; It was published in the Official Gazette No. 28076 and dated 06.10.2011 (Karaaslan 2012). Some of the purposes in the preparation of this regulation are; To implement organic agriculture activities, to plan marketing in organic agriculture, to advance and spread organic agriculture (Karaaslan 2012). By signing contracted production with entrepreneurs of Authorized company (Control company / Certification company / Control and Certification company) authorized by the Ministry, organic products grown by the principles of organic agriculture are inspected and certified. The Circular No. 2009/1 "Duties and Authorities of Organic Agriculture Units", which will guide the duties and responsibilities of organic farming units in provincial centres, was published to be implemented on 07.09.2009 so that organic agriculture services can be carried out efficiently and successfully in of a province centres. (Karaaslan 2012).

SUPPORTS

By the Ministry of Food Agriculture and Livestock support organic agriculture in Turkey in 2004 she applied and are continuing. Thanks to the animal and agricultural supports applied by the Ministry of Agriculture and Forestry every year; It contributes to the income level of the producers. It is aimed to provide quality and healthy products that increase the competitiveness of products obtained from agricultural production and animal production in the international markets In 2011, entrepreneurs engaged in organic animal husbandry were included in the support as well. The Ministry of Agriculture and Forestry grants 10 TL support per beehive to producers are engaged in organic beekeeping (Anonymous 2019e).



DISCUSSION and CONCLUSION

Due to the use of chemical pesticides in beekeeping, the problem of residue in honey is consequential. Chemical drugs also have disadvantage effects such as causing environmental pollution and threatening human health by leaving residues in natural balance and products. Chemical drugs also have disadvantage effects such as causing environmental pollution, disturbing the natural balance and threatening human health by let remaining residues in products. One of the main problems is technical issues. For example, the quality and characteristics of the equipment used by the producers are consequential for the quality of honey. Beekeeping producers should have technical knowledge (Saner et al., 2011). The reason for many problems in beekeeping is that the producers are insufficient in technical issues. The quality of honey change varies according to the features of the equipment used by the producers from production to honey extraction. Therefore, it is significant for beekeepers to be knowledgeable about technical equipment and to choose appropriate equipment (Saner et al., 2011). Increasing the quality and sustainability in honey production is possible by increasing the green area and vegetation in our country. For this reason, we must create awareness in the society in environmental awareness. The excessive and unconscious spraying corresponding to the flowering period which is One of the reasons for the low yield in beehives should mention. Before the 1980s, organic agriculture attempted organic farming activities of coming out the needs within of the EU countries in Turkey organic beekeeping does not spread too much. In addition to having sufficient numbers of control and certification companies that have started activities to support organic agriculture, effective legislation and support payments, regulations should be made to encourage consumers to consume organic products. One of the biggest obstacles to the spread of organic beekeeping is that farmers have difficulty in paying control and certification fees. Therefore, public institutions and organizations that provide grants to farmers should also open support packages that will include control and certification fees, or a protocol may be signed in cooperation with relevant control and certification organizations. Farmers with low income do not want to invest their earnings in the control and certification fee.



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