PERCEPTION STUDY REGARDING ORGANIC BEEKEEPING IN THE NORTH-WEST REGION OF ROMANIA

Cristina Bianca POCOL[1], Anca Aurora POPA[1]
E-mail: pocolcristinabianca@yahoo.com

Abstract

In the context of European honey markets, the Romanian market is considered as one of the most powerful, with a rate of 100% self-supply and multiple export opportunities. The Romanian beekeeping sector, characterized by a fast dynamic during 2000-2010, has adapted to current trends, responding in this way to the growing demand for the production of organic products, necessary for a healthy lifestyle. The first organic beekeepers were registered in 2000 and their number reached 1018 in 2009. Starting from these data, the present research is based on a perception study on organic beekeeping in the North West of Romania, the study being a part of a complex analysis of the beekeeping chain, carried out within the postdoctoral research project "A technical and economic analysis of the beekeeping in the North West Region of Romania in order to ensure the sustainable development of the beekeeping chain". The results of the present study show that the vast majority of beekeepers agree with the principles of organic beekeeping and more than half admit that they are aware of the costs that this type of beekeeping entails. Organic beekeeping, as a particular orientation towards a certain set of principles that guide the production of honey, is in its early stage in Romania. The support of this type of beekeeping is done through various forms: supporting a percentage of the fee for inspection and certification by NRDP measures, through the National Beekeeping Program as well as the national export strategy.

Key words: beekeeping, organic, North West Region, Romania, European Union

Increasing concerns about the effects of intensive agriculture on the landscape and the environment in general have intensified the interest in organic food, which is perceived as being 100% natural. The general interest for organic products has led to an increased demand for honey, as well as for the full range of organic products belonging to the food industry (Pocol C. B., L. Al. Mărghitaş, 2010). The term „organic beekeeping" has been debated for the first time in „The World of Organic Agriculture". Garibay et al. provide an overview, including statistical data obtained from "The First World Conference on Organic Beekeeping" held in Bulgaria, in 2010 (Garibay et al., 2010). According to this author, organic beekeeping is an excellent opportunity for beekeepers organized into cooperatives to increase their revenues, particularly for those in rural areas. Due to the production, certification and quality constraints that organic beekeeping entails, the demand for organic bee products will not be covered in the future (Garibay S., 2011).

Concerns regarding the analysis of the production costs in conventional versus organic beekeeping can be found in the research conducted in the Yucatan Peninsula in Mexico, the researchers demonstrating that organic (ecologic) honey production increases costs about 70% above that of conventional honey (Francisco J. Güemes-Ricalde et al., 2006).

An estimation of the organic honey market in Europe shows a quantity of 6,500 tonnes per year, that is 2% of the total market of honey. Of this amount, approximately 2,500 tons belong to Germany. Organic honey is used mainly for direct consumption, being a healthy food for consumers, a natural alternative to sugar and a medicine (Centre for Promotion of Imports from Developing Countries, 2010). The increasing demand for organic honey provides opportunities for honey producers, despite the fact that, at the European level, its price is only 10% higher than if produced in conventional system, beekeepers often being discouraged to cover the costs associated with obtaining organic certification.

In general, within the European Union, there are two main types of markets: a large market, but saturated and small markets that are growing. Most Western European markets belong to the first category, while Eastern European markets belong to the second (Centre for Promotion of Imports from Developing Countries, 2011). Large markets, but saturated, are characterized by high per capita consumption, a wide variety of products, insignificant increase and strong international competition. Small markets, but growing, are

[1] University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca

characterized by low per capita consumption, poor production diversification and, in some cases, by strong competition from similar markets. Germany, France, UK, Spain, Italy, Romania, Greece and Poland are the largest honey markets in the European Union.

Romania is among few EU countries that succeed to have a honey self-supply rate of 100%. The dynamics of the Romanian beekeeping sector emerge from the increase in the number of the colonies of bees, from 614.000 in 2000 to 1.28 million in 2010, and the evolution of the production obtained, from 11.746 tons in 2000 to 23.700 tons in 2010 (Ministry of Agriculture and Rural Development, 2011). Romanian honey producers have benefited from the opportunities offered by the tendency for a healthy lifestyle. In this way, according to the statistics provided by the Ministry of Agriculture and Rural Development from Romania, the first certified organic beekeepers were registered in 2000, their number reaching 132 in 2005 and 335 in 2006. In 2008, 584 organic producers were registered, and in 2009 their number reached 1018 (Ilea M. et al, 2010). Besides the increase in the number of producers, an increase in the number of processors and exporters of organic honey can be observed. Therefore, if in 2006, 9 processors and 2 exporters were registered, in 2008, there were 15 processors, 22 merchants, an importer and 8 exporters (Ministry of Agriculture and Rural Development, 2011).

Starting from these considerations, the present research aims at achieving a technical and economic analysis of the beekeeping in the North West of Romania, in order to identify organic beekeepers, as well as the opportunities and the threats of this market segment in the given region, at a national and European context. Studying organic beekeeping in North West Development Region of Romania is part of the research carried out within the postdoctoral research project entitled "Technical and economic analysis of beekeeping in the North West Region of Romania in order to ensure the sustainable development of the beekeeping chain".

MATERIAL AND METHOD

The research method used was the survey and the work tool – the questionnaire. The questionnaires were delivered in early 2011. The questionnaire included questions regarding the geographical location of the apiary, the size of the beekeeping exploitation, socio demographic questions about the manager, specific resources, the type of beekeeping that is practiced, the melliferous sources used, the obtained yields, production costs, if beekeepers belonged to different associative forms, the practice of organic beekeeping and the traceability of beekeeping products.

The sample was represented by beekeepers from the North West Development Region of Romania, including the counties of Cluj, Bihor, Satu Mare, Salaj, Bistrita Nasaud and Maramures. The sample was composed of 290 subjects. The theoretical maximum permissible error was + / - 6.0% at a 95% probability level. Type sample was probabilistic, stratified, stadial, with stratification in: stage 1, according to the counties from the North West Development Region, and stage 2, according to the number of colonies of bees owned. Beekeepers' stratification was done according to five categories: up to 10 hives, between11-50 hives, between 51-80 hives, between 81-150 hives, more than 150 hives.

The selection method of the units in the sample was as follows: the selection of beekeepers was done through a probabilistic manner, at the level of each county, from a database of beekeepers in that county provided by the Beekeepers' Association as well as the database of S.C. ECOINSPECT S.R.L., the first private Romanian enterprise in charge with the inspection and certification of organic food products, recognized by the Ministry of Agriculture and Rural Development. Several methods of interviewing were used: face-to-face, during several meetings with beekeepers and auto-completion, the questionnaires being sent by post to beekeepers. The analysis of the data in the present paper focused on the type of beekeeping practiced in North West Region (organic versus conventional), the costs of organic beekeeping, the costs of certification, beekeepers' knowledge regarding the principles of organic beekeeping and the costs that it entails.

The analysis and interpretation of the data were performed using SPSS (Statistical Package for the Social Sciences), one of the most powerful and used statistical data processing programs (so-called data mining) and the composition of forecasts (C. Stoica et al., 2010). After entering the data, it was processed in two stages: the primary analysis, by generating frequency tables and graphics illustrating the responses to the questions and a secondary analysis, using certain tools such as the statistical tests. Statistical associations were made between organic beekeeping and certain variables such as age and beekeepers' experience. The association between the costs of certification and the experience of those who practice this type of beekeeping was tested as well. The research started from the hypothesis according to which organic beekeeping is rather a preference of young beekeepers. After processing the statistical data, the validation of this hypothesis was tested. Regarding the structure of the costs specific to organic beekeeping, a classification was

made and three categories resulted: logistics, prevention and certification.

RESULTS AND DISCUSSIONS

The data show the fact that 82% of the respondents agree with the organic way of producing honey. Average age beekeepers (31-50 years) and average experience (6-15 years) in beekeeping is associated with those who agree with the principles of organic beekeeping to a greater extent (figure 1).

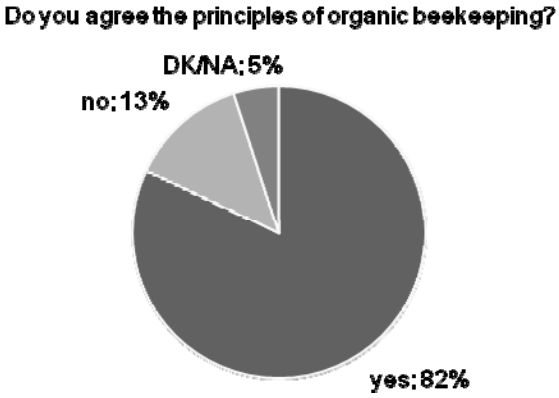

Figure 1 **Agreeing with the principles of organic beekeeping**

The great majority of beekeepers agree with the principles of organic beekeeping, but only slightly less than half (43%) of them admit that they know the costs entailed by organic beekeeping (figure 2). Those who agree with this way of producing honey know these costs to a greater extent (48%), while those who do not agree with organic beekeeping know these costs to a lesser extent (28%).

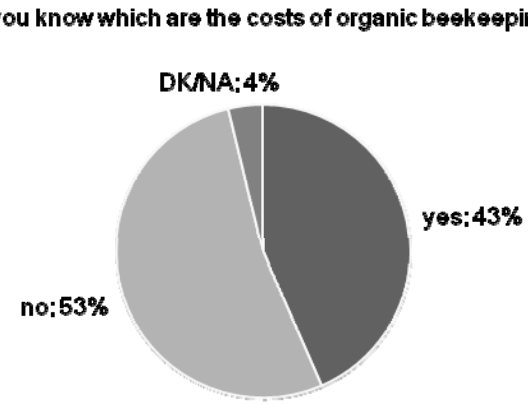

Figure 2 **Knowing the costs entailed by the practice of organic beekeeping (Do you know the costs entailed by the practice of organic beekeeping?)**

Which are the costs outlined by beekeepers to be specific for organic beekeeping? Most responses belong to a great extent to the three dimensions (4% of the answers represent other costs):

a. Logistic costs (43% of the answers): equipment, instruments, combs;

b. Prevention costs (40%): treatments (the most often menti oned cost), medicine;

c. Certification costs (13%): inspection fees for accreditation, homologation.

The data indicate no significant differences arising from the experience regarding the distribution of the mentioned costs, fact that shows beekeepers' similar perception regarding the costs of organic beekeeping.

A more accurate indicator of the propensity for organic beekeeping is given by the share of the expenses for organic beekeeping certification within all the maintenance costs for the beekeeping exploitation. Our data indicate that only 16% of beekeepers had organic beekeeping certification costs in 2010, the average amount spent per beekeeping exploitation being 109 RON or 42 RON per colony of bees.

Within the entire amount of costs for maintenance, the expenses assigned to organic beekeeping certification represent 5%. In the hierarchy of costs, his type of costs come towards

the end, just ahead of costs such as insurance, utilities (electricity, heating, water), land rent and interests. The distribution of costs, relative to those who spent at least one l RON to certify to organic beekeeping, is presented in the following figure:

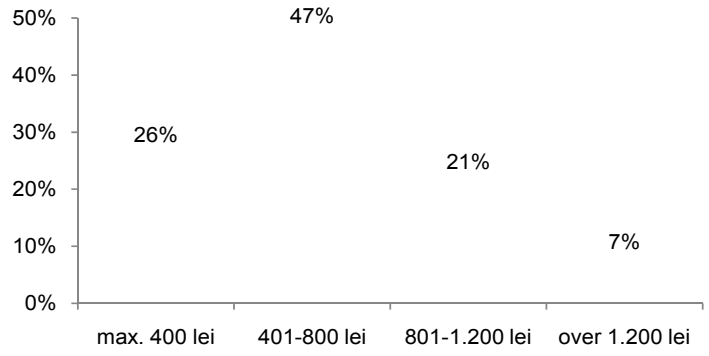

Figure 3 **Distribution of costs for organic beekeeping certification**

It can be observed that for most of those who had certification costs these varied from 401 to 800 lei.

Who spends more for the organic beekeeping certification? The data show a significantly greater amount of costs for certification in the case of beekeepers with average experience (6-15 years) with an average of 191 RON, compared to highly experienced beekeepers (over 15 years) who spent an average of 95 RON and novice beekeepers who spent only 35 RON.

Moreover, the certification costs related to the number of colonies of bees are higher for the average experience category, this category spending an average of 55 RON per colony, while experienced beekeepers spend 30 RON per colony and novice beekeepers only 15 RON per colony.

Is the propensity towards organic beekeeping a feature of young beekeepers, as a part of the social trends of the contemporary world? The data partially infirm this hypothesis; indicating higher costs for organic beekeeping certification for the young and the middle age in comparison with the elderly (however, without illustrating statistically significant differences).

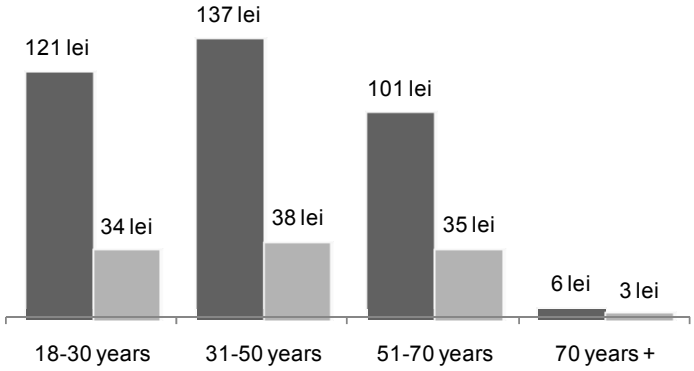

Figure 4 **The costs for organic beekeeping certification according to age**

CONCLUSIONS

Organic beekeeping, as a particular orientation towards a certain set of principles that should guide the production of honey, is in an early stage in Romania. Although as a general trend of attitudes towards nature, it is associated with the young age, organic beekeeping in Romania is more connected with the mature age and average experience and less to young, novice beekeepers, and so the latter can be suspected of a rather mercantile motivation when deciding to address this area.

Beyond the differences of age and experience, most beekeepers agree with the principles of organic beekeeping and nearly half of them say they are aware of the costs that it entails.

Organic beekeeping in Romania is supported by the state budget in the following forms: support of 50% of the fee for inspection and certification, paid by the producer to the inspection body with whom the contract was concluded, up to a

maximum of 900 RON. Investments in organic beekeeping are supported by the National Rural Development Program, through measure 123 „Adding value to agricultural and forestry products" so as to improve production, processing and marketing of high quality products, which favor, within the selection criteria, processors registered as organic beekeepers.

Organic beekeeping is also supported by the National Beekeeping Program, due to the fact that organic honey is one of the required products on the Community market and for export. The supported measures are: the control of Varroasis by organic measures, reconstruction of hives through the acquisition of queens, package swarms, honeycomb swarms and colonies of bees.

Organic bee products are part of the national export strategy that includes measures and actions meant to increase the competitiveness of Romanian organic products and the competences of the exporting units and to promote organic food on international markets, by supporting the participation to fairs and international exhibitions.

ACKNOWLEDGEMENTS

This work was a part of a research project supported by a grant from CNCSIS, PN II. Romania. The title of the research project is "A technical and economic analysis of the beekeeping in the North West Region of Romania in order to ensure the sustainable development of the beekeeping chain", Contract no. 149/2010.

BIBLIOGRAPHY

Garibay, Salvador, 2011 - *General organic beekeeping data and market trends*, BioFach, Research Institute of Organic Agriculture, www.fibl.org.

Garibay, Salvador, Ganz, Peter, Ulrich Broeker, Rémy Vandame, Bogdanov, Stefan, 2011 - *Organic Beekeeping : Opportunities and Risks*, First World Conference on Organic Beekeeping, 96-103.

Güemes-Ricalde, Francisco J., Echazarreta-González, Rogel, Villanueva-G. Carlos, Alvarez, Regino Gómez, Juan Manuel Pat-Fernández, 2006 - *Production costs of conventional and organic honey in the Yucatán Peninsula of Mexico*, Journal of Apicultural Research, Vol. 45 (3) pp. 106 – 111.

Ilea, Marioara, Pocol, Cristina Bianca, 2010 - *Prospects of development in Romanian organic beekeeping,* Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development, Vol.10 (3)/ 2010, 186-189.

Pocol, Cristina, Bianca, Mărghitaş, L.Al., 2010 - *Tendinţe Naţionale şi internaţionale privind producţia şi consumul de miere*, Editura AcademicPres, Cluj Napoca, 25.

Stoica, Cristina-Maria, Alexa, Elena-Lidia, 2010 - *Cercetări de marketing, Teorie şi aplicaţii*, Editura C.H.Beck, 55-83.

*****, 2010 -** *Centre for Promotion of Imports from Developing Countries*, Market surveys, www.cbi.eu.

*****, 2011 -** *Centre for Promotion of Imports from Developing Countrie*, Promising export markets, www.cbi.eu.

*****, 2011 -** *Ministerul Agriculturii şi Dezvoltării Rurale*, Programul Naţional Apicol din România, Situaţia sectorului apicol din România, www.madr.ro.