

# THE MARKETING STRATEGIES OF SERBIAN HONEY PRODUCERS

Vlade Zarić<sup>1</sup>, Zorica Vasiljević<sup>1</sup>, Nebojša Nedić<sup>1</sup> & Danijela Petković<sup>1</sup>

<sup>1</sup>Faculty of Agriculture, University of Belgrade, Belgrade, Serbia

**Abstract:** Serbian honey producers are exposed to the increased international competition of recent years. To face up to the new changes, producers are progressively using diversification strategies, such as direct sales and production diversification. The direct sales strategy allows the producers to increase the product added value, while diversification aims to offer new products to the consumers.

The aim of this paper is to analyse the honey marketing strategy of Serbian honey producers. The first part of the paper analyses the structure of production costs, production performances as well as the determinants of the honey supply. In the second part of the paper, analysis is focused on the determinants of direct sales. Finally, in the third part of the paper, diversification strategies are discussed.

The data for this research has been obtained on the basis of a representative sample consisting of 84 Serbian honey producers interviewed in 2011 and 2012. The results show that the Serbian honey producers operate with more or less similar production costs and with production performances that do not differ significantly. They use direct marketing for two reasons: firstly, it affords personal contact with consumers, and secondly, they aim to decrease the transaction costs, thereby keeping a higher share of the product's final value. Offering new products to consumers is an attempt to create additional product demand.

**Key words:** marketing strategy, Serbian honey producers, direct marketing, diversification

## Introduction

The products from bees include honey, propolis, royal jelly, pollen, beeswax and bee venom. The market definition in the case of bee products is relatively simple, because there are no similar or related products that constitute relevant competition, which facilitates analysis.

Honey is a high-calorie, easily digestible product that is used both as food and as natural remedy. Honey is used in the preparation of cosmetic products such as soaps and creams, but also for the preparation of pharmaceutical products that are applied directly to wounds and burns. It helps against infection, improves tissue regeneration and reduces scar tissue in its raw, unprocessed form.

Pollen is applied in the case of prostate problems, as well as for prostate cancer and allergies. The application of pollen as a supplement in animal feed led to an increase in the weight of pigs, chickens and laboratory cultures of insects.

At the moment, the production of propolis, pollen, royal jelly and bee venom in Serbia is negligible and cannot be considered as providing a serious supply on the market, although excellent conditions prevail for their production and the potential demand is high.

The indirect benefits of bees are reflected in the pollination of flowering plants. This has significantly greater value for the national economy than the bee products themselves. The benefit from pollination, primarily in the case of agricultural and industrial plants, is 10-15 times higher than the direct benefit of the honey and other bee products. Experts have

calculated that the value of increased production and product quality of many fruits, field crops, vegetable crops, and meadow and forest plants caused by the work of bees is more than 30 times higher than the value of all bee products.

The natural conditions, moderate continental climate and abundance of flora provide excellent conditions for beekeeping in Serbia. Beekeeping is an activity that has existed in Serbia for a very long time. According to the usability of important pastures, there are two areas in Serbia which are especially important for beekeeping: the area of Vojvodina, where rapeseed, linden and sunflowers grow, and the area of Serbia which lies to the South of the Danube river, where there are acacia and meadow pastures.

According to the official statistics, there are about 31,000 beekeepers in Serbia with approximately 430,000 hives, or about 14 hives per beekeeper. In the sample that was used for the research analysed in this paper, the average number of hives per beekeeper was 166. In Europe, the number of hives per beekeeper varies from about 10 in Germany up to 54 in Greece (<http://www.beekeeping.com/>).

The total production of honey in Serbia reveals a slight increasing tendency and amounts to about 4000 tons, of which about 90% is produced in Central Serbia, and the remaining 10% in the Province of Vojvodina. In contrast to the clear tendency of the total production growth, productivity does not show a clear trend, but rather stability.

On average, 13kg of honey is obtained per hive in Serbia, while in our research sample, the average was 30kg of honey per hive. The European average is about 25kg per hive.

Of the total number of beekeepers, 60% have an apiary with 20 bee hives, about 30% of beekeepers have between 20 and 50 hives, around 7% of beekeepers have 50-100 hives, while only 3% of beekeepers have more than 100 hives. Increased unemployment in the country has influenced the increasing number of people involved in beekeeping, either as primary or as an additional job.

The largest number of beekeepers in Serbia is engaged in beekeeping as a hobby (82%), suggesting that beekeeping is not their main source of revenue. For some 16% of beekeepers, beekeeping represents the source of additional revenue, while for only 2% of beekeepers in Serbia, it is the sole source of their revenue.

About 9,000 beekeepers are members of 173 associations that make up the Union of Beekeeping Organisations of Serbia (UBOS).

To use pastures more efficiently, it is necessary to move the hives. Every year, beekeepers increasingly utilise trucks, buses and trailers with built-in hives for the moving of hives or use the loading-unloading system. In Serbia, there are over 800 vehicles with built-in hives, but an increasing trend of pallet-moving the bees can also be observed.

Efficient beekeeping necessitates both modern hives and contemporary supporting equipment and accessories. Nonetheless, some beekeepers – including some of those in Serbia – continue to use traditional hives. Beekeepers in Serbia use about 25 types of hives, of which 4 standard ones exist: LR, DB, AZ, and Pološka hives. Over the past 20 years, the Farrar system has also appeared in the country.

Serbia has many hilly-mountainous regions where agricultural production is still practised in traditional forms, and with a low population density, providing good conditions for organic beekeeping.

Also, the national parks represent convenient areas for the application of organic beekeeping. Their habitats have been analysed, controlled and partially protected from degrading human activities. As the national parks lie mainly or exclusively in the hilly-mountainous regions, the traditional forms of economy have dominated in these areas.

Beekeeping development has resulted in an increased demand at the market for the bee swarms. The market turnover of bee swarms is performing in packages, i.e. with a standard package aiming at 1.2 kg of bees and the queen bee, or with bee frames, a package usually consists of 5 frames of which 3 contain the bee brood and 2 contain honey. The demand for these package swarms occurs in the season when the acacia pastures are in bloom.

## Materials and methods

For the analysis of Serbian honey producers' marketing strategies, a survey was conducted among the honey producers during an exhibition fair which is held every year in Belgrade and which is the largest exhibition of its kind in Serbia. Testing was performed on two occasions in 2011 and 2012. The total sample size was 84 respondents. The questionnaire was of

the closed type, where respondents were asked the questions about the costs of production, method of production and the main factors that determine the supply and competition. They were also asked questions about the marketing channels, the reasons for the selection of specific channels, and their strategies of differentiation. The interviews were conducted face to face. This paper presents the first results obtained using descriptive statistics and SWOT analysis.

## Results and discussion

According to some estimates, professional beekeeping in Serbia necessitates that the producer has over 150 hives; and number of beekeepers working to this capacity in Serbia is engaged in a mild upward trend. In our sample, two-thirds of the beekeepers surveyed had more than 150 hives. According to the current market price for honey and the honey production costs in Serbia, those producers can be regarded as professional beekeepers.

The economic analysis started by looking into investments and annual operating costs. The level of investments depends on the number of hives. It was assumed in the research that investment per unit is equal regardless of the number of hives with which production begins.

Classification of the producers was done according to the results of the survey and on the basis of the literature. The producers responded, among other things, to questions about the number of hives at their disposal, the activities they deal with as well as the annual expenditure of time invested in honey production. Annual working hours per producer were calculated on the average level of 2,500 hours.

The group of professional beekeepers included those beekeepers whose only occupation is beekeeping and who can earn an income from it which is comparable to that which could be achieved in other sectors and jobs.

According to the above-mentioned criteria, on average terms, the hobby novice beekeeper has 20 hives (S1), the advanced hobby beekeeper has 50 hives (S2), the semi-professional beekeeper has 100 hives (S3), while the professional beekeeper has 150 hives (S4). The amount of investment per hive depends on the purchasing conditions which are described by scenarios A, B and C. Each of these beekeepers, no matter which category he/she belongs to, can be found in the situations described in scenarios A, B or C (Figure 1). The factors which determine the level of costs are dependent on the beekeeper's strategic commitments and negotiating skills.

For scenario A, very favourable supply conditions were assumed, while scenario B assumed the usual market conditions. Scenario C supposed a very good quality of equipment and exceptional conditions of procurement. It is expected that advanced beekeepers use good quality hives, swarms and other materials, and therefore have higher initial investments. At the same time, the advanced beekeepers achieve greater honey production per hive and therefore have the higher revenue (*Ferencz and Notari, 2008; Marinković and Nedić, 2010*).

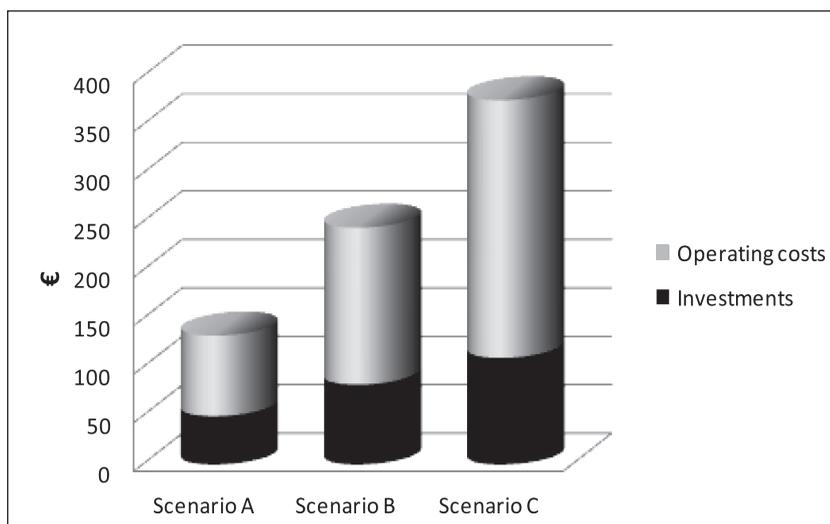


Figure 1: Investments and operating costs

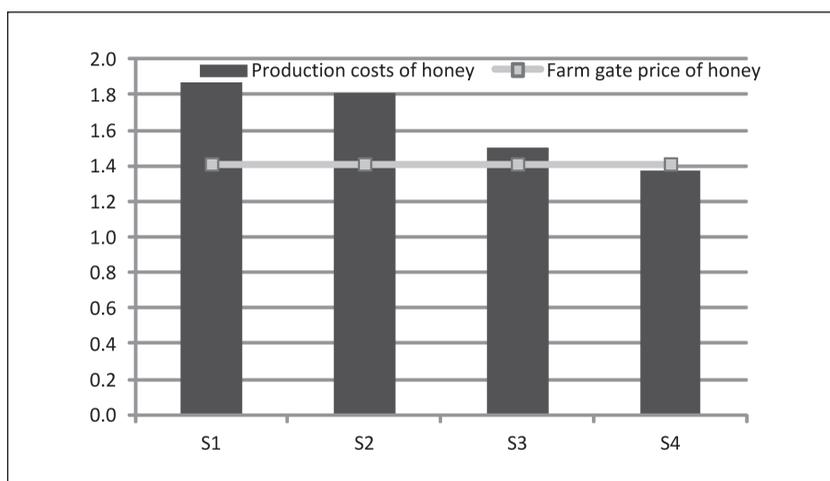


Figure 2: Comparison of the production costs and farm gate price

The research showed that the advanced beekeepers have lower operating costs, which amounted to € 1.373 per kg of honey. The hobby novice beekeepers have costs amounting to € 1.872/kg. At the same time, the advanced beekeepers have a higher quality product and achieve higher selling prices than other beekeepers.

It was presumed that the market retail price of honey amounts to € 3.744 kg. After deduction of the transaction costs, a farm price was obtained that is acceptable in the market sense and which amounts to € 1.411/kg in the normal production year.

By comparing the costs and prices it can be seen that only the beekeepers who have more than hundred hives have a positive result, while the others make losses (Figure 2). The following table shows the structure of transaction costs.

In elaboration of the trade calculation it was assumed that regardless of the size of production, the producers are operating in the conditions of perfect competition, while the price is a given as an indicator. All expenses incurred in the transaction of the product (from the producer to the customer including VAT) have been deducted from the retail price.

Large beekeepers with over 100 hives and beekeepers involved in pallet beekeeping have mostly LR hives. Beekeepers with fewer hives and the stationary ones have DB hives, while beekeepers with hives built in to transport vehicles have AZ hives. Other types of hives are less frequent.

Most of the inputs are purchased from the domestic market. The only exceptions are some of the protective chemicals that are imported. Complete packaging material is produced in the country at affordable prices. The markets for professional services and marketing services are developed, so beekeepers are provided with everything they need.

The producers usually sell their products primarily on the domestic market and thereafter on the foreign markets. On the market, honey is sold most often in liquid form, less often as honeycomb. The trade of honey is not organised in a way which satisfies both producers and consumers. The retail prices in Serbia are at the level of European countries or above that level.

In recent years, there is a growing interest in beekeeping in Serbia and as a result, an increase in the level of honey production can be expected as well as an increasing supply of honey and related products on the market.

Differentiation among the small producers can also be expected. Some of them will disappear from the market due to the expansion of the professional beekeepers as well as their inability to meet the legal requirements set by

Table 1: Trade calculation (€/kg)

<b>A</b>	<b>The retail price for the end customer</b>		<b>3.744</b>
<b>B</b>	<b>Commercialisation of honey</b>		<b>2.333</b>
Minus	VAT (18%)	0.624	
=	Retail price without VAT	3.120	
Minus	The retail margin (20%)*	0.520	
=	The purchasing price of the retail trade	2.600	
Minus	The wholesale margin (15%)	0.339	
=	The purchasing price of the wholesale trade	2.261	
Minus	The packaging services**	0.226	
Minus	Packaging - commercial **	0.624	
<b>C</b>	<b>The honey price at the apiary (A-B)</b>		<b>1.411</b>

\* Data on the operating costs obtained from the beekeeper  
 \*\* Jar, cover, label  
 \*\*\* Packaging services: for the hobby beekeeper 10% and for the professional one 7% of the wholesale honey price per kg  
 \*\*\*\* Average margin in the small retail facilities

Source: Authors' calculation

the state, while the others will progress into the category of professional beekeepers.

The role of middlemen should also be mentioned, as they have a negotiating advantage in the trade with small producers, resulting in lower prices for the producers (Mogno *et al.*, 2007), which usually amount to about half of the honey retail price (Dukic *et al.*, 2003).

Unfair competition for beekeepers on the domestic market is also exacerbated by artificial honey producers. It is sometimes the case that the consumer is convinced that he or she is buying a quality honey until its physical and chemical analysis, as it is possible to produce honey from pure diluted sugar, which leads to a reduction in quality. In this domain, an adequate response by the state is required in order to prevent and such unfair competition, as well as adequate categorisation of products in order to bring about transparency about the quality of honey and its origins.

On the international market, the biggest competitor is honey from China. The advantages of the Chinese honey are in its large quantities and very low selling prices. In terms of quality and taste, this honey is far below that of the honey produced in Serbia. Chinese honey is extremely price-competitive in Europe. In this segment, producers not only from Serbia, but also from other countries in the region and EU countries are unable to compete with these prices.

Competitive products for honey are also the products used in large quantities in the confectionery industry (such as brown and white sugar).

As for the other bee products such as propolis, royal jelly, pollen and the like, there are of course no substitutes for these because they are products whose qualities are impossible to recreate in a synthetic way.

The strategy of differentiation of products is largely determined by the regional origin of honey. For example, the producers from Homolje (Eastern Serbia) enjoy a special reputation among consumers because this area is considered as the ecologically cleanest region. In connection with regional differentiation, differentiation by type of honey is also related to the primary nectar and pollen used for honey production; the main categories are meadow honey and acacia honey. The strategies of differentiation and highlighting the origin of the honey brings the benefit of higher selling prices (Ostojic *et al.*, 2011).

To avoid the intervention of middlemen, honey producers increasingly use direct marketing, thereby keeping most of the price for themselves. Like this, producers also have direct contact and exchange of information with their customers (Aguglia and Salvioni, 2010). In addition, a relationship of mutual trust can develop, resulting in increased customer loyalty. Most of the surveyed producers indicated that they have customers to whom they have been selling their products for many years.

Based on the SWOT analysis, it could be concluded that one of the weaknesses is the low purchasing or selling price, which can be turned to an advantage by the producers' assumption of a larger role in the marketing of the products, which will eliminate the threats of a large number of traders who are presenting themselves as producers to the end consumers.

The SWOT analysis shows the following results:

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Favourable climatic conditions</li> <li>• Constant education of beekeepers</li> <li>• Awareness of the medicinal qualities of honey</li> <li>• High quality of honey</li> <li>• Invisible marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Seasonal buying of honey</li> <li>• Low purchasing (selling) price</li> <li>• Strong competition in hypermarkets</li> <li>• Inconsistency in the quality of honey</li> </ul>
Threats	Opportunities
<ul style="list-style-type: none"> <li>• A large number of retailers who present themselves as producers</li> <li>• Imports of poorer quality honey from other countries</li> <li>• Lack of long-term policies at the national level</li> <li>• Poor information among end-users on the quality of honey (low demand for the crystallised honey)</li> </ul>	<ul style="list-style-type: none"> <li>• The protection of geographical origin of honey</li> <li>• Cooperation between beekeepers and organising of associations aiming at joint appearance of the small producers in the market</li> <li>• Differentiating of the products (honey with walnuts, hazelnuts...)</li> <li>• More homogeneous quality of producers from certain area/region</li> <li>• Establishment of concepts that will influence the sustainable beekeeping development in the areas most favourable for this production</li> </ul>

## Conclusion

On the basis of the research presented in this paper it can be concluded that most of the honey producers in Serbia have similar operating costs and that according to production performances, those producers with a large number of hives who provide higher quality inputs and have higher quality products can be clearly distinguished.

Serbian honey producers use direct sales in order to increase the generated added value and to obtain direct contact with customers. Reducing transaction costs is a strategy that is applied regardless of the number of hives that producers have.

Differentiation strategies are based on the geographical characteristics of the area, as well as on the flora and fauna represented in the particular area. Also, differentiation can be made in terms of the type of nectar and pollen from which the honey originates.

## Acknowledgments

The research analysed in the paper has been carried out within the following projects:

Project number III46001: „Development and implementation of new and traditional technologies in the production of competitive food products with added value for European and world markets-creating wealth with Serbian wealth”. The research period of this project is 2011–2014.

Project number TR 31034 „Defence of the biological threat to the safety/quality of food of animal origin and control measures from farm to consumer“. The research period of this project is 2011–2014.

Project number 179028: “Rural labour market and rural economy of Serbia – diversification of income and reduction of poverty”. The research period of this project is 2011–2014.

Project number III46009, subproject 460097III: “Improvement of technological processes in the production of bees, honey, wax and pollen”. The research period of this project is 2011–2014.

## References

- Ostojić, A., Vaško, Ž., Maksimović, R.** (2011): Uticaj obujma proizvodnje na izbor kanala prodaje meda. Proceedings. 46th Croatian and 6th International Symposium of Agriculture. Opatija, Croatia. Pp. 324–327.
- Aguglia, L., De Santis, F. Salvioni, C.** (2010): Direct Selling: A Marketing Strategy to Shorten Distances between Production and Consumption. 9th European IFSA Symposium, 4–7 July 2010. Vienna. Pp. 1701–1711.
- Dukić, D., Z. Puškadija, I. Štefanić, T. Florijančić, I. Bošković** (2003): Hrvatsko tržište meda u europskom okruženju. UDK = 339.1: 638.16 (497.5)
- Marinković, S., Nedić, N.** (2010): Analysis of Production and Competitiveness on Small Beekeeping Farms in Selected Districts of Serbia. APSTRACT *Applied Studies in Agribusiness and Commerce*, Budapest Vol. 4 (3-4): 65-69.
- Mogni, F., Palau, H., Tresoldi, C., Senesi, S., Vilella, F.** (2007): Marketing strategy planning and management for Argentine honey traceability. International Food and Agribusiness Management Association, 18th Annual World Forum and Symposium Monterey, California-June 14-17, 2007 Proceedings: Meeting Food System Challenges through Innovation and Entrepreneurship.
- Ferencz Á., Notari M.** (2008): Economic and marketing analysis of Hungarian honey especially for the traditional products. *Annals of the faculty of engineering Hunedoara – Journal of engineering*. Vol. VI, number 1, (ISSN 1584 – 2665). Pp 101–104.  
<http://www.beekeeping.com/>

