

PROBLEMS IN THE PROMOTION OF HONEY AND BEE PRODUCTS

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Abstract

Honey and bee products are one of the most popular foods in the world which also have significant health benefits. They have been known for centuries and have been used for various purposes. However, despite their benefits, people in Macedonia do not consume honey or bee products in sufficient quantities. The biggest obstacles for not using honey and bee products is the lack of information about the advantages of this important food, the high price, the unavailability of quality honey, but also the small or no promotion of these products. The purpose of this paper is to examine the problems, especially with the promotion of honey and bee products and to propose certain solutions. To achieve this goal, the research was conducted using a questionnaire that was submitted online to a large number of consumers.

Keywords: honey; bee products; promotion; price; consumers

JEL Codes: M31, M37, M38

1. Introduction

Macedonia is mainly influenced by three climate types: continental, mountainous and Mediterranean climate. The climate implies Macedonia to be characterized with hot and dry summers and cold and wet winters. Although the climatic conditions are good, beekeeping is not very popular and developed in Macedonia. According to data from the Macedonian Food and Veterinary Agency, the number of bee families in 2020 is 308,981 and the number of beekeepers is 6,681 in 2020. For comparison, in 2016 in Hungary there were 21,565, in Romania 22,930, in Greece 24,582, in Italy 50,000 and in Germany a total of 116,000 beekeepers. (European Parliament, 2016). Consumption of honey in Macedonia is very low, only 900 grams per capita, compared to the Japanese who annually consume 16 kilograms per capita. In Europe in 2019, the highest consumption of honey per capita is recorded

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in Croatia (2.59 kg per person), Greece (2.47 kg per person) and Romania (1.13 kg per person) (Index Box AI Platform, 2020).

The main reasons for the low consumption of honey in Macedonia are the following:

- People in Macedonia do not have a habit of eating honey and do not recognize honey as a healthy, nutritional, natural, even medicinal food;
- People do not have enough knowledge about the importance of honey and other bee products in the daily food consumption;
- Because of the large number of counterfeits/forges of honey (mixing with syrups, sugars, essential and other oils) people do not believe in the quality of honey sold;
- The State authorized institutions and agencies are not interested in proper education of people about the properties of honey;
- People do not know where and how to get quality, real and natural honey;
- There is not enough quality honey available for purchase in shops and markets;
- High price of honey (10-15 Euro/kg) compared to the low standard of people in Macedonia;
- There are no legal solutions, nor strong institutional support for protection and promotion of beekeeping in Macedonia;
- There is not enough promotion of honey and bee products, etc.

On a global scale, bee populations are also declining mainly due to various diseases, viruses that attack bees. Another reason is the use of pesticides, insecticides, but also climate change. Beekeepers must protect the bees, but the state should also be interested in greater education, legal and institutional support for beekeepers and consumers.

2. Literature Review

Honey is one of nature's wonders (Kumar et. al, 2010). Honey has been a common sweetener for foods and a powerful medicinal tool for centuries. Throughout history, honey has been perceived as a nutritional food and as a healing product. Because of its antimicrobial and anti-inflammatory features, honey has also been used in cosmetics and in healing wounds and burns.

According to past historical testimonies, there is an evidence of the harvesting of wild honey, dating back 10,000 years (Arawwawala, 2017). This has been confirmed with the prehistoric drawings found in caves in Spain, 7,000 years old, that indicate some form of beekeeping. However, by 2400 BC, the art of beekeeping was well grounded in Egypt, and honey was used as a natural food and as ingredient in various food preparations. Ancient Egyptians used honey to sweeten cakes and biscuits and also for preparation of many other meals. They also used honey for embalming the dead, for mummification. Archaeologists have discovered honey comb

in Egypt that were been buried in tombs at the pharaohs and the honey was still eatable (Nayik, 2014). This is one of the most important characteristics of honey, which as a natural substance does not spoil, even after so many centuries. The ancient Greeks believed that consumption of honey could help one to live longer. Aristotle called it the “nectar of the gods”. In the Roman Empire, honey was used for paying taxes, on the same level as gold. The ancient Greeks and Romans viewed honey as a symbol of love, beauty, luxury and fertility. Indians have used honey in medicine as an antidote for plant, animal and mineral poisoning and believed that this is one of the five elixirs of immortality (Grigorova et. al, 2016). Honey is accepted as a food source and medicine by both modern and ancient generations, traditions and civilizations.

Today, the beekeeping continues to evolve. In the USA, UK, and Europe, there is a continuous rise of 'natural beekeeping', known as 'bee-friendly' or 'api-centric beekeeping'. Honey is produced in most of the countries of the world. According to Statista (2020), among the largest honey producing countries, China is in the top and followed by Turkey, Iran, Argentina, Ukraine, the USA, Russia and India. China produced 458.1 thousand metric tons of natural honey in 2020.

There are some very interesting facts about honey and bee products, such as (Rowley, 2017):

- Almost one third of the food that people eat is the result of honey bee pollination;
- A single bee can produce about 1/12 of a teaspoon of honey in its lifetime;
- Honey bees are the only insects that produce food consumed by people;
- During a single collection trip, a honey bee visits from 50 to 100 flowers;
- There are three types of bees in every hive: a queen, worker bees, and drones and only drones are male;
- Honey bees don't sleep. They spend their nights motionless, conserving energy for the next day's activities;
- Honey is the only known source of the antioxidant pinocembrin;
- Honey is the only foodstuff that contains all of the necessary nutrients to sustain life;
- The science of beekeeping is called “apiculture”.

Nevertheless, bee populations are suffering a sharp decline due to loss of their natural habitat, inadequate agricultural practices such as monocultures and pesticides, new diseases, viruses and parasites, and climate change. On the other hand, the increase in the world's population has brought with it a greater demand for food. To respond to this great demand, people are producing more food by using a lot of fertilizers, pesticides, and growth regulators that affect various living beings of the ecosystem including honeybees.

3. Methodology

For this paper, secondary and primary data was used. Secondary data was collected from different studies, reports, papers, expert opinions, and blogs that cover topics on apiculture. Primary data was collected through a survey that was realized with e-questionnaire. Collected data are quantitative and qualitative in nature. A comparison and historical methods were also used.

A questionnaire was made for this paper which was electronically distributed to consumers in the first half of March 2022. The questionnaire contains open and closed questions, such as multiple choice and Likert scale. Data from 89 respondents were collected. The questionnaire contains two parts, the first part refers to the demographic characteristics of the sample, and the second one contains the research questions.

4. Analysis and discussion

The table below presents the demographic characteristics of the sample.

Table 1. Demographic characteristics of the sample

Characteristics		Percentage
Gender	Male	37%
	Female	63%
Age	-18	2%
	19-30	58%
	31-50	21%
	51+	19%
Education	Primary	2%
	Secondary	34%
	High	46%
	Master degree	10%
	PhD degree	8%
Monthly income in Euro	-300 €	65%
	300-500€	21%
	500+ €	10%
	No answer	4%
Occupation	Employed	33%
	Unempolyed	10%
	Student	51%
	Retired	6%

Source: Own research

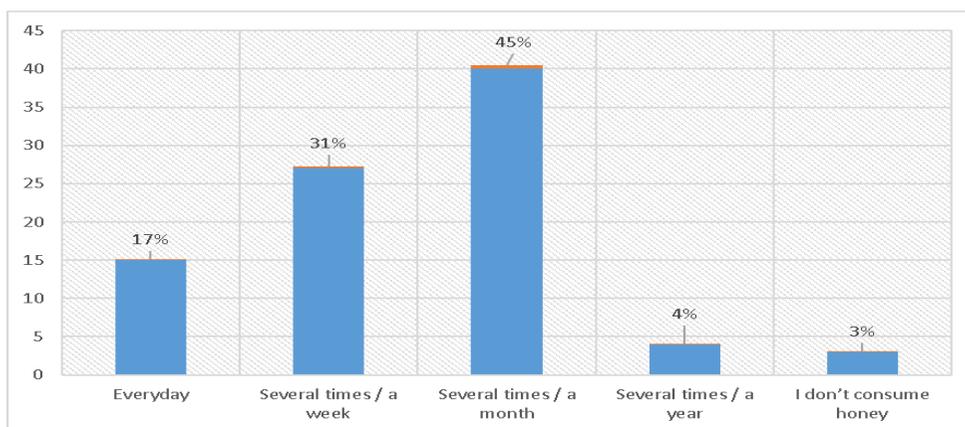
The second part of the questionnaire contains research questions on the use and promotion of honey and bee products in Macedonia.

○ **To the first question** whether they consume honey and bee products, 97% of the respondents answered positively, and only 3% answered that they are not

consumers of honey. But even though this percentage of honey consumers is high, all the answers to the following questions are worrying.

○ On the **second question** about how often consumers consume honey (Figure 1), only 17% of respondents consume honey daily. The largest percentage of respondents 45% use it several times a month, and 7% use it either several times a year or do not consume honey at all. This shows that people in Macedonia do not have a habit of consuming honey.

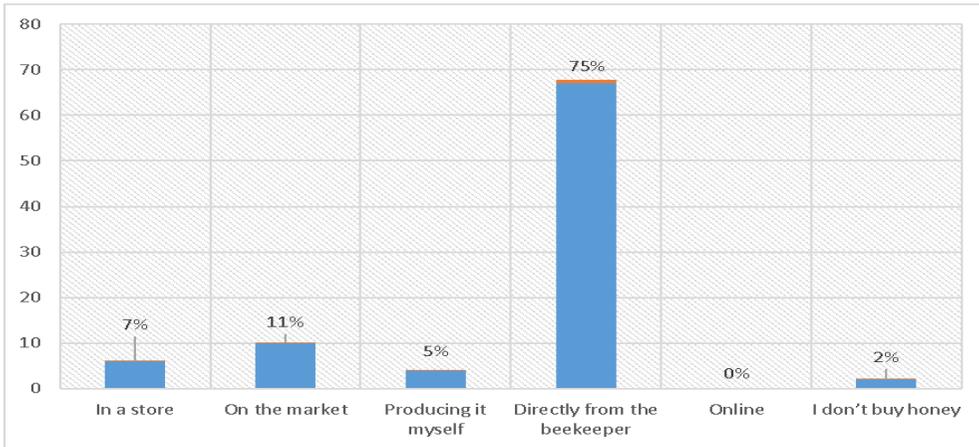
Figure 1. Frequency of buying honey



Source: Own research

○ **The third question** regarding where the respondents buy honey should be specifically analyzed (Figure 2). Namely, the largest percentage (75%) of the respondents procure honey directly from beekeepers. No respondent buys honey online, i.e. through beekeepers' websites, Internet or social platforms. A very small percentage of respondents (7%) buy honey from a store or local shop. Also, the percentage of respondents who buy honey on the market is small. Only 5% of respondents produce honey themselves. The high percentage of honey procurement directly from beekeepers should also be of concern to the state, as there is no record of honey sales. It can also be concluded that only a small part of the respondents who cannot find quality honey from beekeepers buy it in the market. Having in mind the words of Zlateva (2020) that “modern business is increasingly investing resources and efforts in the digital environment. New forms of business are emerging, the number of communication tools is growing, and all this is a result of the integration of the information and communication industry. The new generation of users has new information habits. The Internet is part of the daily life of people who actively search, communicate, and share in an online environment regularly” it is really strange and unusual that people in Macedonia do not use online sources to educate themselves and buy honey online.

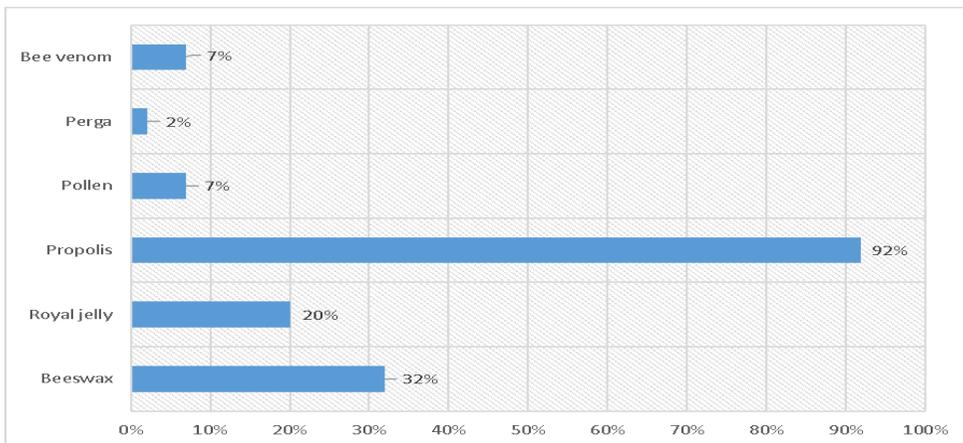
Figure 2. Way of getting honey



Source: Own research

○ **To the fourth question** about the type of bee product they use the most, the largest percentage of respondents (92%) answered that they use propolis (Figure 3). Least used are perga, bee venom and pollen.

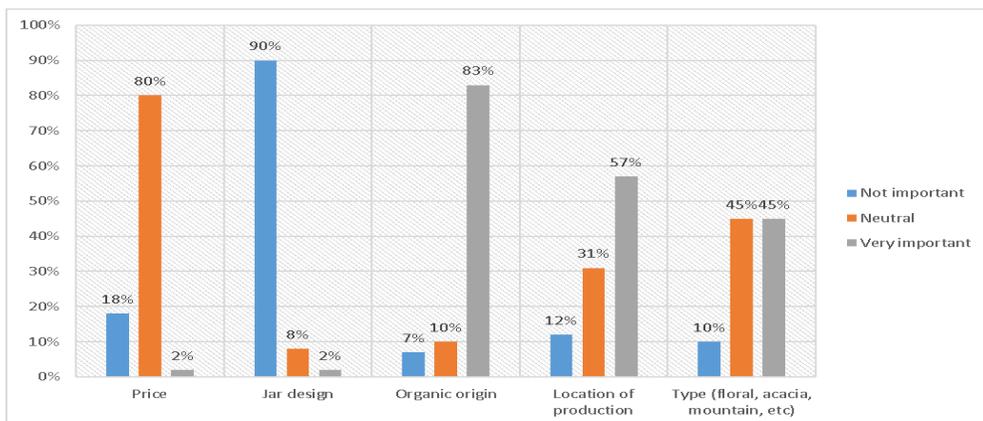
Figure 3. Use of bee products



Source: Own research

○ **On the fifth question** of how important the following criteria are: price, jar design, organic origin of honey, location of production, type of honey (flower, meadow, acacia, mountain, etc.) a Likert scale has been designed for consumer opinions (Figure 4). The organic origin of honey, the location of production and the type of honey are of the greatest importance for consumers. The design of the jar is the least important for consumers. Consumers are price neutral.

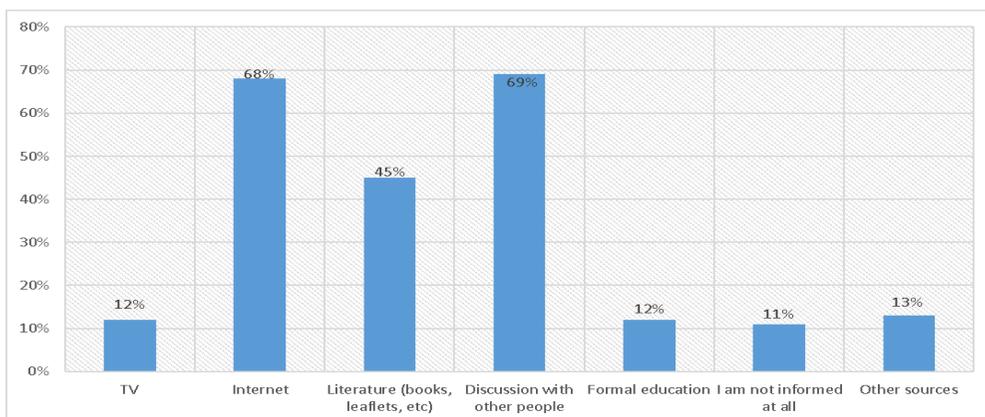
Figure 4. Significance of certain criteria when buying honey



Source: Own research

○ **To the sixth question** about how people are informed about the benefits and characteristics of honey (Figure 5), the largest percentage answered that they are informed from discussions with other people, but also from the Internet. Consumers are least informed by TV and formal education. The fact that 11% of respondents are not informed about honey at all is worrying. The answers to this question show that people in Macedonia are not well informed about the characteristics and benefits of using honey and bee products. Greater education and more information on this important nutritional and healing food should be provided.

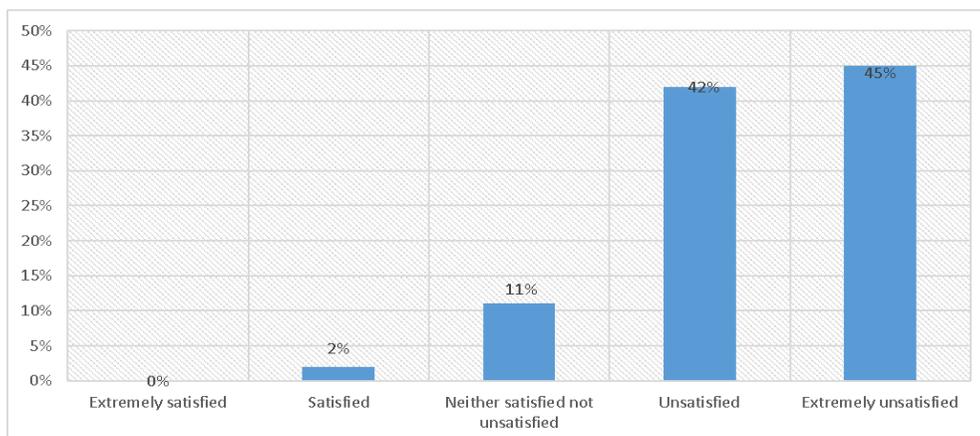
Figure 5. Information sources about honey benefits



Source: Own research

○ **To the last question** how satisfied the consumers are with the promotion of honey and bee products, 87% of the respondents answered that they are not satisfied with the promotion (Figure 6). This fact that there is a weak promotion of honey in Macedonia is really worrying. There is even no answer from the consumers to the question related to the “extremely satisfaction” with the promotion of honey. This issue should be an alarm for the institutions, that need to take measures for greater promotion and information of consumers about the characteristics and benefits of honey. Poor promotion leads to less knowledge and consumption of honey.

Figure 6. Satisfaction of promotion of honey and bee products



Source: Own research

5. Conclusion

Honey and bee products have been used as an everyday food that has nutritional and medical properties since ancient times. Honey is considered to be the best natural substance that has not been spoiled for centuries. Honey along with bee products should be on the table of consumers every day. But research shows that in Macedonia people do not have the habit of consuming enough honey. The reasons for the low consumption of honey, almost 1 kg / person per year, are many. But, from the aspect of this paper, the most lacking is knowledge and proper education and promotion of quality, natural and real honey. State institutions and agencies must take measures for greater protection of beekeepers, investment in beekeeping and greater education and promotion of honey and bee products for consumers.

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