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Original Article

FACTORS INFLUENCING CONSUMER BEHAVIOR RELATING TO THE PURCHASE OF HONEY PART 2. PRODUCT QUALITY AND PACKAGING

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Abstract

Research surveys were conducted from August through December 2011 and March through July 2012, in the regions of Lower Silesia, Opole, Silesia, and Wielkopolska, Poland. Respondents were chosen randomly and a sample of 540 respondents were surveyed. The first aim of this study was to investigate the quality and aesthetic factors expected of honey and its packaging in order to establish their influence on decisions related to the purchase of honey. The second aim was to determine the importance of the aesthetic factors of honey and its packaging in the process of influencing consumer behavior related to the purchase of honey. As many as 78% of respondents said that the honey from a beekeeper was better than that offered in the stores. A large number of respondents, 88.3%, choose honey produced domestically. However, our study showed that for 43.4% of the respondents, packaging and visual features did not affect the purchase of the product. Only for 23% of respondents, the origin of the honey and quality which was guaranteed with certificates were the most important factors taken into account when deciding on the place or form of a honey purchase. The varieties of honey most often indicated by the respondents were: multifloral honey 46.9%, linden honey 42.5%, rapeseed honey 16.2%, and acacia honey 12.8%. The selection of honey varieties was primarily determined by psychological factors, social factors, and only later by convenience of consumption or financial situation.

Keywords: consumers, honey, labels, packaging, quality of honey, varieties of honey.

INTRODUCTION

Honey is a valued food product that has been harvested by humans for several thousands of years. It has a number of properties which meet many different consumer needs. In Poland, the production of honey is characterised by seasonality and is limited to the period from May to September. The average production of honey in the country ranges from 14 to more than 20 thousand tons depending on meteorological conditions during the year (Mruk, 1987). In Europe, annual production reaches about 355 thousand tons (203 thousand tons in the European Union) and in the world it is about 1.5 million tons (Mieczkowski, 2005; 2007; Borowska, 2012; Semkiw and Ochal, 2012).

Honey as a natural product has a very rich composition (Muli et al., 2007; Parvanov and Dinkov, 2012; Majewska et al., 2012; Tornuk et al., 2013), and therefore is often used as a medicine or a prophylactic product. Since it has been in use for so long, its prophylactic properties are well known. In the twentieth century, medicine turned away from honey, seeing the future in synthetic drugs. It was only with the advent of micro-organisms exhibiting resistance to many drugs, including antibiotics, that the properties of honey have been newly recognised (Molan, 1999). Honey's use in medicine as a treatment of many internal diseases as well as external wounds, ulcers or

burns is increasing. Honey often has greater therapeutic efficacy than conventional drugs (Seymour and West, 1951; Burlando, 1978; Efem, 1988; Farouk et al., 1988; Somerfield, 1991; Dany-Mazeau and Pontard, 1992; Molan, 1999). It has successfully been used in the prevention of many diseases including those of the respiratory, blood and/or immune systems.

Understanding the factors influencing consumer behavior and the exploration of knowledge about consumer needs is a starting point for increasing honey sales (Gajewski, 1994; Falkowski and Tyszka, 2006). Consumers purchase goods to cater to their specific needs (Mazurek-Łopacińska, 2003). These needs trigger the process of purchase (Garbarski, 1994; Karczewska, 2010). Expectations of consumers who buy honey directly from beekeepers are often the result of tradition (Pawłowska-Tyszko and Śrubkowska, 2006; Bratkowski et al., 2008). However, tradition is a motive rather than a need in itself. A need is a state where there is an absence of something and thus a reaction is created. Motive, on the other hand, identifies a specific action (Garbarski, 1994). Honey is undoubtedly one product that can satisfy many needs. Only after the basic needs are satisfied does the rank of aesthetic needs, such as visual and taste experience, increase (Maslow, 1990). Over time, people's purchasing behaviour changes. It is influenced by numerous factors such as a change of lifestyle, a change in activity, or less time for shopping (Marzec, 2000; 2003).

The quality of the product purchased is one of the key elements which the customer is interested in. Honey as a finished product that is not subjected to any technological process (food processing technology) should have the quality it acquired in the beehive. The only loss of quality that may occur is when the seller decrystallises honey at too high temperature in order to improve its visual dimension (Tornuk et al., 2013). It is common knowledge that "customers buy with their eyes," or purchase merchandise that meets their aesthetic expectations. It is, therefore, important that offered goods are properly packaged in aesthetic, eye-catching packaging. A colored label completes the whole image of the product. It carries the necessary information on the composition of the product, its nutritional value, and preventive and therapeutic properties.

The first aim of this study was to investigate the quality and aesthetic factors expected of honey and its packaging in order to establish their influence on decisions related to the purchase of honey. The second aim was to determine the importance of honey and its packaging in influencing consumer behavior related to the purchase of honey.

MATERIAL AND METHODS

A detailed description of the method is included in in our previous paper (Roman et al., 2013).

In this part of the study, structure variable and selection variable were additionally marked. The structure variable (W_{st}) determines the share of the number variant in the total number of observations (relative frequency of variant). The selection variable (W_w) shows the ratio of the number variant of the characteristic to the number of indications to the variant (Tab. 1).

Table 1.

The economic indicators used in the study

Indicator		
Wst (structure)	Wp (popularity)	Ww (selection)
$W_{st} = \frac{N_i}{\sum_i N_i}$	$W_p = \frac{N_i}{n_c}$	$W_w = \frac{N_i}{n_i}$
N_i - number of specific i_{th} category (variant features) $\sum$ - amount	n_c -number of respondents declaring the consumption of honey (n_c=501)	n_i - number of all indications on ith category

RESULTS

Honey is a food product with several different functions. It is becoming increasingly popular with consumers. The main reasons for respondents to purchase honey (Fig. 1) are: its immune strengthening properties, as indicated by 26.1% of respondents, its healing properties 22.6%; the fact that honey is a natural product 20.2%, and because of its good flavor 12.2%. Among the respondents, 3.8% did not indicate any of these factors.

The study showed that the quality of honey from two different sources, i.e. directly from the beekeeper and from the store, is different. As many as 78% of respondents said that there are differences between products from these two sources. Those respondents that were not able to assess whether there was any difference, 22%, chose the answer "Hard to say". For nearly all of the listed features, honey from a beekeeper was better than that offered in stores (Fig. 2). As far as "flavor and aroma" are concerned, only 2.1% of respondents said

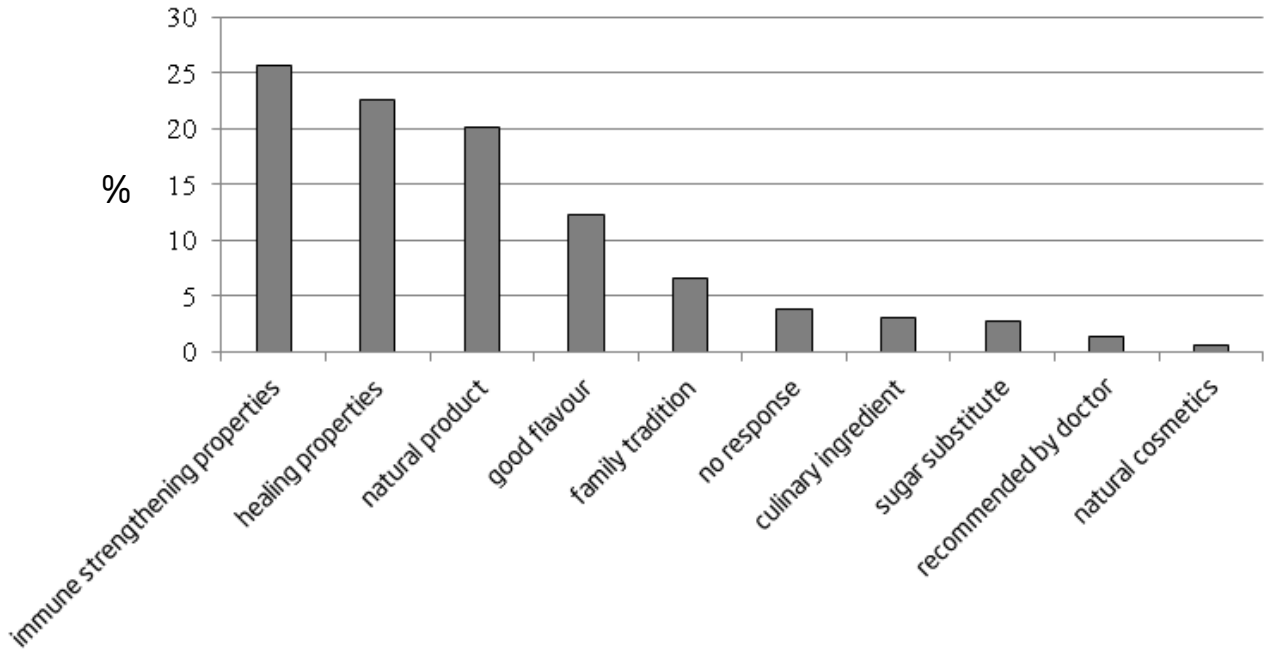

Fig. 1. The most important reason for honey purchase (%).

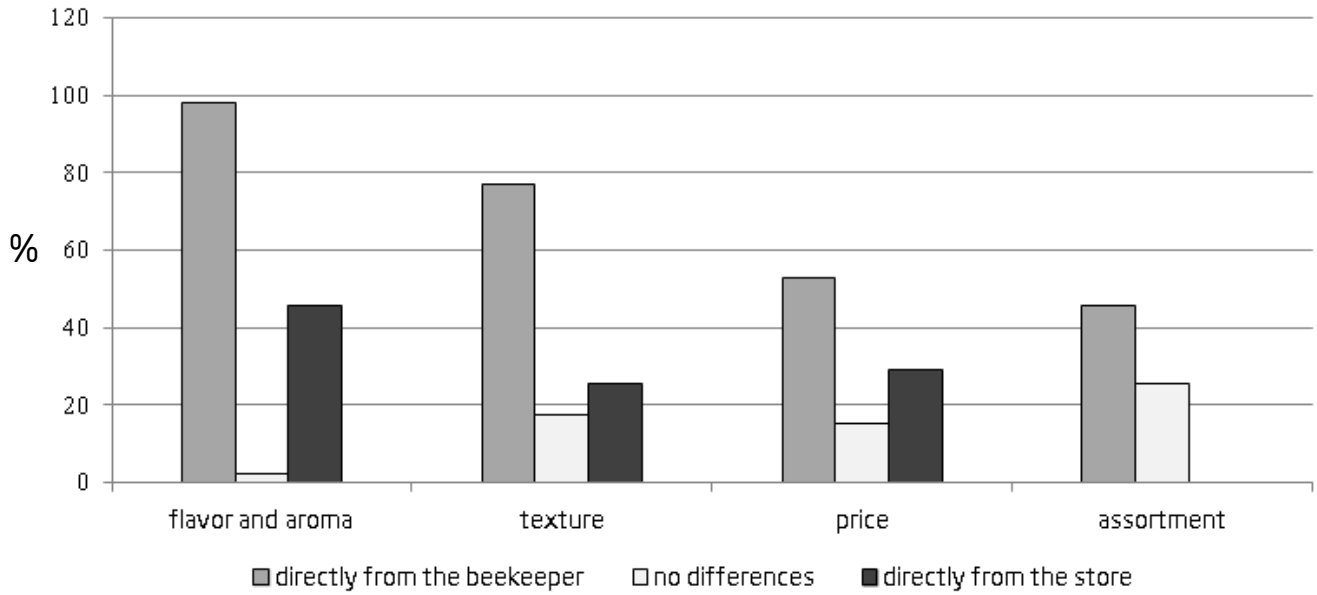

Fig. 2. Features of honeys of different origin, in the opinion of the respondents (%).

that there is no difference between honeys from these two sources. The "flavor and aroma" features were considered to be much better or more dominant in the honey purchased directly from the beekeeper. The preferences of respondents when texture is considered were slightly different, but the majority was still in favor of direct distribution (76.9%). For price and assortment, 32.3% of respondents chose the store and 29.1% were in favor of direct purchase.

Honey texture is varied and depends primarily on the variety and the length of storage. The ongoing process of crystallization applies to all honeys regardless of their origin. The survey showed that 32.1% of respondents usually buy honey in liquid form, 13.6% acquire crystallised honey, and 54.3% of the respondents choose honey by selecting variety not texture.

Honey variety is an indicator of a consumer's personal preferences relating to taste, texture, and specific properties (e.g. more active compounds). Purchase of a specific variety could be subject to a consumer's current financial situation, availability of the product at the point of sale (product variety) and the time of year - due to the seasonality of production. Each variety has its fans. The first eight varieties of honey are widely available on the Polish market. The occurrence of other specified varieties may be determined by region and their availability may be limited. The varieties of honey most often indicated by the respondents were: multifloral honey 46.9%, linden honey 42.5%, rapeseed honey 16.2%, and acacia honey 12.8% of respondents.

Drawing conclusions on the basis of these indications would entail a lot of simplification. Therefore, Table 2 attempts to describe the surveyed population by listing the indicators.

Considering the fact that multifloral honey constitutes 60% of the honey available on the market, the result of the calculated popularity indices (W_p) achieved by different varieties is not surprising. Thus, the obtained values of W_p of the variety, are the same as the number of indicators described above.

The structure ratio (W_{st}), showing the variety percentage (defined by respondents as the top-selling) of the total number of votes regarding the choice of the "best-selling" variety (the best of the best) was also calculated based on the responses. In this choice of the best-selling varieties (Tab. 2), multifloral honey had the highest share with 31.0%. This means that multifloral honey was the most often purchased variety. The calculation of this indicator made it possible to place all the best-selling varieties of honey in a closed structure (limited by the value of 100%).

However, the seasonality of production, which is a result of the Polish climate, is the cause of changes in the structure of available and consumed varieties of honey. The structure of the varieties available in our market is specific for each season (e.g. 2010, 2011). The analyses of variety preferences were typical for the season in which the honey was collected. Given this important fact, the selection indicator (W_w) was used to analyse the results.

The selection indicator (W_w) of the eight most popular varieties is shown in Table 2. Respondents indicated that multifloral honey, linden honey, coniferous honeydew honey, and rapeseed honey have the best flavor. Thus, the obtained sequence differs from that mentioned earlier based on the values of W_p and W_{st}.

Commercially available varieties of honey may have different origins. As many as 88.3% of respondents choose honey produced domestically and only 0.4% choose imported honey. On the other hand, 11.3% of respondents who buy honey, do not pay attention to the country of origin. Increasingly, large retail chains sell domestic and foreign honey mixes. Only 26.7% of respondents were aware of this fact, and 29.4% of respondents admitted that they did not know about the honey being mixed. Of the respondents, 43.9% said they did not pay attention to this fact, even though 88.3% of them claimed to only buy honey produced domestically.

The label is an inherent element of the packaging. Not only does it have visual impact, but it also serves a very important information function. More than $^2/_3$ of respondents (total 69%) admitted that they purchase honey in containers without labels, but indicated that it

Table 2.

The relative frequency of indications to the purchase of different varieties of honey

	Varieties of honey	N_i	n_i	W_w	W_{st}	W_p
		-	-	%	%	%
1.	Multifloral	235	435	54.0	31.0	46.9
2.	Linden	213	432	49.3	28.1	42.5
3.	Rape	81	284	28.5	10.7	16.2
4.	Acacia	64	344	18.6	8.4	12.8
5.	Coniferous honeydew	45	153	29.4	5.9	9.0
6.	Buckwheat	44	247	17.8	5.8	8.8
7.	Leafy honeydew	24	109	22.0	3.2	4.8
8.	Heather	19	163	11.7	2.5	3.8
9.	Dandelion	12	60	20.0	1.6	2.4
10.	From orchards	10	73	13.7	1.3	2.0
11.	Forest	6	106	5.7	0.8	1.2
12.	Raspberry	4	37	10.8	0.5	0.8
13.	Clover	2	24	8.3	0.3	0.4
14.	Onion	0	6	0	0	0
15.	Nettle	0	9	0	0	0
16.	Bean	0	16	0	0	0
	Amount (Σ)	ΣN_i	n_c			
		759	501			

N_i - indication of the type and frequency of choice of the three best-selling ones
n_i - the frequency indicating of the ith types as tasted
ΣN_i - the sum indicated in the type most frequently purchased
n_c - number of respondents
W_w (selection indicator) = N_i/n_i
W_{st} (structure ratio)= $N_i/\Sigma N_i$
W_p (popularity indices) = N_i/n_c

came from a trusted manufacturer or retailer. On the other hand, 18.4% of respondents purchased only labeled honey, and 12.6% of respondents said that they have not seen an unlabeled product.

The vast majority of respondents (67.9% of responses) are interested in information about the medicinal properties of the acquired varieties of honey. The geographical origin and any restrictions to the use of honey (53.3% and 30.3% of responses, respectively) were seen as very useful and interesting information on the label. The indicator with the next highest number of responses was information about the possible crystallisation time of the honey (30.3% of responses). Of the respondents, 11.2% had no opinion on the subject due to lack of interest in the label.

The information contained on the label does not, of course, constitute the whole package. Consumers reaching for the product may sometimes unknowingly be influenced by visual transfer. Our study showed that for 43.4% of the respondents, packaging and visual features do not affect the purchase of the product, and other respondents (i.e. 56.6%) had the opposite view (Fig. 3). At the same time 34.4% of all respondents indicated that an important aspect of the purchase procedure is the hygiene and cleanliness of the packaging. Among consumers

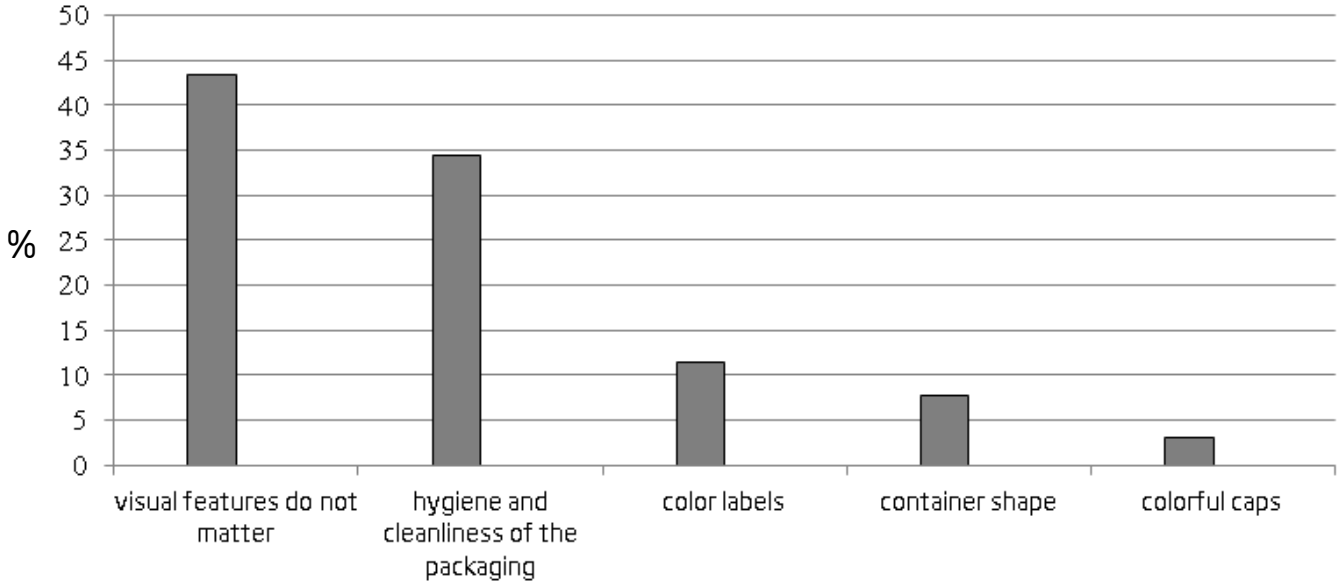

Fig. 3. Package features influencing purchasing decisions (%).

of honey, 22.2% of the respondents stated that elements of packaging such as color labels, caps, and interesting container shapes are taken into account when purchasing the product.

The impact of factors, such as: special origin and very high product quality guaranteed by the manufacturer or special certificates, on purchasing decisions were also considered. The results showed that for 24% and 23% of respondents, respectively, the origin of the honey and quality guaranteed with certificates, were the most important factors taken into account when deciding on the place or form of honey purchase. For the remaining 53%, these factors were slightly significant or unimportant. When the effect of certification on decisions related to the choice of the product was considered, as many as 37.5% of respondents stated that they did not pay attention to information about certificates, standards or product brands. The remaining 62.5% of respondents indicated that to some extent it is a factor influencing their decision to buy honey (Fig. 4).

The analysis of the data shows that respondents paid most attention: to the dealer's brand, 31.9%, to an "Organic Food" certificate, 24.8%, to compliance with the Polish Standard PN-88/A-77626, 20.6%, and logos of independent laboratories, 10.6%.

Such quality symbols as: "Quality from the farm to the table", the reputation of the point of sale, and the brand of the processor, generated a very low level of interest: 7.2%, 7.2%, and 3%, respectively. High quality is undoubtedly an incentive to buy natural products and if there are concerns as to its authenticity the decision making process relating to the purchase of honey may be interrupted. The vast majority of respondents (62.3%) buy honey from a safe source. For this reason, they state that they are not afraid of any possible fraud regarding the quality of the product. However, a significant proportion of the respondents raised some concerns in relation to the quality of purchased honey. Polluting honey with sugar or starch is a concern for 26% of respondents, while 13.4% of respondents fear the dilution of honey with water. Bad hygiene and sanitary conditions were concerns for 14.2% of respondents, 13.2% of respondents fear chemical pesticide residues, and 7.6% of respondents are afraid of contaminants from the environment and medicinal products for bees infiltrating the honey. Honey derived from poisonous plants is a concern for 3% of respondents. It was indicated that 10.8% of respondents are afraid of false information about the origin of honey, and 5.4% of overheating during packaging. However, as many as 77% of respondents would pay a higher price in exchange for a guarantee that the honey comes from a safe source. This fact shows the importance of high product quality.

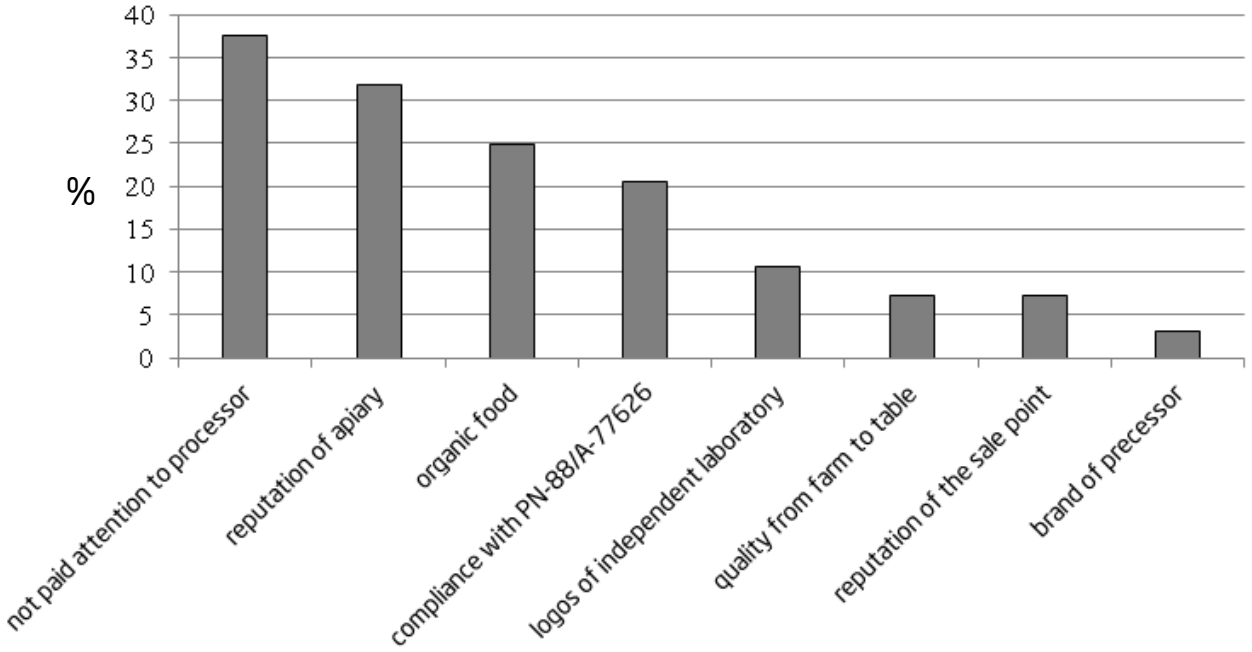

Fig. 4. Effect of different marks and standards on the choice of honey (%).

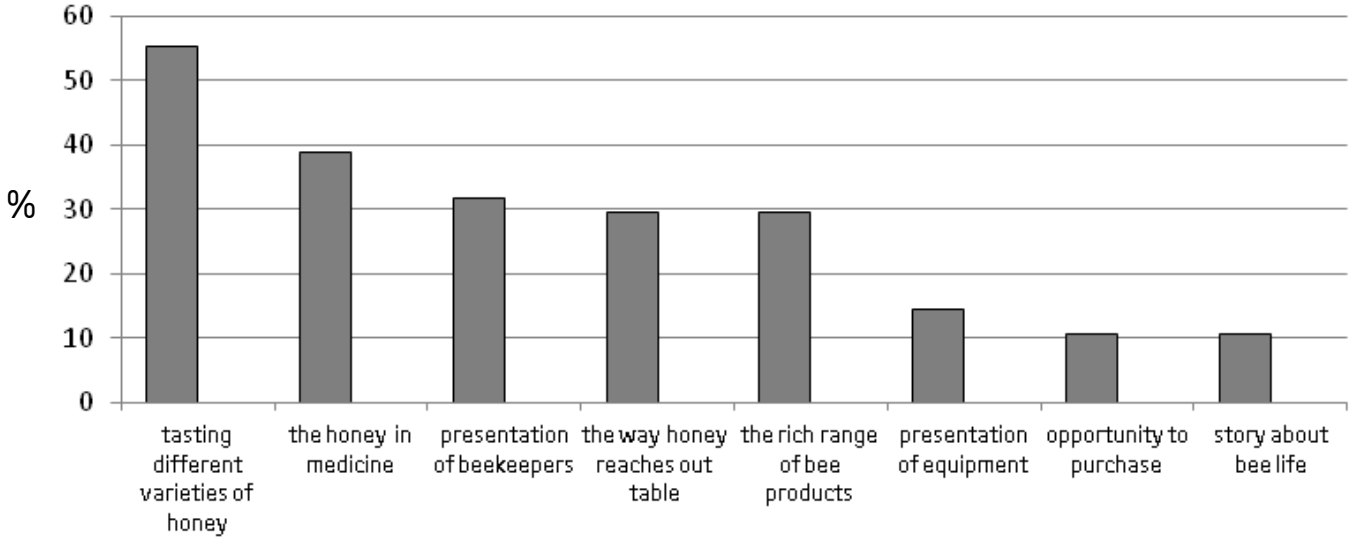

Fig. 5. Points of interest during events in honor of honey.

Increasingly, various beekeeping events are organised to promote honey, and as many as 64% of respondents confirmed their willingness to participate in such events. The respondents showed the greatest interest in the possibility of tasting different varieties of honey (55.3% of responses) (Fig. 5). Other points of the program such as the use of honey in medicine (38.7% of responses), the presentation of the beekeepers (31.7% of responses), the way the honey reaches our table, and the rich range of bee products (29.5% of respondents) were also identified as interesting.

Those issues related to the honey market, that are dealt with here, are seen through the eyes of the consumer. The presented data show that honey is a widespread, accessible product with a wide, satisfactory range at most chosen points of sale. Most consumers do not show a predisposition towards a certain brand. We did discover that one in eight respondents are not satisfied with the range and diversity of products at their point of sale. Every ninth person tested thinks that honey is not a widely available product. However, nearly 10% of people who consume honey said they have a favourite brand of manufacturer.

DISCUSSION

Maslow's (1990) hierarchy of needs can help to understand consumer needs in relation to their choices. Physiological and safety needs are satisfied first. The results obtained in the present study indicate that the main reasons for buying honey are related to health, i.e. satisfying physiological needs, and thus, in a way, relating to the need for safety (keeping the body in good health) (Fig. 1). Marzec (1998, 1999) quotes similar results, where 77% of respondents indicated health benefits as the main reason for the purchase of honey. Also, in the work of Winiarski (2003), an average of 70% of the respondents treats honey as a valuable medicine supplementing classical medicine. Giemza (2004) obtained similar results in his research, where 65.5% of consumers perceived the health benefits of honey as the most important compared to the other benefits and qualities of honey. Our results which showed 48.7% of respondents deciding to buy honey because of the extensive health benefits, would seem to confirm these observations.

Vertical product differentiation is related to the richness of the range and is based on the use of the phenomenon of variation of consumer preferences (Marzec, 1999). The results for honey varieties show great differences among topic researchers. Marzec (1998, 1999) showed that the most popular varieties included multifloral honey (75 - 78%), coniferous honeydew honey (39 - 63%), and linden honey (31 - 45%). Giemza (2004) indicated coniferous honeydew honey (20.26%), linden honey (18.89%), and multifloral honey (14.41%). Respondents from the study by Bratkowski et al. (2005) preferred linden honey (24.8%) and buckwheat honey (13.8%). Multifloral honey and heather honey came in third with 10.3% of responses each. Our results show a different order of honey popularity. Multifloral (46.5%), linden (42.52%), and rapeseed honey (16.8%) were the most popular. Consumer tastes can change over the years, but the differences described above may also be due to the continuous development of chain stores and a full and continuous supply (Marzec, 2000; 2003; Majewska et al., 2012), forcing the vendors to continuously enrich their range. A free market gives consumers a choice of products and consumers use this fact to their advantage. Therefore, in order to maintain sales of a specific variety, taste preferences must be taken into account. The choice of the variety of honey in one-person households is carried out according to the preferences of one person. The situation is different in households of 2 or more people where the choice of a variety may be made by one person (usually the one responsible for preparing meals) taking into account their personal tastes, or it may be a joint decision of all members of the household. By using a multiple-choice question with multiple-response options, consumers could select all the varieties they have tasted. This allowed for the creation of a list of varieties characterised by a high factor of choice. Multifloral honey, linden honey, coniferous honeydew honey, and rapeseed honey best suit consumers taste (Majewska et al., 2012). The lowest rate of selection was recorded for acacia honey, 18.61%, buckwheat honey, 17.82%, and heather honey, 11.66% (Tab. 2). This completely new approach among topic researchers finds confirmation at the point of sale where an excess of buckwheat and acacia honey can be observed in contrast to a shortage of linden honey (Marzec, 1999).

Consumer awareness of the honey range in contrast to the awareness of its origin is high. Although the choice of domestic honey is obvious for Poles, knowing the origin of the product purchased is not. Our results indicate high ethnocentrism among respondents during the selection of the product (88.3% of respondents). This is supported by the results obtained by Marzec (2003) with 78% of respondents declaring selection of the domestic product. However, in our study, only 26.7% reported to have encountered a honey label with information about the admixture of foreign honey. And as many as 43.9% of the respondents do not pay any attention to such information (Fig. 3).

The label is a very important aspect of packaging. It is an essential part of the product offered, as it carries information about the product, producer, and seller (Wilde and Szulc, 2000; Marzec, 1999). The labeling of honey

should contain information such as the full name of the product (the full name of the type and variety), identification of the beekeeper, the expiration date, storage conditions, the net content (in kilograms or grams), date of packaging and batch number (if this is not done by the beekeeper), place of origin, and legislation (Arszułowicz, 2009).

Considering that a total of 69% of respondents confirmed the purchase of honey without a label, suggests that these pieces of information did not reach the consumer (Fig. 3). The fact that 58% of all respondents purchased the unlabeled honey from a friend who is a beekeeper does not justify the absence of a label. Information such as the expiration date should be placed on a label because of food safety rules. Research conducted by Giemza (2004) indicated the label as the most important part of the packaging (43.28% of respondents). The information on the label should be true and cannot attribute honey with actions or properties that the honey does not possess. It cannot imply that a particular honey has special properties if these properties are shared by other honeys. The label cannot contain the information that honey prevents diseases or that it cures them and cannot include such terms as 'healthy' or 'safe'. The requirements for labels also applies to the advertising of honey and its presentation (Arszułowicz, 2009). Given all these requirements, it is difficult to meet the demands of consumers relating to labels, as they expect to find information on therapeutic properties, restrictions to use, and the possible date of crystallisation (own study) on the label. Giemza's (2004) research adds the date of manufacture to this list as important information from the point of view of the buyer. Label information is a very serious matter, which neither consumer nor seller fully realise.

Other observations come to mind when the role of visual stimuli in shaping purchase decisions is taken into account. The subject of the graphic impact of the label and its ability to subliminally trigger buying decisions has still not been explored. Our results indicate that according to many consumers the label does not affect their decision to buy (43.4%). This finding may be due to a lack of awareness that the influence of the incoming stimuli have, but at the same time it may mean that the design used on the labels are inapt. Marzec (1999) has analysed this topic and concluded that the packaging, labeling, and artwork can act as a stimulant to a honey purchase only if they are tailored to the wishes and preferences of a specific customer segment (e.g. athletes, children, and the elderly). The more stimuli the more attractive the product. The author (Marzec, 1999) points out, that providing consumers with a specific set of product attributes makes the product more or less competitive in the market.

Currently, criteria such as preservative contents, food safety, healthiness, and the presence of pesticide residues are increasingly important for determining the quality of the products and making food choices (Zielińska and Zieliński, 2004). The natural origin of honey (20.2%) and its taste (12.2%) are important (Fig. 1). Honey can perform multiple functions at the same time, due to the fact that it represents a specified basket of benefits (Garbarski, 1994). For this reason, more and more manufacturers of honey attract potential buyers by placing trademarks and obtained certificates on the label. This is a very clear signal that the purchased product is of the highest quality (Fig. 4). Our results indicate that such logos and symbols are taken into account in decision making but these are not the primary reasons determining a purchase. The beekeeper or manufacturer's trademark is the most important for more than 30% of respondents. In a study conducted by Marzec (1999) in 1998-1999, 48% of respondents preferred a particular brand of honey. Popularity of other logos indicating that the manufacturer obtained costly certificates is low among the respondents (Fig. 5). This fact is surprising, but this situation could change quickly. Zielińska and Zieliński (2004) state, that as a result of modern consumption patterns (resulting from a faster flow of information, the development of means of transport, improved methods of processing and storage of food, etc.) consumer interest in articles of high quality produced by organic farming is increasing.

CONCLUSIONS

Studies have shown that consumers value honey because it is a product offering a rich set of benefits satisfying many needs especially those concerning health.
Most of the consumers said that they only purchase honey of domestic origin, however almost half of them do not check the origin of the honey on the label.
Consumer ignorance on the admixture of foreign honey is the result of neglecting the information function of the product label.
The more extensive the consumer experience (psychological factor) related to the acquisition, taste, and use of honey, the more the consumers are focused on the product (the variety).
Selection of the varieties of honey was primarily determined by psychological factors (such as personal preferences) and social factors (family members' tastes), and only later by convenience of consumption or financial situation.
Multifloral, linden, rapeseed, and acacia honey enjoyed the highest level of popularity while heather honey was the least popular.

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