Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development
Vol. 19, Issue 1, 2019
PRINT ISSN 2284-7995, E-ISSN 2285-3952

CONSUMER'S BEHAVIOUR TOWARDS HONEY PURCHASE-A CASE STUDY IN ROMANIA

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Abstract

The paper analyzed consumer behavior regarding honey purchase on a sample of 196 individuals at randomly selected from the visitors of the National Honey Fair held on September 14, 2018 in Bucharest. The responds to the 9 questions included in a structured questionnaire used in a face-to-face interview were statistically processed regarding frequency, percentages, average and standard deviation, and also Chi-squared test, Pearson and Cramer's correlation coefficients were used to establish the independence/dependence between age, education level and monthly income and honey purchase decision. Honey is bought in a higher proportion by people older than 45 years, married persons, high school leavers and university graduates, by people with a monthly income over Lei 3,000. The most preferred honey is polyfloral and acacia. Honey is purchased to be consumed at breakfast, next to a cup of coffee and tea or as a medicine, less as sweetener in the kitchen and for cosmetic goals. Honey is bought mainly several times a year and twice a year. Honey is bought mainly directly from beekeepers and honey fairs, less from agro-markets and supermarkets. The amount of 1-2 and 2-3 kg honey is frequently bought mainly by people of 36-50 years old, by the ones who have a higher education level and income level over Lei 3,000 per month. Between age, education level and income and honey type and amount of bought honey there is no relationship, but between the purchased amount and income level is a dependence link. Honey price, type, packaging and color are the significant criteria influencing purchasing decision. Beekeepers and honey fairs are the main information sources for buyers. As a final conclusion, beekeepers should improve their marketing strategies to better satisfy consumers' needs and increase, their sales and profit, and honey consumption per capita as Romania produces a high production of high quality honey.

Key words**:** *consumer habits, honey purchase, honey type, pricing, packaging, brand*

INTRODUCTION

Bee honey is a natural product of high nutritive value reflected by its chemical composition. 100 g honey contains: 0.4 % proteins (of which major amino-acids such as: alanine, leucine, methionine etc); 81 % carbohydrates (38 % fructose, 31 % glucose, 6 % maltose, 5 % sucrose, etc), 3 % vitamins (0.038 g B2, 0.121 g B3), 0.121 g B5, 0.062 g B6, 001 g B9, PP, C, D etc), 0.2 % minerals (Ca, Na, Mg, Zn, Fe, Cu, Se, I, Cr) and other microelements (beryllium, gallium, vanadium, zirconium, titanium, nickel, tin, and silver), 0.2 % fibers, 15-17% water, enzymes (amylase, sucrase, saccharase, glocose oxidase, catalase, acid phosphatase, protease, esterase, β-glocosidase), and vegetal pigments (beta-caroten, xanthophyll, chlorophyll). Honey generates an important quantity of energy, in 100 g honey being 335 calories by 25 % less than in a similar amount of sugar.

Honey chemical composition varies according to honey type, region and the flora from where the nectar was picked up by bees.

Due to its high nutritive value, honey is used in human diet. It is recommended as an adult to consume 50-70 g honey and a child 1-2 tea spoons daily. Honey could be consumed as such or with milk or tea or coffee, but for maintaining its nutritive and therapeutic properties it is needed as the temperature of the liquids not to exceed 38 Celsius degrees [12, 17, 18, 20, 40, 42].

Honey is food, a medicine utilized in the prophylaxis and therapeutics, and also an

ingredient in cakes and other food preparations etc. As a food, it is highly appreciated for its flavor, taste, color, perfume, consistence, and it is easily digested and assimilated. As medicine it is used in the treatment of digestive affections, hepatic-renal, gall, cardiovascular, respiratory, nervous system, nutrition, infectious diseases etc. [22].

Honey is mainly consumed by people who is aware of its nutritional and medical benefits and that it is a natural product not affected by any technological processing (Schneider, 2007; Ghorbani and Khajehroshanaee, 2009). [13, 37].

For this reason, beekeeping and its products could be a field of activity with an important contribution to the sustainable economic development, involving a close relationship between the apiary management and innovation in setting up available strategies to better satisfy consumers' needs and improve business profitability [14].

Therefore, there are many reasons explaining why honey consumption has continuously increased.

The highest daily consumption per capita was noticed in the following countries: 9.62 g in Central African Republic, 5.55 g in New Zealand, 4.4 g in Slovenia, 4.24 g in Greece, 3.87 g in Switzerland, 3.62 g in Austria, 3.33 g in Turkey, 3.15 g in Ukraine, 3.02 g in Slovakia and 3.01 g in Montenegro [10].

In the EU, the major honey consumers are United Kingdom, France, Spain, Greece and Poland, but consumption is also increasing in Ireland, Latvia, Romania, Croatia, Estonia and Malta [41].

The world honey production has continuously raised, accounting for 1.8 million tonnes in the year 2016, being by 42 % higher than in the year 2000. The top producers of honey are China, the EU and Turkey, whose market share is 28 %, 13.2 % and, respectively, 6 %. In the EU, the major producers are Spain, Hungary, Germany and Romania [19, 34].

In the EU, honey demand is high and internal offer is not able to cover it, which justify as 40 % of consumption to come from import. [41].

Romania is one of the major producers of honey in the EU, in 2015, achieving 35,000 tonnes, the top output in the EU. However, honey consumption in Romania is still low, about 0.66 kg per capita/year and for this reason, most of honey production is exported mainly in the Western EU countries where the demand is higher [23,26,27,28,29,30,31,32,33].

Honey consumers have different reasons to buy and consume honey, and the gap of consumption level from a country to another is determined by many factors among which the most important are: the varied consumers' knowledge about honey nutritive value and benefits, the differences regarding honey promotion by media, the varied concern of the beekeepers to understand consumers' preferences, the gaps in marketing strategies adopted by honey producers, regarding product quality, packaging, labeling, branding and pricing, consumers' age, education and income level, traditions, attitudes, habits [3,7,16,38, 39,43].

For this reasons, various marketing studies were focused on consumer's behavior towards honey and other bee products.

Consumers' decision to purchase honey depends on various criteria and determinant factors, whose importance and hierarchy is different from a country to another.

The studied literature presents the following results obtained by various researchers regarding the key factors which determine honey purchasing: in Australia "brand reputation, origin, value for money and ethnicity of the buyers" (Batt and Liu, 2012) [2]; in China "attitudes, perceived behavior control, subjective norms, health consciousness, trust and awareness of possible issues" (Zhang, 2018) [44]; in Hungary "honey quality, packaging, price and honey type" (Vanyi *et al*, 2009) [39];

in Czech Republic "price, origin and quality of organic honey" (Sanova *et al*, 2017) [36];

in Poland "medical properties, natural product, flavor and tradition in consumption" (Roman *et al*, 2013) [35];

in Italy "organic attributes and country of origin" (Cosmina *et al*, 2015) [9]; in Croatia "mild flavored and brighter colored honey, especially acacia and other flower types" are preferred by consumers and the reasons to buy

and consume honey are "for health and medical benefits" (Brščić *et al*., 2017) [3]; in Turkey "age, knowledge on honey, quality and brand" Demircan *et al* (2017) [11]; in Malaysia "medical condition, product quality, brand reputation and price" (Yeow *et al*., 2013) [43]; in Congo "married persons and with at least secondary education prefer domestic forest and savannah honey, while people older than 30 years prefer imported honey" (Gyau *et al*, 2014) [16]; in Iran "type of honey, packaging, color, flavor and protraction" (Ghorbani and Khajehroshanaee, 2009) [13]; in the Kingdom of Saudi Arabia "medicinal and nutritional values" (Ismaiel *et al*, 2014) [21]; in Germany, "honey consumption depends on consumer preferences and different dietary patterns" and "honey demand has effects along the product chain and that the profitability in beekeeping depends on the interaction of supply, demand and price" (Schneider *et al.*, 2007) [37].

In Romania, there are a few studies on consumers' habits regarding honey purchase and the results are different depending on the studied area, objectives of the research, and sample characteristics. The main findings are: "honey quality as natural product, medical benefits and sweet taste" (Pocol and Marghitas, 2008) [24], "physical properties in terms of aroma, color, taste and texture of honey" (Arvqnitoyannis, and Krystallis, 2010) [1] and "income level" (Pocol, 2011) [25].

In China, Romania, Italy, Hungary and Croatia consumers' prefer to buy honey directly from the local beekeepers and not imported honey [3, 9, 25, 44].

In this context, the purpose of the paper was to analyze consumers' behavior towards honey purchase among the visitors of the National Honey Fair organized in September 2018 in Bucharest, the capital of Romania.

The objectives of this study have been:

(i) to analyze the socio-demographic characteristics of the individuals at randomly included in this survey based on a face-to-face structured interview;

(ii)to identify the respondents' behavior toward purchasing honey in relation to their age, education and income level;

(iii)to identify the major criteria the honey buyers use when they decide to buy honey;

(iv)to draw the right conclusions for honey producers in order to enable them how to better understand consumers' needs, to develop new the marketing strategies and increase their profit and at the same time to bring consumers the expected satisfaction.

MATERIALS AND METHODS

The study is based on a field survey carried out on a sample of individuals at random selected from the visitors of the Honey Fair, September 14, 2018 organized by the Romanian Beekeepers Association.

The sample size, SS, was determined using the formula:

$$SS= \frac{(Z-score)^2 * p*q}{e^2}$$

where:

Z-score =the value taken from T tables for 95 % confidence level;

p = the probability of the event presence, more exactly of the visitors who came to buy honey from the Fair, p= 85 %, or 0.85 %.

q = the probability of the event absence or q= 1-p, therefore the probability of the visitors who had no incentive to buy honey, i.e. 15% or 0.15;

e^2= the error rate accepted for the sample, usually 5 % or 0.05.

The sample size was 196 individuals, of which 167 came at the fair to buy honey.

The main demographic characteristics of the individuals considered in this study have been: gender, age, marital status, education level, occupational status and monthly income.

For all the demographic characteristics have been recorded the frequencies and also the percentages have been calculated.

For the quantitative characteristics such as: age and monthly income, it was determined the central tendency by estimating the statistical average and standard deviation, according to the formulas:

$$\bar{X}= \frac{\sum_{i=1}^{n} x_i}{n} \quad \text{and} \quad \delta^2 \sqrt{\sum_{i=1}^{n} \frac{(x_i-\overline{X})^2}{n-1}}$$

where:

x_i= the quantitative characteristic;

n=the number of individuals.

The individuals included in the sample answered the questions of a structured questionnaire, whose content consisted of two types of questions:(a) questions regarding the socio-demographic profile of the respondents and (b)questions concerning respondents' habits in relation to honey purchase.

The second category of questions included 9 questions as follows: Q1-What type of honey do you prefer to buy? Q2-Which are the reasons why you buy honey? Q3-Which are the purposes for which you buy honey? Q4-How many times do you buy honey per year? Q5-Where do you purchase honey from? Q6-Which is the amount of honey you buy per year? Q7-Which is your opinion on honey price? Q8-Which are the criteria taken into consideration when you decide to purchase honey? Q9-Which are your information sources about honey?

The answers of the respondents have been statistically processed, pointing out the frequency for each event as well as the percentage, which were mentioned in the tables.

Also, the mean and standard deviation were calculated as specified above.

Considering that age, education level and income level are the key features which contribute to the purchase decision, Karl Pearson's Chi-squared was determined using the formula [15]:

$$\mathcal{X}^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i} = N \sum_{i=1}^{n} \frac{(O_i/N - p_i)^2}{p_i}$$

where:

$\mathcal{X}^2$= Pearson's cumulative statistic test having a chi-squared distribution;

O_i= the number of observed values of i type;

N= the total number of the observed values;

$E_i = Np_i$= the expected theoretical values of the i type;

p_i= the fraction of the i type in the population;

N= the number of cells in the table of contingence.

Two types of hypothesis were established as follows:

H_0- X, Y are statistically independent items; in this case, X and Y were considered the couples of socio-economic-characteristics (age, education level and monthly income) and the habits regarding honey purchase.

H_1- X,Y are statistically dependent or associated items.

On the study the both types of contingence tables were used: hx2 for X = a quantitative item and Y= a qualitative item, 2 by 2 tables for X,Y being qualitative items.

The $\mathcal{X}^2$calculated value were compared to the $\mathcal{X}^2$ tabled critical value for α= 0.05; 0.01;0.001 for the degrees of freedom, df= (h-1)(k-1), where: h= the number of rows and k= the number of columns.

The interpretation of the $\mathcal{X}^2$ test results was based on the following rationale:

-If $\mathcal{X}^2 < \mathcal{X}^2_{\alpha=0.05}$, the H_0 is accepted, therefore, X,Y are statistically independent items;

- If $\mathcal{X}^2 > \mathcal{X}^2_{\alpha=0.05}$, the H_0 is rejected, and H_1 is accepted, therefore, X,Y are statistically dependent or associated items. In this case, it could be possible to face the following situations:

(i) If $\mathcal{X}^2 \in [\mathcal{X}^2_{\alpha=0.05}; \mathcal{X}^2_{\alpha=0.01})$, X and Y are significant dependent items;

(ii) If $\mathcal{X}^2 \in [\mathcal{X}^2_{\alpha=0.01}; \mathcal{X}^2_{\alpha=0.001})$, X and Y are distinctly significant dependent items;

(iii) If $\mathcal{X}^2 > \mathcal{X}^2_{\alpha=0.01}$, X and Y are very significantly dependent items [4].

Also, in the study, it was determined Pearson's correlation coefficient using the well known formula, as well as Cramer's correlation coefficient, V, which was calculated with the formula [8]:

$$V = \sqrt{\frac{\mathcal{X}^2}{N(L-1)}}$$

where: L = the lowest number of rows and the number of columns from the contingence table.

Likert scale was also used in order to establish the hierarchy of honey type, brand, price and packaging based on Likert scores [5,6].

The results were correspondingly presented in tables and finally interpreted.

RESULTS AND DISCUSSIONS

The socio-demographic profile of the respondents

Respondents structure by gender. Of the 196 individuals included in the survey, 55.1 % were females and 44.9 % were males (Table 1). ***Respondents' distribution by age group***. The age structure of the questioned individuals was the following one: 24.5 % were of 21-35 years old, 40.8 % belonged to the 36-50 years group, 26 % were of 51-65 years old and 8.7 % were of 66 years and over. Therefore, the age group 36-50 years is the most representative. The average age of the sample is 45.8 years (Table 1).

Table 1. The socio-demographic characteristics of the respondents

	Frequency	Percentage	Mean	St. Dev.
Gender				
Female	108	55.1		
Male	88	44.9		
Age				
21-31	48	24.5	45.83	13.58
36-50	80	40.8		
51-65	51	26.0		
66 and over	17	8.7		
Marital status				
Married	129	65.8		
Unmarried	48	24.5		
Widowed	8	4.1		
Divorced	11	5.6		
Education level				
Gymnasium	26	13.3		
High school	95	48.4		
University	75	38.3		
Occupational status				
Employed	164	83.6		
Unemployed	10	5.1		
Pensioner	16	8.2		
Student	6	3.1		
Monthly income level (Lei/month)				
1,000-2,000	18	9.2	3,826.53	1,368.32
2001-3,000	30	15.3		
3,001-4,000	65	33.2		
4,001-5,000	48	24.5		
5,001-6,000	20	10.2		
6,000 and over	15	7.6		

Source: Own processed results based on respondents answers, Survey, 2018

Respondents' distribution by marital status. Of the total number of individuals in this survey, 65.8 % were married, 24.5 % unmarried, 5.6 % divorced and 4.1 % were widowed (Table 1).

Respondents' structure by education level. Of the total number of respondents, 48.4 % were high school leavers, 38.3 % graduated a faculty and 13.3 % attended a gymnasium (Table 1).

Respondents' occupational status is the following: 83.6 % are employed, 5.1 % are unemployed, 8.2 % are pensioners and 3.1 % are students (Table 1).

Respondents' structure by monthly income. Of the total number of respondents, 50.5 % earn between Lei 3,000-4,000/month, 24.5 % earn between Lei 4,000-5,000/month, 8.2 % earn between Lei 5,000-6,000/month. About 4.1 % have the lowest income. i.e. below Lei 2,000 and 4.5 % have the highest income over Lei 6,000 per month. The average monthly income is Lei 3,826.53 (Table 1).

Respondents' answers to the questions included in this survey

First of all, each individual was asked the following question: ***"Do you consume honey?"*** and from the 196 interviewed persons, 167 said "Yes", meaning 85.2 %.

For this reason, the 29 individuals who answered " No" were asked to answer the question: ***"Why you do not consume honey?"*** The following types of answers were received: "I do not like honey" (27.6 %), "I do not consume honey because it makes me feel acidity in the stomach and have pains (24.2 %), "I am ill of diabetes and the doctor has interdicted me to consume sweets" (17.2 %)

and "I would like to consume honey, but honey is more expensive than sugar" (31%).
For the answers mentioned above, the 29 individual who do not consume honey have been eliminated from the sample, and the survey continued with 167 respondents.
At Q1 "What type of honey do you prefer to buy ?", 52.1 % individuals answered polyfloral honey, 24.6 % said acacia honey and 23.3 % mentioned other types of honey (Fig.1.).

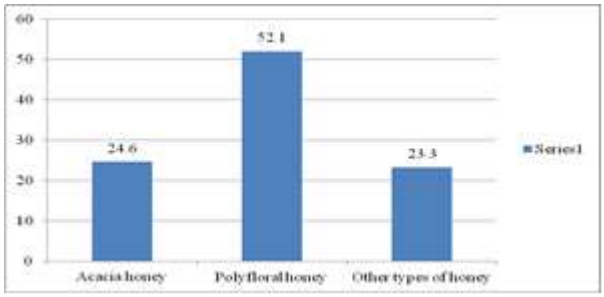

Fig.1.Respondents preference for the type of honey (%)
Source: Own design based on the respondents' answers.

Therefore, the preference of the buyers for the type of honey, in the decreasing order is: polyfloral, acacia and other types. The multifloral honey is the most preferred, as this type of honey is a mixture of nectar taken by bees from various flowers on the occasion of the pickings, it is a honey with a high nutritive value, a special color, flavor, smell and taste. Another reason is the fact that polyfloral honey is a little cheaper than acacia honey and also because, acacia honey production is much smaller than polyfloral production, and the chance as multifloral honey to be more frequently bought is higher.

(i)Analyzing the preference of the respondents of various ages for the type of honey.

The H_0 -the preference for the honey type, X, and the age of the buyers, Y are independent variables.
The H1- the preference for the honey type, X and the age of the buyers, Y are dependent variables.
The obtained results have been the following ones: Polyfloral honey is mainly preferred by the individuals belonging to the 36-50 age group (23.95 %), by the 51-65 age group (14.37 %) and by the 21-35 age group (10.17 %).
Acacia honey is preferred first of all by the 36-50 age group (34.4 %), followed by the 21-35 years group (29.2 %) and the 51-65 year group (21.9%).
The calculated $\mathcal{X}^2$ was 4.559, a value much lower compared to the $\mathcal{X}^2$ critical value 12.59, found in the table of $\mathcal{X}^2$ distribution for df= 6 and α=0.05. Therefore, in this case, the H_0 was accepted, because the preference for the honey type, X, and the age of the buyers, Y are statistically independent variables.
The Pearson correlation coefficient was r= 0.162, reflecting a weak and negligible relationship between the two variables, X and Y. Also, Cramer's correlation coefficient was V=0.116, meaning a moderate relationship between the two variables.(Table 2).

(ii)Analyzing the preference of the respondents with various education levels for the type of honey.

The H_0 -the preference for the honey type, X, and the buyers' education level, Y are independent variables.
The H1- the preference for the honey type, X and the buyers education level, Y are dependent variables.
The obtained results have been the following ones: Of the 81 respondents who graduated a high school, 60.4 % prefer to buy polyfloral honey, 23.4 % prefer other type of honey and 16.2 % prefer acacia honey. Of the 70 respondents who graduated a faculty, 45.7 % prefer polyfloral honey, 32.8 % prefer acacia honey and 21.4 % prefer other types of honey. Of the 16 respondents who attended a gymnasium, 37.5 % prefer multifloral honey, 31.7 % prefer acacia honey and 31.8 % prefer other honey.
The calculated $\mathcal{X}^2$ was 7.42 lower compared to the $\mathcal{X}^2$ critical value 9.49 for α=0.05, for df= 4. As a result, the H_0 is accepted, attesting that X,Y are independent variables.
The Pearson correlation coefficient, r was 0.206, very small, reflecting a weak positive relationship between the preference for the honey type and the buyers' education level.
Cramer's correlation coefficient V was 0.149. (Table 3).

Table 2. The respondents' preference for honey type depending on their age group

		Acacia honey	Polyfloral honey	Other types of honey	Total
21-35	O	12	17	8	37
	E	(9.1)	(19.3)	(8.6)	37
36-50	O	14	40	16	70
	E	(17.2)	(36.5)	(16.3)	70
51-65	O	9	24	10	43
	E	(10.6)	(22.4)	(10.0)	43
66 and over	O	6	6	5	17
	E	(4.2)	(8.9)	(3.9)	17
Total	O	41	87	39	167
	%	24.6	52.1	23.3	100
Obtained results			Interpretation		
$\mathcal{X}^2$= 4.55 < 12.59 $\mathcal{X}^2$ critical value for α=0.05, for df= 6.			The H_0 is accepted, therefore, the preference for the type of honey and the age of the buyers are independent variables.		
Pearson correlation coefficient, r = 0.162			As 0.1<r <0.19, it is a negligible relationship between the preference for the honey type and the age of the respondents.		
Cramer's correlation coefficient, V= 0.116			As 0.11<V <0.15, it is a moderate relationship between the preference for the honey type and the age of the buyers.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

Table 3. The respondents' preference for honey type depending on their education level

		Acacia honey	Polyfloral honey	Other types of honey	Total
Gymnasium	O	5	6	5	16
	E	(3.9)	(8.3)	(3.8)	16
High school	O	13	49	19	81
	E	(19.9)	(42.2)	(18.9)	81
University	O	23	32	15	70
	E	(17.2)	(36.5)	(16.3)	70
Total	O	41	87	39	167
	%	24.6	52.1	23.3	100
Obtained results			Interpretation		
$\mathcal{X}^2$= 7.42 < 12.59 $\mathcal{X}^2$ critical value for α=0.05, for df= 4.			The H_0 is accepted, therefore, the preference for the type of honey and the education level of the buyers are independent variables.		
Pearson correlation coefficient, r = 0.206			As 0.2<r <0.29, it is a weak positive relationship between the preference for the honey type and the education level of the respondents.		
Cramer's correlation coefficient, V= 0.149			As 0.11<V <0.15, it is a moderate relationship between the preference for the honey type and the buyers' education level.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

(iii)Analyzing the preference for the type of honey of the respondents with various monthly income per month.

The H_0 -the preference for the honey type, X, and the buyers' monthly income level, Y are independent variables.

The H1- the preference for the honey type, X and the buyers' monthly income level, Y are dependent variables.

The obtained results have been the following ones:

Of the 87 respondents who prefer polyfloral honey, 41.3 % earn between Lei 3,000-4,000 per month, 19.5 % belong to the Lei 4,000-5,000 income group, 16 % earn between Lei 2,000-3,000 per month and the other individuals to the other income categories.

Of the 41 respondents who prefer acacia honey, most of them, that is 24.3 % earn between Lei 4,000-5,000 per month, 21.9 % earn between Lei 3,000-4,000, and 14.6 % belong to both to the Lei 2,000-3,000 income group and Lei 5,000-6,000. The other income categories either with the highest monthly income or with the lowest one prefer acacia honey in a lower proportion.

About 25.6 % of the 39 respondents , who prefer other types of honey belong to the middle income category, Lei 3,000-4,000 per month and 20.5 % to the income group Lei 4,000-5,000.

For the respondents with the highest income, over Lei 6,000, the preference percentage is equal, 33 %, no matter the type of honey.

For the respondents with the lowest income, the most preferred honey is multifloral, probably because it has a lower price in

comparison with acacia and other types of honey.

The value of the calculated χ^2 was 8.22 lower compared to the χ^2 critical value 18.31 for α=0.05, for df= 10. Therefore, the H_0 is accepted, attesting that X,Y are independent variables, more exactly that the preference for the honey type, X, and the monthly income, Y, are statistically independent variables.

The Pearson correlation coefficient was r = 0.216, meaning a weak positive link between the preference for the honey type and the buyers' monthly income.

Cramer's correlation coefficient was V=0.156. (Table 4).

Table 4. The respondents' preference for honey type depending on their monthly income

Monthly income (Lei)		Acacia honey	Polyfloral honey	Other types of honey	Total
1,000-2,000	O	5	8	5	18
	E	(4.4)	(9.4)	(4.2)	18
2,000-3,000	O	6	14	6	26
	E	(6.4)	(13.5)	(6.1)	26
3,000-4,000	O	9	36	10	55
	E	(13.5)	(28.7)	(12.8)	55
4,000-5,000	O	10	17	8	35
	E	(8.6)	(18.2)	(8.2)	55
5,000-6,000	O	6	7	5	18
	E	(4.4)	(9.4.)	(4.2)	18
6,000 and over	O	5	5	5	15
	E	(3.7)	(7.8)	(3.5)	15
Total	O	41	87	39	167
	%	24.6	52.1	23.3	100
Obtained results			Interpretation		
χ^2= 8.22 < 12.59 χ^2 critical value for α=0.05, for df= 4.			The H_0 is accepted, the preference for the type of honey and the buyers' monthly income are independent variables.		
Pearson correlation coefficient, r = 0.216			As 0.2<r <0.29, it is a weak positive relationship between the preference for the honey type and the buyers' monthly income of the respondents.		
Cramer's correlation coefficient, V= 0.156			As 0.15<V <0.25, it is a strong relationship between the preference for the honey type and the monthly income of the respondents.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

At Q2 "Which are the reasons why you buy honey?", all the respondents affirmed that they buy honey because it is a healthy food (100 %), 95.8% confirmed that they buy honey as it is rich in high value nutrients, 14.4 % said that they buy honey as it is a tasty product and 3.6 % had other reasons (Fig.2).

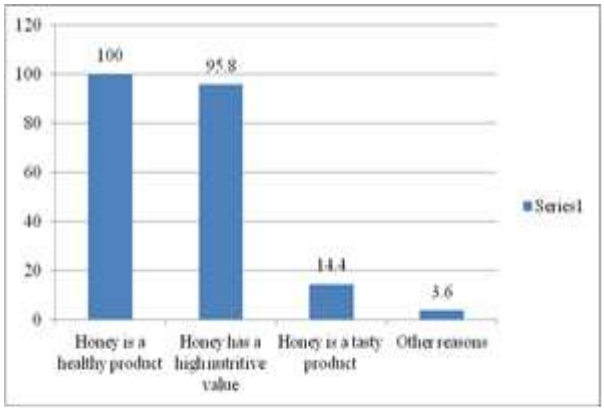

Fig.2.Respondents' reasons to buy honey (%)Source: Own design based on the respondents' answers.

At Q3 "Which are the purposes for which you buy honey?".

The answers given by respondents reflected that 35.3 % individuals buy honey to consume it as such, mainly at breakfast on a slice of bread and butter.

Another group of respondents, representing 28.7 % of the whole sample, said that they buy honey to use it as a treatment when they are ill, especially when they got a flu or have another diagnostic for which the doctor recommended them to eat honey.

Other respondents, representing 18 % of the questioned individuals, affirmed that they buy honey because they like to use it in the company of a cup of coffee or tea.

About 9 % of the respondents, it is about women, said that they like to include honey as a sweetener in cakes and even various salads and meals, as honey gives a special taste and do not produce too many calories like sugar.

Other 9 % of respondents, also women said that they buy honey to use it as a cosmetic mask as it has a benefic effect of the face skin.(Fig.3).

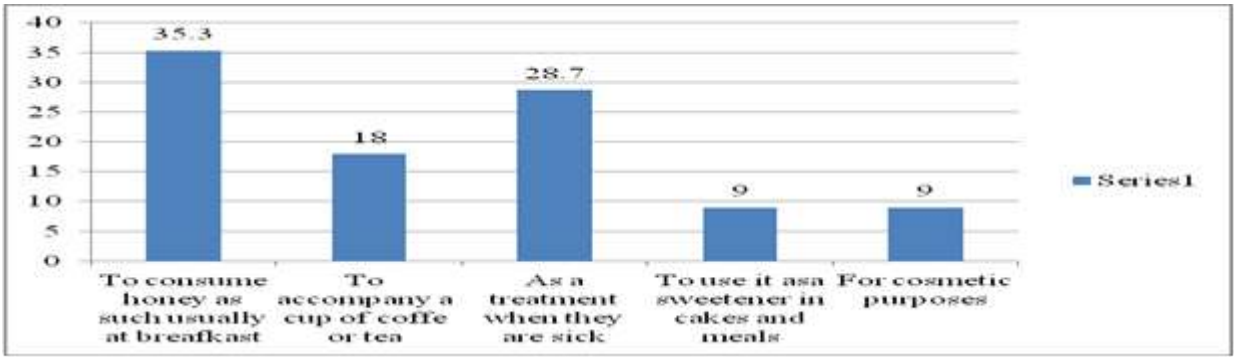

Fig.3.The purposes for which the respondents buy honey (%)
Source: Own design based on the respondents' answers.

At Q4 "How many times do you buy honey per year?", the answers have been: 44.9 % respondents buy honey several times a year, 34.7 % buy twice a year and 20.4 % buy only once a year (Fig.4).

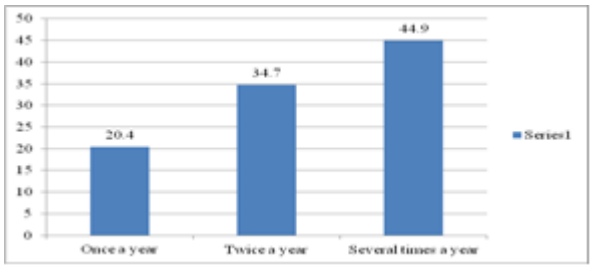

Fig.4.The distribution of respondents based on the frequency they buy honey during a year (%)
Source: Own design based on the respondents' answers.

At Q5 "Where do you buy honey from?".
At this question, it was found that 55.1 % of the respondents prefer to buy honey directly from a beekeeper that they know very well and whose honey is of high quality, has a good taste and flavor.

About 25.1 % respondents affirmed that they buy honey from honey fairs, where the beekeepers come to offer a large variety of honey products which are for sure natural and of high quality.

About 9 % respondents used to buy honey from the shops belonging to the Romanian Beekeepers Association (RBA), because these shops commercialize honey collected from beekeepers by RBA and the jars contain high quality honey. In addition, honey shops are closer to their house, a reason to go there and buy quickly what they need.

About 6 % respondents buy honey from an agro-food market, where they meet a beekeeper who is able to offer them honey in various jars capacity at a convenient price, and another reason is that the agro-food market is close to their home.

Finally, 4.8 % respondents buy honey from a supermarket when they go shopping, in this way they could buy all they need for the family in the fastest way (Fig.5.).

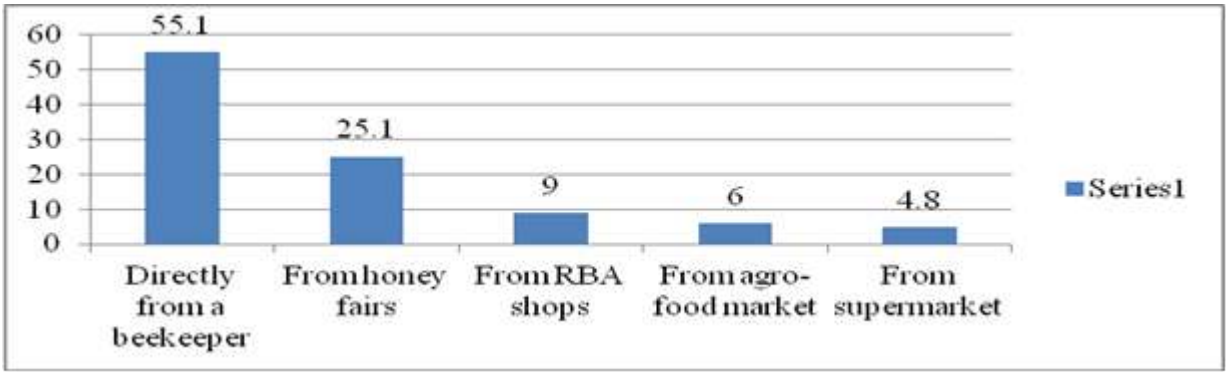

Fig.5.The distribution of respondents based on the place from where they prefer to buy honey (%)
Source: Own design based on the respondents' answers.

At Q6 "Which amount of honey do you buy per year for your own use?".

At this question, most of the respondents, more exactly 49.1 % answered 1-2 kg, 32.9 % said that they buy 2-3 kg and 18 % affirmed that they buy 3-4 kg per year (Fig.6).

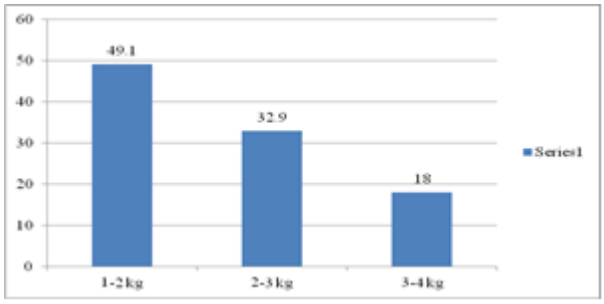

Fig.6.The distribution of respondents based on the amount of honey they buy per year for their own consumption (%)

Source: Own design based on the respondents' answers.

(i)Analyzing the amount of honey bought per year depending on the respondents' age, there were considered the two hypothesis:

The H_0 -the amount of honey purchased per year for the own consumption, X, and the age of the buyers, Y are independent variables.

The H1- the amount of honey purchased per year for the own consumption, X, and the age of the buyers, Y are dependent variables.

The obtained results have been the following ones:

The total of 82 respondents who use to purchase 1-2 kg honey per year, most of them, more exactly 36.5 % belong to the age group of 36-50 years, 30.4 % belong to the 51-65 age group and 24.3 % belong to the 21-35 age group.

Of the 55 respondents who buy 2-3 kg honey for their own needs, 50.9 % belong to the 36-50 age group, 20 % belong to the youngest category, 21-35 years and also to the 51-65 age group.

Of the 30 respondents who use to purchase 3-4 kg honey per year, 40 % belong to the 36-50 age group, 23.3 % belong to the 51-65 age group and 20 % to the youngest age group, 21-35 years old.

The value of the calculated χ^2 was 4.94 lower compared to the χ^2 critical value 12.59 for α=0.05, for df= 6. Therefore, the H_0 is accepted, attesting that X,Y are independent variables, more exactly that the amount of purchased honey per year for own consumption, X, and the age of the respondents, Y, are statistically independent variables.

The Pearson correlation coefficient was r = 0.169, meaning that the relationship between the two variables is negligible.

Cramer's correlation coefficient was V=0.121. (Table 5).

Table 5. The amount of honey purchased by respondents for their own consumption per year depending on their age group

Age group (years)		1-2 kg	2-3 kg	3-4 kg	Total
21-35	O	20	11	6	37
	E	(18.2)	(12.2)	(6.6)	37
36-50	O	30	28	12	70
	E	(34.4)	(23.0)	(12.6)	70
51-65	O	25	11	7	43
	E	(21.1)	(14.1)	(7.8)	43
66-80	O	7	5	5	17
	E	(8.3)	(5.6)	(3.1)	17
Total	O	82	55	30	167
	%	49.1	32.9	18.0	100
Obtained results			Interpretation		
χ^2= 4.94 < 12.59 χ^2 critical value for α=0.05, for df= 6.			The H_0 is accepted, the amount of honey bought per year for own needs and the respondents' age are statistically independent variables.		
Pearson correlation coefficient, r = 0.169			As 0.1<r <0.19, it is a negligible relationship between the amount of honey bought per year for own needs and the respondents' age.		
Cramer's correlation coefficient, V= 0.121			As 0.11<V <0.15, it is a moderate connection between the amount of honey bought per year for own needs and the respondents' age.		

Note: O=observed values; E=expected theoretical values.

Source: Own calculations based on the survey, 2018.

(ii)Analyzing the amount of honey bought per year for own consumption depending on the education level of the respondents, the hypothesis has been:

The H_0 - the amount of honey bought per year for own consumption, X, and the buyers' education level, Y are independent variables.
The H1- the amount of honey bought per year for own consumption, X and the buyers education level, Y are dependent variables.
The obtained results have been the following ones:
Of the 82 respondents who affirmed that they buy 1-2 kg honey for their own needs, most of them, more exactly 56 % are high school leavers, 36.5 % graduated a faculty and 7.5 % attended a gymnasium.
Of the 55 respondents who use to purchase 2-3 kg honey per year for their own consumption, 54.5 % graduated a faculty, 36.3 % are high school leavers and 9.1 % are a gymnasium leavers.
Of the 30 respondents who affirmed that they purchase 3-4 kg honey per year, 50 % graduated a high school, 33.3 % graduated a faculty and 16.7 % are gymnasium leavers.
The value of the calculated $\mathcal{X}^2$ was 8.04 lower compared to the $\mathcal{X}^2$ critical value 9.49 for α=0.05, for df= 4. Therefore, the H_0 is accepted, attesting that X,Y are independent variables, more exactly that the amount of purchased honey per year for own needs, X, and the education level of the respondents, Y, are statistically independent variables.
The Pearson correlation coefficient was r = 0.214, meaning a weak positive connection between the two analyzed variables. Cramer's correlation coefficient was V=0.155, reflecting a strong relationship between these two variables (Table 6).

Table 6. The amount of honey purchased by respondents for their own consumption per year depending on their education level

Education level		1-2 kg	2-3 kg	3-4 kg	Total
Gymnasium	O	20	11	6	37
	E	(18.2)	(12.2)	(6.6)	37
High school	O	30	28	12	70
	E	(34.4)	(23.0)	(12.6)	70
Faculty	O	25	11	7	43
	E	(21.1)	(14.1)	(7.8)	43
Total	O	7	5	5	17
	%	(8.3)	(5.6)	(3.1)	17
Obtained results			Interpretation		
$\mathcal{X}^2$= 4.94 < 9.49 $\mathcal{X}^2$ critical value for α=0.05, for df= 4.			The H_0 is accepted, the amount of honey bought per year for own needs and the respondents' education level are statistically independent variables.		
Pearson correlation coefficient, r = 0.214			As 0.2<r <0.29, it is a weak positive connection between the amount of honey bought per year for own needs and the respondents' education level.		
Cramer's correlation coefficient, V= 0.155			As 0.15<V <0.25, it is a strong connection between the amount of honey bought per year for own needs and the respondents' education level.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

(iii)Analyzing the amount of honey bought per year for own consumption depending on the monthly income of the respondents, the hypothesis have been:
The H_0 - the amount of honey bought per year for own consumption, X, and the buyers' monthly income, Y are independent variables.
The H1- the amount of honey bought per year for own consumption, X and the buyers monthly income, Y are dependent variables.
The obtained results have been the following ones:
Of the 82 respondents who purchase 1-2 kg honey per year, 42.6 % belong to the Lei 3,000-4,000 income class per month, 18.3 % belong to the Lei 4,000-5,000 per month, 9.7 % belong to the Lei 5,000-6,000 and also to the Lei 1,000-2,000 income per month.
The income structure of the respondents who affirmed that they buy 2-3 kg honey per year for their own needs is the following one: 27.2 % earn Lei 3,000-4,000 per year, other 27.2 % earn Lei 4,000-5,000, 18.1 % earn Lei 2,000-3,000, and 9.1 % have the lowest income Lei 1,000-2,000 and also other 9.1 % have the highest income Lei 6,000 and over.

The 30 respondents who purchase 3-4 kg honey per year are equally distributed by income classes, more exactly 16.6 %.
The value of the calculated χ^2 was 7.96 lower compared to the χ^2 critical value 18.31 for α=0.05, for df= 10. Therefore, the H_0 is accepted, attesting that X,Y are independent variables, more exactly that the amount of purchased honey per year for own needs, X, and the monthly income of the respondents, Y, are statistically independent variables.
The Pearson correlation coefficient was r = 0.213, meaning a weak positive connection between the two analyzed variables. Cramer's correlation coefficient was V=0.154, reflecting a strong relationship between these two variables (Table 7).

Table 7. The amount of honey purchased by respondents for their own consumption per year depending on their monthly income

Monthly income (Lei)		1-2 kg	2-3 kg	3-4 kg	Total
1,000-2,000	O	8	5	5	18
	E	(8.8)	(5.9)	(3.3)	18
2,000-3,000	O	11	10	5	26
	E	(12.8)	(8.6)	(4.6)	26
3,000-4,000	O	35	15	5	55
	E	(27)	(18.1)	(9.9)	43
4,000-5,000	O	15	15	5	35
	E	(17.2)	(11.5)	(28.7)	35
5,000-6,000	O	8	5	5	18
	E	(8.8)	(5.9)	(3.3)	18
6,000 and over	O	5	5	5	15
	E	(2.4)	(4.9)	(7.7)	15
Total	O	82	55	30	167
	%	49.1	32.9	18.0	100
Obtained results			Interpretation		
χ^2= 7.96 < 18.31 χ^2 critical value for α=0.05, for df= 10.			The H_0 is accepted, the amount of honey bought per year for own needs and the respondents' monthly income are statistically independent variables.		
Pearson correlation coefficient, r = 0.213			As 0.2<r <0.29, it is a weak positive connection between the amount of honey bought per year for own needs and the respondents' monthly income.		
Cramer's correlation coefficient, V= 0.154			As 0.15<V <0.25, it is a strong connection between the amount of honey bought per year for own needs and the respondents' education level.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

At Q7 "Which is your opinion on honey price?".
Most of the questioned individuals, 51.5 %, said that honey price is appropriate taking into account the quality of the product, its nutritive value and as it is a healthy food. About 30.5 % respondents considered that honey price is low and 18 % said that it is high (Fig.7).

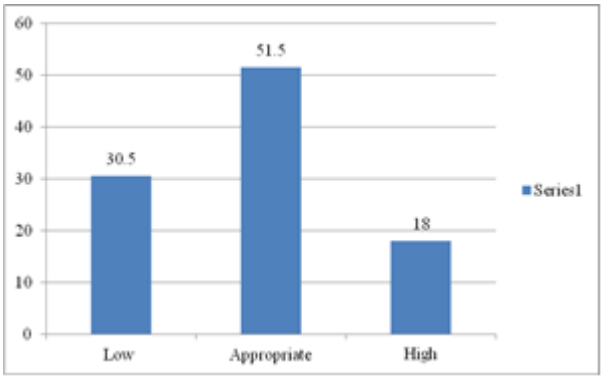

Fig.7.The distribution of respondents based on their opinion on honey price (%)
Source: Own design based on the respondents' answers.

(i)Analyzing the opinion of the respondents on honey price depending on their age, there were considered the two hypothesis:
The H_0 -the opinion of the respondents on honey price, X, and the age of the respondents, Y are independent variables.
The H1- the opinion of the respondents on honey price, X, and the age of the buyers, Y are dependent variables.

The obtained results have been the following ones:
Of the 51 respondents who affirmed that honey price is low, most of them, 45 %, belong to the 36-50 age group, 25.4 % belong

to the 51-65 age group, 19.6 % belong to the 21-35 age group and 9.8 % to the oldest group of individuals.

Of the 86 respondents who considered that honey price is appropriate, 48.8 % belong to the 36-50 age group, 29 % belong to the 51-65 age group, 13.9 % belong to the youngest group, 21-35, and 8.1 % belong to the oldest group of age, 66 and over.

Of the 30 respondents who said that honey price is high, 50 % are the youngest with the age varying between 21-35 years, probably in connection with their income, 16.6 % belonged to the other age groups in equal proportion.

The value of the calculated χ^2 was 21.80 higher compared to the χ^2 critical value 12.59 for α=0.05, for df= 6. Therefore, the H_0 is rejected, and H_1 is accepted, meaning that X,Y are dependent variables, more exactly that the respondents opinion on honey price, X, and their age, Y, are statistically dependent variables.

The Pearson correlation coefficient was r = 0.339, meaning a moderate positive relationship between the two studied variables. Cramer's correlation coefficient was V=0.255, reflecting a very strong relationship between these two variables (Table 8).

Table 8. The respondents' opinion on honey price depending on their age

Age group		Low	Appropriate	High	Total
21-35	O	10	12	15	37
	E	(11.3)	(19.0)	(6.7)	37
36-50	O	23	42	5	70
	E	(21.4)	(36.0)	(12.6)	70
51-65	O	13	25	5	43
	E	(13.1)	(22.1)	(7.8)	43
66-80	O	5	7	5	17
	E	(5.2)	(8.8)	(3.0)	17
Total	0	51	86	30	167
	%	30.5	51.5	18	
Obtained results			Interpretation		
χ^2= 21.80> 12.59 χ^2 critical value for α=0.05, for df= 6.			The H_0 is rejected, and H_1 is accepted, the respondents' opinion on honey price and their age are statistically dependent variables.		
Pearson correlation coefficient, r = 0.339			As 0.3<r<0.39, it is a moderate positive connection between the respondents' opinion on honey price and their age.		
Cramer's correlation coefficient, V= 0.255			As V>0.25, it is a very strong connection between the respondents' opinion on honey price and their age.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

(ii)Analyzing the opinion of the respondents on honey price depending on their education level, there were considered the two hypothesis:

The H_0 -the opinion of the respondents on honey price, X, and their education level, Y are independent variables.

The H1- the opinion of the respondents on honey price, X, and their education level, Y are dependent variables.

The obtained results have been the following ones:

Of the 51 respondents who said that honey price is low, 54.9 % graduated an university, 35.2 % graduated a high school and 9.9 % graduated a gymnasium.

Of the 86 respondents who affirmed that honey price is appropriate, 53.4 % graduated a high school, 40.6 % graduated a faculty and 6 % graduated a gymnasium.

Of the 30 questioned individuals who said that honey has a high price, 56.6 % graduated a high school, 23.3 % graduated a faculty and 20.1 % graduated a gymnasium.

The value of the calculated χ^2 was 11.91 higher compared to the χ^2 critical value 9.49 for α=0.05, for df= 4. Therefore, the H_0 is rejected, and H_1 is accepted, meaning that X,Y are dependent variables, more exactly that the respondents opinion on honey price, X, and their education level, Y, are statistically dependent variables.

The Pearson correlation coefficient was r = 0.258, meaning a weak positive relationship between the two studied variables.

Cramer's correlation coefficient was V=0.188, reflecting a strong relationship between these two variables (Table 9).

Table 9. The respondents' opinion on honey price depending on their education level

Education level		Low	Appropriate	High	Total
Gymnasium	O	5	5	6	16
	E	(4.9)	(8.2)	(2.9)	16
High school	O	18	46	17	81
	E	(24.7)	(41.7)	(14.6)	81
University	O	28	35	7	70
	E	(21.3)	(36.0)	(12.7)	70
Total	O	51	86	30	167
	%	30.5	51.5	18.0	100
Obtained results			Interpretation		
χ^2=11.91> 9.49 χ^2 critical value for α=0.05, for df= 4.			The H_0 is rejected, and H_1 is accepted, the respondents' opinion on honey price and their education level are statistically dependent variables.		
Pearson correlation coefficient, r = 0.258			As 0.2<r <0.29, it is a weak positive connection between the respondents' opinion on honey price and their education level.		
Cramer's correlation coefficient, V= 0.188			As 0.15<V <0.25, it is a strong connection between the respondents' opinion on honey price and their education level.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

(iii)Analyzing the opinion of the respondents on honey price depending on their monthly income, there were set up the two hypothesis:
The H_0 -the opinion of the respondents on honey price, X, and their monthly income, Y are independent variables.
The H1- the opinion of the respondents on honey price, X, and their monthly income, Y are dependent variables.

Table 10. The respondents' opinion on honey price depending on their monthly income

Monthly income (Lei)		Low	Appropriate	High	Total
1,000-2,000	O	5	8	5	18
	E	(5.5)	(9.3)	(3.2)	18
2,000-3,000	O	5	15	5	26
	E	(7.9)	(13.4)	(4.7)	26
3,000-4,000	O	15	35	5	55
	E	(16.8)	(28.3)	(9.9)	55
4,000-5,000	O	20	10	5	35
	E	(10.7)	(18.0)	(6.3)	35
5,000-6,000	O	5	8	5	18
	E	(5.5)	(9.3)	(3.2)	18
6,000 and over	O	5	5	5	15
	E	(4.6)	(7.7)	(2.7)	15
Total	O	51	86	30	167
	%	30.5	51.5	18.0	100
Obtained results			Interpretation		
χ^2=22.19> 18.31 χ^2 critical value for α=0.05, for df= 10.			The H_0 is rejected, and H_1 is accepted, the respondents' opinion on honey price and their monthly income are statistically dependent variables.		
Pearson correlation coefficient, r = 0.342			As 0.3<r <0.39, it is a moderate positive connection between the respondents' opinion on honey price and their monthly income.		
Cramer's correlation coefficient, V= 0.257			As V> 0.25, it is a very strong connection between the respondents' opinion on honey price and their monthly income.		

Note: O=observed values; E=expected theoretical values.
Source: Own calculations based on the survey, 2018.

The obtained results have been the following ones:
Of the 51 respondents who affirmed that honey price is low, most of them, 39.2 %, earn Lei between 4,000-5,000 per month, 29.4 % belong to the income class Lei 3,000-4,000 and 11.7 % belong to the Lei 2,000-3,000 income interval, 9.8 % earn either the lowest income Lei 1,000-2,000 or Lei 5,000 and over.

Of the 86 respondents who said that honey price is appropriate, 40.6 % earn Lei 3,000-4,000 per month, 17.4 % earn Lei 2,000-3,000, 11.6 % belong to the Lei 4,000-5,000 income class, 9.3 % belong to the 1.000-2,000 income interval and also other 9.3 % to the 5,000-6,000 income class, and 6.2 % have the highest income.

The 30 individuals who considered that honey price is high are equally distributed by income class.

The value of the calculated $\mathcal{X}^2$ was 22.19 higher compared to the $\mathcal{X}^2$ critical value 18.31 for α=0.05, for df= 10. Therefore, the H_0 is rejected, and H_1 is accepted, meaning that X,Y are dependent variables, more exactly that the respondents opinion on honey price, X, and their monthly income, Y, are statistically dependent variables.

The Pearson correlation coefficient was r = 0.342, meaning a moderate positive relationship between the two studied variables.

Cramer's correlation coefficient was V=0.257, reflecting a very strong relationship between these two variables (Table 10).

At Q8 "Which are the criteria taken into consideration when you purchase honey?".

At this question, the respondents had to appreciate the significance degree of the following criteria: honey type, brand, price, packaging and color. The significance they allotted to each criterion has been reflected by their choice from the following alternatives: 1 Very insignificant,2 Insignificant, 3 Uncertain, 4 Significant and 5 Vey significant, according to Likert scale.

Honey type was considered significant by 55.1 % respondents, very significant by 14.3 %, insignificant by 13.2 %, uncertain by 11.4 % and very insignificant by 6 %.

Honey brand is considered significant by 43.8 % questioned individuals, very significant by 25.2 %, uncertain by 21.5 %, insignificant by 7.2 % and very insignificant by 2.3 %.

Honey price is considered significant by 58.1 % respondents, very significant by 13.7 %, insignificant by 14.4 %, uncertain by 9 % and very insignificant by 4.8 %.

Honey packaging is significant for 53.9 % respondents, very significant for 17.9 %, uncertain for 13.2 %, insignificant for 12 % and very insignificant for 3 %.

The honey color is appreciated as significant by 52.1 % respondents, significant by 25.7 %, uncertain by 12.6 %, insignificant by 7.8 % and very insignificant by 1.8 %.

Therefore, most of the respondents considered that all these 5 criteria: type, brand, price, packaging and color are significant and very significant for the decision to buy honey.

According to Likert scale, the calculated scores for each criterion have been the following ones: 3.59 for honey type, 3.82 for brand, 3.62 for price, 3.72 for packaging and 3.92 for color. The total score for all the five criteria is 3.73 (Table 11).

Table 11. The respondents' answers regarding the significance level of the criteria taken into account when they purchase honey

		Significance level					Total	Score
		1	2	3	4	5		
		Very insignificant	Insignificant	Uncertain	Significant	Very significant		
Honey type	Frequency	10	22	19	92	24	167	3.59
	Percentage	6.0	13.2	11.4	55.1	14.3	100	
Brand	Frequency	4	12	36	73	42	167	3.82
	Percentage	2.3	7.2	21.5	43.8	25.2	100	
Price	Frequency	8	24	15	97	23	167	3.62
	Percentage	4.8	14.4	9.0	58.1	13.7	100	
Packaging	Frequency	5	20	22	90	30	167	3.72
	Percentage	3.0	12.0	13.2	53.9	17.9	100	
Color	Frequency	3	13	21	87	40	167	
	Percentage	1.8	7.8	12.6	52.1	25.7	100	

Source: Own calculation.

At Q9 "Which are your information sources about honey?".

At this question, the interviewed individuals mentioned in the highest proportion, 71.8 %,

that they collect information directly from beekeepers because the producers are interested to give a lot of details about their products and answer any question the clients have.

Also, 55.1 % respondents affirmed that they collect information from honey fairs, as at the fair come the beekeepers with a large range of bee products that they are interested to sell and for this reason they explain the importance, content, qualities, uses etc of each product.

About 49.1 % respondents like to pick up information on honey, its nutritive value, uses, recipes etc reading articles published in various magazines and journals.

About 36.5 % respondents said that they look for getting information from various websites.

Other 8.3 % respondents collect information from doctors and 5.9 % from nutritionists who make them useful recommendations.

About 5.9 % prefer to read the information written on the labels of the jars from the shelf of the supermarket when they use to purchase honey.

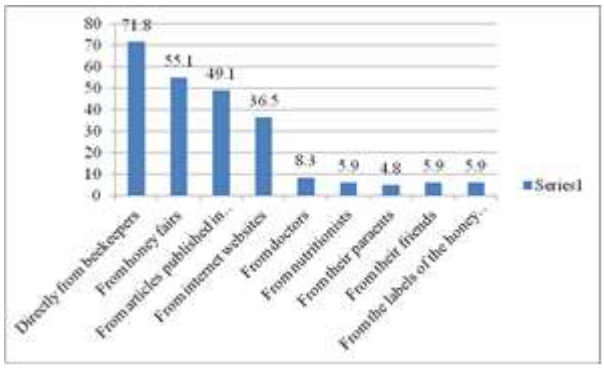

Fig.8.The distribution of respondents based on their source of information on honey (%)
Source: Own design based on the respondents' answers.

Finally, other 5.9 % respondents said that they decide to buy honey due to their friends who like to consume honey and are convinced of its benefits for human body and health and 4.8 % questioned individuals collect information from their parents.

Therefore, it was noticed that most of the honey buyers like to be informed very well on honey using various sources of information (Fig.8.).

CONCLUSIONS

The study allowed to arrive at the following important conclusions:

-more women than men are interested in buying and consuming honey;

-the average age of the buyers is 45.8 years, as 40 % of the interviewees belonged to the 36-50 age group, 26 % belonged to 51-65 group and 24.5 % belonged to the 21-35 group;

- about 65 % of honey buyers are married, this means that the family of these individuals is accustomed to consume honey;

-honey is bought mainly by the people who graduated a high school and then by the one who graduated an university, but less by the ones with only a gymnasium level;

-honey is mainly purchased by people with an average income ranging between Lei 3,000-4,000 per month (about 50 %), and also by people who earn between Lei 4,000-5,000/month (24.5 %);

-the preference for the honey type, in the decreasing order is: polyfloral honey (52.1 %), acacia honey (24.6 %) and the remaining for other types of honey (23.3 %).

-depending on age group, polyfloral is preferred mainly by the buyers whose age belong to the age groups 36-50 and 51-65, while acacia honey is preferred by the ones whose age belong to the age groups 36-50 and 21-35;

-depending on the education level, polyfloral honey is purchased by 60.4 % of the high school leavers, 45.7 % of the graduates of a faculty, and 37.5 % of the ones with gymnasium; acacia honey comes on the 2nd position being bought mainly by people with higher education and gymnasium;

-depending on monthly income, polyfloral honey is mainly bought by people who earn between Lei 3,000-4,000 and Lei 4,000-5,000 per month, while acacia honey is more preferred by the income group Lei 4,000-5,000 and then by Lei 3,000-4,000;

-the results of the Chi-squared test confirmed that the purchase of honey and buyers age, education and income level are independent variables, and the Pearson and Cramer's

coefficients of correlation proved a low relationship between these pairs of variables;
-all the respondents affirmed that they buy honey because it is a healthy product, about 95 % are aware of its high nutritive value, and 14 % consider honey as a tasty food, and only 4 % have other reasons to buy honey;
-honey is bought for the following purposes: to be consumed at breakfast as affirmed 35 % of the interviewed visitors, to be used as a medicine as confirmed by 29 % of the respondents, to accompany a cup of coffee or tea as said 18 % of the respondents, to be utilized as a sweetener in the kitchen (9%) and for cosmetic goals (9%);
-honey is bought several times a year by most of the interviewed persons (45 %), twice a year by 35 % and once a year by the remaining;
-most of the respondents prefer to buy honey directly from beekeepers (55%) and from honey fairs (25 %) where they also meet beekeepers, and just a few purchase honey from agro-food market and supermarkets;
-most of the respondents, 49 %, buy between 1-2 kg honey per year, and about 33% respondents buy 2-3 kg and just a few people purchase more than 3 kg, an aspect which confirms the low average yearly consumption per capita.
-depending on age, it was noticed that the age group 36-50 followed by 51-65 are on the top when they decide to buy honey, no matter the amount; this is probably related to the consciousness of the mature and older people on the honey benefits and also due to the medical status or their need to prevent various diseases.
-a higher amount of honey is bought mainly by the respondents who graduated a faculty and a high school;
-a higher quantity of honey is mainly purchased by the respondents who earn Lei 3,000-4000, followed by the individuals with Lei 4,000-5,000 monthly income;
-the results of the Chi-squared test confirmed that the amount of bought honey and buyers age, education and income level are independent variables, an aspect which was also attested by the low positive Pearson and Cramer's coefficients of correlation;
-most of the respondents (50%) considered that honey price is appropriate, and they belong especially to the age groups 36-50 and 51-65 years; about 30 % interviewed persons said that honey price is low; about 50 % of the youngest persons (21-35 years) considered that honey price is high;
-depending on the education level, most of the respondents who graduated a faculty affirmed that honey price is low, while most of the respondents who graduated a high school affirmed that honey price is appropriate.
-the Chi-squared test proved that age and honey price, as well as education level and honey price are independent variables, while honey price and monthly income are dependent variables, the relationship between these two variables being a moderate positive Pearson correlation and a strong positive Cramers' correlation coefficient.
- the criterion considered "significant" by the most interviewed persons when they buy honey are, in the decreasing order, honey price, type, packaging and color; if we take into consideration their answers for "significant" and "very significant" options, the order of importance in the purchase decision is: color, price, packaging and honey type.
-The main sources of information about honey are the beekeepers and honey fairs, followed by magazines and journals and internet, and with a less importance are sources as doctors, nutritionists, parents, friends, jar labels.
Therefore, taking account the results of this study, honey producers should pay attention to the diversification of their products to satisfy better all the categories of potential clients with a large variation of income level. Also, they have to offer products mainly addressed to the mature and older people, but also to the young persons. Also, they have to produce more polyfloral honey, but not to ignore the importance of acacia honey and other sorts of honey. Of course, these aspects depend very much on the climate conditions during pickings. Beekeepers should intensify the promotion of their products and from this point of view, media should be more involved in increasing people's knowledge about the

nutritive value and medical benefits of the honey. Honey fairs should be more frequently organized in the capital, but also in other municipalities to enlarge the segment of potential clients.

As a final conclusion, new marketing strategies should be set up by beekeepers in order to increase honey sales and their profit and to satisfy better consumers' needs, to increase honey consumption in a country like Romania which has a high honey production and product quality.

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