

# CONSUMER BEHAVIOUR OF STUDENTS WHEN SHOPPING FOR ORGANIC FOOD IN THE CZECH REPUBLIC

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## Abstract

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Organic farming and organic food are terms that attract the attention of not only farmers, but also economists. It is paper, which could address many consumers in the future. A healthier way of life is becoming more and more popular.

This paper primarily aims to collect basic knowledge of organic farming, organic food and its labelling. Furthermore, according to conducted marketing research (1.289 respondents were addressed in questionnaire survey), it is aim to characterize the factors that influence respondents when buying organic food. Based on the results of research another goal is to identify the main factors that could make the younger generation of Czechs buy organic food more frequently. Then according to the statistical data processing this paper aims to formulate recommendations to producers and traders of organic products to entice young people to become customers of this article for many years. Next goal is to compare the results with some other European countries. Interesting relationship between frequency of organic food purchases and other indicators will be assessed by using analysis of contingency tables. An intention is also to identify the target group for marketing strategies. What the respondents most often link with various organic labelling will be identified by using correspondence analysis of monitored data and better flows of information will be proposed.

It is clear from the research that organic food is most often bought by women and respondents with higher level of household life. It is purchased mainly fruit and vegetables, as well as dairy products. Respondents mostly make their purchases of organic food in hypermarkets and supermarkets. In addition to the primary reason of disinterest in buying organic food, which is the price, respondents also don't believe that organic food is better than conventional food and it is not attractive for them.

organic products, shopping patterns, contingency tables, correspondence analysis

People who want to take care of their health should also pay attention to their nourishment and they are therefore oriented on so-called healthy nutrition. It can be various, because there are many dietary specializations (vegetarian, vegan, macrobiotics ...). Consumers should however not only put more or less whole grains, legumes, fruits and vegetables in their menu, they should also begin to think more about where their food comes from, how it was grown and processed, and whether damage of environment was not caused during its

manufacture. Therefore, consumers should think if not to choose organic food. Living BIO has been a phenomenon for many years at our western neighbours, which has not been our case so much, but interest in organic products begins to grow recently.

## 1. RESEARCH OBJECTIVES

This paper primarily aims to collect basic knowledge of organic farming, organic food and

its labelling. It aims to perform market research of market with organic products in the Czech Republic and to characterize factors that influence respondents when buying organic food. Results will be processed using statistical methods and procedures. The main aim of the article is, based on the results obtained from the research, to identify factors that could influence the younger generation to more frequent purchases of organic food. Furthermore, next goal is to formulate recommendations to producers and traders of organic products, on the basis of statistical data processing, how to make young Czechs become regular customers of this paper for many years.

## 2. ORGANIC PRODUCTS AND SHOPPING BEHAVIOUR

Organic farming is a business branch that complies with Organic Farming Act No. 242/2000 Coll. and Council Regulation EEC No. 2092/91. Supervision of compliance with the requirements of legislation is executed by the Ministry of Agriculture through independent control of internationally accredited inspection and certification organizations (Bio EDEN, 2011).

Organic products are grown so as to contain no harmful ingredients, such as artificial preservatives, fillers, chemical dyes and flavours, artificial flavours, artificial sweeteners, vitamins synthetic origin.

Artificial fertilizers, harmful chemical sprays (i.e. pesticides), genetically modified organisms (GMO) mustn't be used when growing plants. Animals are kept in a natural way with the possibility of grazing paddock with natural food. They mustn't receive growth hormones or antibiotics. When processing it is forbidden to use irradiation, bleaching or microwave heating (Bio EDEN, 2011).

Products grown in this way can be used as a basis for the production of natural cosmetics and organic

cosmetics, or they can be used as forage for animals, products intended for human consumption are called organic food.

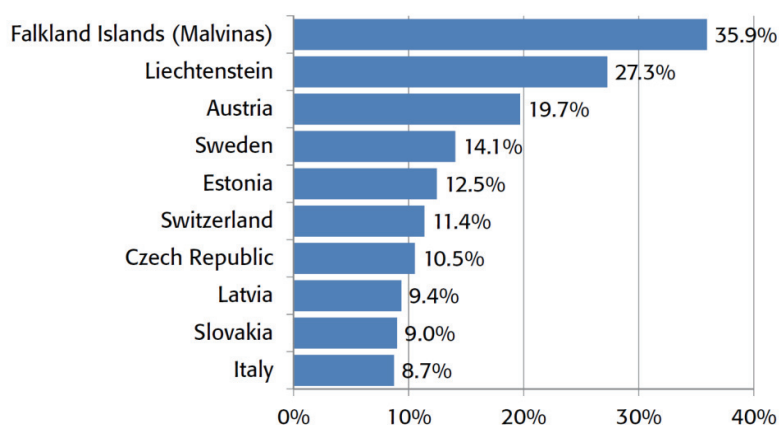
By buying organic foods we therefore support not only our own health but also the considerate approach to the environment. Production of quality, safe and healthy food ensures prosperity and social stability in the countryside and a dignified breed of animals without cruelty, the so-called welfare (Bio EDEN, 2011).

Shopping behaviour of consumer<sup>1</sup> means: shopping behaviour of final consumers - individuals and households that buy goods and services for personal consumption. These end users constitute together so-called consumer market. At this consumer market, customers differ significantly in terms of age, income, education, and taste. Marketing specialists try to understand consumer and deal with fascinating spectrum of factors that influence consumer's choice among products. More money than before is spent for vocational studies of consumers; it is tried to find out as much as possible about shopping behaviour (Kotler, 2007).

### Organic farming in the Czech Republic and labelling of organic food

In the Czech Republic, the development of organic farming was enabled not before the democratic changes in society after 1989. But in these days the Czech Republic is at the top among the new EU countries and ranks the world's leading position in the areas used by organic farms. The graphical output in Fig. 1 shows that the Czech Republic is really one of the top few percentage of states covering by organic farming more than 10% of the total cropped area (FiBL, 2012).

With respect to the labelling organic food produced in the Czech Republic must be marked both by national brand, called bio zebra and by the new European logo (eAGRI, 2013).



1: The countries with the highest shares of organic agricultural land 2010

Source: www.fibl.org, 2012

1 For further information see (Foret, Stávková, 2003), (Přibová, 1996).

### a) National labelling



2: Logo – National product of organic farming  
Source: eAGRI, 2013

BIO graphic symbol, called bio zebra, with “Product of organic agriculture” is used in the Czech Republic as a national trademark for organic food. Monitoring organization KEZ ops., ABCERT AG, Branch and Biokont CZ, ltd., are entrusted to its granting by the Ministry of Agriculture (eAGRI, 2013).

### b) European labelling



3: Logo – European symbol for product of organic farming  
Source: eAGRI, 2013

All organic food produced in the EU are labelled by a new European biologist from 1st July 2010. Logo is not mandatory only for unpackaged food and food imported from countries outside the EU (eAGRI, 2013).

### c) Regional food

For the third year, the Ministry of Agriculture award top quality agricultural or food products, that won in regional competitions by Regional food brand. The project aims to support domestic producers of local foodstuffs and motivate their



4: Logo – Regional food  
Source: eAGRI, 2013

customers to search their products in stores, at farmers' markets or directly at producers. Consumers can choose from a total number of 273 award-winning products. Regional food brand appreciates the best products from each region.

What makes the products with the Regional food logo on the packaging special? It's quality, local ingredients, traditional recipes and excellent taste. Regional food green-blue logo on packaging of products ensures customers that the product and ingredients used in during its production come from domestic production. The product must be manufactured in the region where the award was given and from the regional ingredients (eAGRI, 2013).

Award-winning regional foods meet the strictest European and national requirements for the quality of food. Compared to importers domestic producers are more exposed to pressure on the quality from both the consumers who are in closer contact with them and the supervisory inspections (eAGRI, 2013).

## 3. METHODOLOGY

In the questionnaire survey analysis we usually obtain categorical data and easy way to illustrate the data relations are *contingency tables*. With respect to the character of the data we use suitable tests of the independence. According to (Řezanková, 1997) in the case of contingency table of the type  $r \times c$  ( $r$  is the number of rows,  $c$  is the number of columns) we usually use statistics:

$$\chi^2 = \sum_i \sum_j \frac{(n_{ij} - e_{ij})^2}{e_{ij}}.$$

Alternatively

$$G^2 = \sum_i \sum_j n_{ij} \ln \frac{n_{ij}}{e_{ij}},$$

$e_{ij}$  is an expected and  $n_{ij}$  real frequency. We use the statistic  $\chi^2$  in Pearson's chi-square test,  $G^2$  in likelihood-ratio test. These two statistics have asymptotically  $\chi^2_{(r-1)(c-1)}$  distribution with the presumption of the independence<sup>2</sup>.

Previous tests can be used in the case of high expected frequencies in the contingency table (more than 5 for each field), see (Hendl, 2006). In some studies this rule is not so strict, it is enough to have at most 20% of frequencies less than 5 but all of them more than 1, see (Agresti, 1990). According to (Anděl, 2005) if frequencies are too small, we can use Fisher's exact test or we can calculate simulated p-value of  $\chi^2$  statistic.

2 For further details see (Hindls, 2003), (Marek, 2007).

*Correspondence analysis* (CA) is a multivariate statistical technique. It is conceptually similar to principal component analysis, but applies to categorical rather than continuous data. In a similar manner to principal component analysis, it provides a means of displaying or summarising a set of data in two-dimensional graphical form.

All data should be nonnegative and on the same scale for CA to be applicable, and the method treats rows and columns equivalently. It is traditionally applied to contingency tables – CA decomposes the chi-squared statistic associated with this table into orthogonal factors. Because CA is a descriptive technique, it can be applied to tables whether or not the chi-square statistic is appropriate.

According to (Nenadić, Greenacre, 2007), as in principal component analysis, the idea in CA is to reduce the dimensionality of a data matrix and visualize it in a subspace of low-dimensionality, commonly two- or three-dimensional. The data of interest in simple CA are usually a two-way contingency table or any other table of nonnegative ratio-scale data for which relative values are of primary interest. The CA solution was shown by (Greenacre, 1984) to be neatly encapsulated in the singular-value decomposition (SVD) of a suitably transformed matrix. To summarize the theory, first divide the  $I \times J$  data matrix, denoted by  $N$ , by its grand total  $n$  to obtain the so-called correspondence matrix  $P = N/n$ . Let the row and column marginal totals of  $P$  be the vectors  $r$  and  $c$  respectively, that is the vectors of row and column masses, and  $D_r$  and  $D_c$  be the diagonal matrices of these matrices. The computational algorithm to obtain coordinates of the row and column profiles with respect to principal axes, using the SVD, is as follows:

1. Calculate the matrix of standardized residuals:

$$S = D_r^{-\frac{1}{2}} (P - rc^T) D_c^{-\frac{1}{2}}$$

2. Calculate the SVD:

$$S = U D_\alpha V^T \text{ where } U^T U = V^T V = I$$

3. Principal coordinates of rows:

$$F = D_r^{-\frac{1}{2}} U D_\alpha$$

4. Principal coordinates of columns:

$$G = D_c^{-\frac{1}{2}} V D_\alpha$$

5. Standard coordinates of rows:

$$X = D_r^{-\frac{1}{2}} U$$

6. Standard coordinates of columns:

$$Y = D_c^{-\frac{1}{2}} V$$

The total variance of the data matrix is measured by the inertia, see, e.g., (Greenacre, 1984), which resembles a chi-square statistic but is calculated on relative observed and expected frequencies:

7. Inertia:

$$\phi^2 = \sum_{i=1}^I \sum_{j=1}^J \frac{(p_{ij} - r_i c_j)^2}{r_i c_j}$$

The rows of the coordinate matrices in (3)–(6) above refer to the rows or columns, as the case may be, of the original table, while the columns of these matrices refer to the principal axes, or dimensions, of the solution. Notice that the row and column principal coordinates are scaled in such a way that  $FD_r F^T = GD_c G^T = D_\alpha^2$ , i.e. the weighted sum-of-squares of the coordinates on the  $k$ -th dimension (i.e., their inertia in the direction of this dimension) is equal to the principal inertia (or eigenvalue)  $\alpha_k^2$ , the square of the  $k$ -th singular value, whereas the standard coordinates have weighted sum-of-squares equal to 1:  $XD_r X^T = YD_c Y^T = I$ . The implementation of the algorithm follows (Blasius, Greenacre, 1994).

The graphical representation of results from CA is commonly done with so-called symmetric maps. In that case, the row and column coordinates on each axis are scaled to have inertias equal to the principal inertia along that axis: these are the principal row and column coordinates. Depending on the situation, other types of display are appropriate. This can be set with the scaling option map in the plotting functions for CA.

Software UNISTAT and STATISTICA was used for processing of primary data.

#### 4. THE RESEARCH RESULTS

1,289 respondents participated in the Czech Republic in marketing research, which was conducted through a questionnaire survey. The questionnaire was distributed electronically. Data collection was proceeding from 21<sup>st</sup> November 2012 to 21<sup>st</sup> December 2012. More women (70.8%) than men (29.2%) participated in the study. Typical respondent's age ranged from 16 to 25 years. Regarding education, respondents were mostly college students and therefore most frequently reported highest level of education was - high school graduation (88.7%).

It can be stated that this was not a representative sample with respect to the population, but for the fulfilment of the objectives of this article a sample of young respondents is entirely appropriate. It must address especially young people to buy organic food more and more frequently, because young people are potential customers for many years.

Monthly household income of respondents varies mostly around 20.000 to 40.000 CZK, while most respondents live in a four-person household. Young people who were addressed do then their purchases mostly in municipalities with a population of 2.000 (23.9%), but the representation of other groups is relatively balanced. Recommendations can be directed to all organic food sellers all over the Czech Republic.

It is also clear from the survey that young people most pay attention to the quality of the sold food (95.8%), respondents are also interested in the price of food (89.1%), their appearance (79%) and easy availability (67.5%) at purchasing. Respondents don't care too much about brand or place of origin of food.

When asked: *What is the organic food in your opinion, what do you recall under this title, what do you associate with this term?* the respondents answered as follows, see Tab. I. Respondents most often appropriately marked (almost 90%), that they are ecologically grown products, without chemistry. However, an interesting fact is that more than 50% of the respondents associate organic food most often with the fact that the food is expensive.

It resulted from the answers to the next question that 74.5% of respondents believe that organic foods are healthier than conventional food and 74.7% think they are of better quality, but only 39% of respondents consider organic food more flavoursome and only 31.5% think they are more attractive than conventional food.

To the question: *Is organic food part of assortment in your favourite store?* 64.2% of respondents answered that yes. The finding that 23.6% of respondents haven't looked for organic food in the store so far is surprising. Only 47.7% of respondents are persuaded about sufficiently recognizable organic food in stores. Whereas according to respondents the best recognizable organic products are in chains – Tesco, Albert, DM drugstore and Billa.

Only 43.3% of young people think that organic foods are sufficiently publicized, and surprisingly 17% of respondents have not even seen advertising for organic food. If addressed people saw advertising, it was mostly in the magazine and newspaper.

The question: *Do you buy organic food in your household?* respondents answered as follows, see Fig. 5. It is clear that there is a huge amount of young people who don't buy organic food (43.4%). It is therefore necessary to do basic steps to convince young people that buying organic food makes sense<sup>3</sup>.

If respondents don't buy organic food, they stated that the main obstacle for them is the financial aspect – the higher price of organic food (35.9%). Furthermore, they denoted, that organic food is not attractive for them (20.5%) and that they don't believe that the food is organic, non-chemical, better (19.8%).

If respondents buy organic food, they make their purchases of organic food mostly in hypermarkets and supermarkets (23%). The second most frequent response was health food and organic food stores

I: Response to the question: *What is the organic food in your opinion, what do you recall under this title, what do you associate with this term?* (respondents could select more answers)

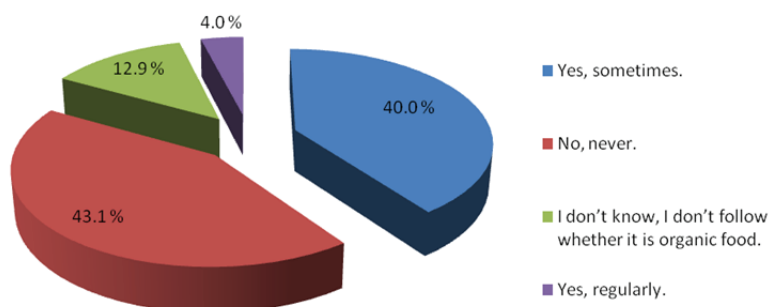
Answers:	Frequencies	Percentage
Organically grown, without chemicals	1158	89.8%
Healthy, healthier food	575	44.6%
Expensive, more expensive food	655	50.8%
Animals rooming free, not stressed, nourished without compound feedingstuffs	533	41.3%
Food without preservatives, emulsifiers, rational nutrition	523	40.6%
Higher quality food	478	37.1%
Tastier food	224	17.4%
It's a lie to attract consumers	339	26.3%
I don't know	197	15.3%
Other	27	2.1%

Source: own calculation

3 Opinions that organic food is not better for people than conventional food have recently appeared. But this claim has no basis in reality and is mostly a misunderstanding. One of the problems is the fact that even though organic food is healthier, it does not mean that it can be consumed in unlimited quantities. E.g. if organic food contains more sugar or fat, then of course excessive consumption is harmful as well as classical food. The second and very serious problem is the fact that sometimes falsifications of organic foods appear at farmers markets and stores and conventional foods are posed as organic foods. Another possible factor of these misunderstandings is the fact that since organic food is chemically untreated; it deteriorates quickly at improper storage. These problems should particularly attract the regulatory authorities. Otherwise, organic foods grown and processed without chemical additives, colorants, flavours, etc. must be logically healthier for the human body. People may only buy from trustworthy sellers and consume these foods in reasonable quantities.



### Do you buy organic food in your household?



5: Response of respondents to the question – Do you buy organic food in your household?  
Source: own calculation

(16.8%), approximately 7.1% of respondents attend farms and farmers markets. A relatively large part of respondents then stated that they grow the organic food by themselves (13.5%).

The research also shows that most respondents spend money on organic fruit and vegetables, as well as organic milk and dairy products, as well as organic flour, cereals, and also for organic meat and sausages. Domestic food production predominates in the available assortment of organic products.

II: Response to the question: How much do you approximately spend on buying organic food per year in your household?

Answers:	Frequencies	Percentage
Nothing, I don't buy it	530	41.1%
Less than 100 Kč	152	11.8%
101–500 CZK	285	22.1%
501–1 000 CZK	95	7.4%
1001–2 000 CZK	30	2.3%
More than 2 001 CZK	17	1.3%
I don't know	180	14.0%

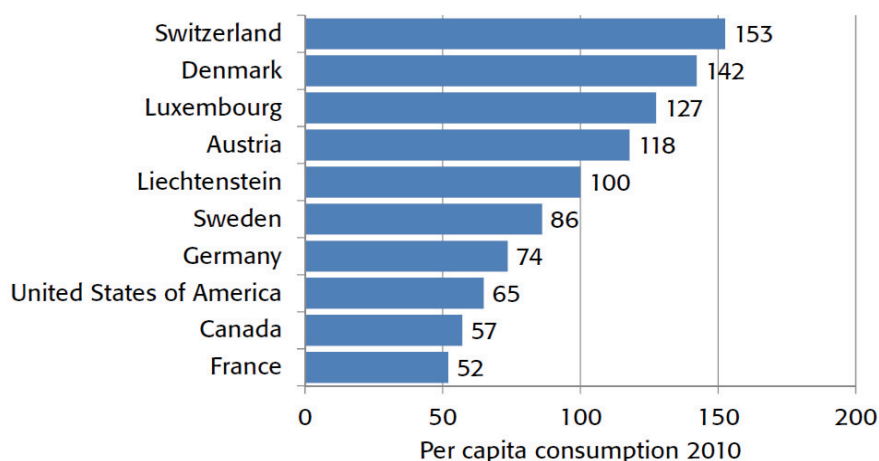
Source: own calculation

To the question: *How often do you buy organic food in your household?* respondents most frequently responded that about once per month. And to the question: *How much do you approximately spend on buying organic food per year in your household?* respondents answered see Tab. II.

It is thus evident that the Czechs don't spend too much on organic food a year (if buying it), the amount invested in organic food ranges mostly up to 500 CZK, often only up to 100 CZK. If we look at the comparison with countries with the highest annual per capita consumption of organic food (EUR), see Fig. 6, it is clear that we have something to gain.

Switzerland has the highest annual per capita consumption of organic food with the amount of 153 EUR. On the contrary, consumers in southern, central and eastern Europe spend on organic food at least. Average annual per capita consumption in the Czech Republic in 2010 was about 6 EUR, 3 EUR in Hungary, around 2 EUR in Poland and Slovakia.

Our reference sample of respondents is thus above the national average. However, in comparison with other countries there is still much scope for improvement.



6: The ten countries with the highest annual consumption of bioproducts per capita (EUR) 2010  
Source: www.fibl.org, 2012

## 5. THE ANALYSIS OF CONTINGENCY TABLES

We tried to find out whether household income affects the amount of purchased organic products in the analysis of contingency tables. So we watched the dependence between the questions: *Monthly income of your household.* and *Do you buy organic food in your household?*

Using Pearson's chi-square test of independence we tested the relationship between the frequency of organic food purchases and size of household income. During testing of independence we found the value  $\chi^2 = 59.54$  with significance  $p < 0.001$ . I.e. for a 5% risk we reject independence between the frequency of organic foods purchasing and household income. We can therefore talk about the dependence between the amount of income and frequency of organic food purchases.

From the modified contingency Tab. III it is clear that in the category (40 to 60 thousand CZK) most people buy organic food occasionally or regularly. This category is a cause of proven dependence of frequencies of organic food purchases on the household's income. In other categories dependence is indistinctive. At the same time we can say that with higher amount of income (except the richest), the number of organic food-buyers increases.

Furthermore, we were interested in whether sex influences the amount of purchased organic food. So we watched the dependence between the questions: *Your sex.* and *Do you buy organic food in your household?*

It is clear from the contingency Tab. IV that women buying organic food regularly and occasionally are in our sample 428 (i.e. 46.9%) and only 139 men (i.e. 36.9%).

Using Pearson's chi-square test of independence we tested the relationship between the frequency of purchases of organic food and sex of respondents. During testing we found the value of independence  $\chi^2 = 21.03$  with significance level  $p < 0.001$ . I.e. for a 5% risk we reject independence between the frequency of purchasing organic food and sex. We can therefore say that the willingness to buy organic food is dependent on sex. Women in our sample buy organic food more often than men, but this can be caused by the fact that women do shopping in general more often in the Czech Republic.

Our next idea was whether an advertisement for organic food affects the willingness to buy these products. We monitored answers to the following questions: *Do you buy organic food in your household?* and *Have you ever seen advertising for organic food?*

Again using Pearson's chi-square test of independence we tested the relationship between the frequency of purchases of organic food and the influence of advertising. During testing we found the value of independence  $\chi^2 = 26.5$  with  $p = 0.0889$ . I.e. we don't reject independence between the frequency of purchasing organic food and watching advertising for organic food. Surprisingly advertising for organic food doesn't affect respondents to purchase more frequently, which is also evident from Tab. V, from the frequency column, where respondents watching advertising

III: Contingency table: *Monthly income of your household.* and *Do you buy organic food in your household?*

Row relative frequencies	Yes, regularly + Yes sometimes.	No, never.	I don't know, I don't follow whether it is organic food.
(0, 20 000 >	41.3%	46.6%	12.1%
(20 000, 40 000 >	42.0%	43.6%	14.4%
(40 000, 60 000 >	56.9%	33.5%	9.6%
60 000 and more	41.4%	45.7%	12.9%

Source: own calculation

IV: Contingency table: *Your sex?* and *Do you buy organic food in your household?*

	Yes, regularly.	Yes, sometimes.	I don't know, I don't follow whether it is organic food.	No, never.	Row total
Man	12	127	71	167	377
Woman	40	388	95	389	912
Column total	52	515	166	556	1289

Source: own calculation

V: Contingency table: *Do you buy organic food in your household?* and *Have you ever seen advertising for organic food?*

Column relative frequencies	Yes, I saw	No, I didn't see	I don't know
Yes, regularly + Yes, sometimes.	45.6%	41.6%	37.1%
No, never.	41.8%	45.7%	47.9%
I don't know, I don't follow whether it is organic food.	12.6%	12.8%	15.0%

Source: own calculation

buy organic food more likely and respondents not watching advertising vice-versa, but the difference is very small (about 4 percentage points).

It is thus evident that advertising for organic food either watched in magazines, newspapers, on television or on billboards or on the internet is not indeed a factor that would influence the respondents too much when buying organic food.

Furthermore we attempted to find out whether gender affects the amount that respondents spend on organic food. So we watched the dependence between the questions: *Your sex.* and *How much do you approximately spend for buying organic food in your household per year?* (see Tab. VI).

VI: Contingency table: *Your sex?* and *How much do you approximately spend for buying organic food in your household per year?*

Column relative frequencies	Man	Woman
Nothing, I don't buy it	43.2%	40.2%
Less than 100 Kč	9.0%	12.9%
101–500 CZK	18.3%	23.7%
501–1 000 CZK	6.9%	7.6%
1001–2 000 CZK	2.4%	2.3%
More than 2 001 CZK	2.1%	1.0%
I don't know	18.0%	12.3%

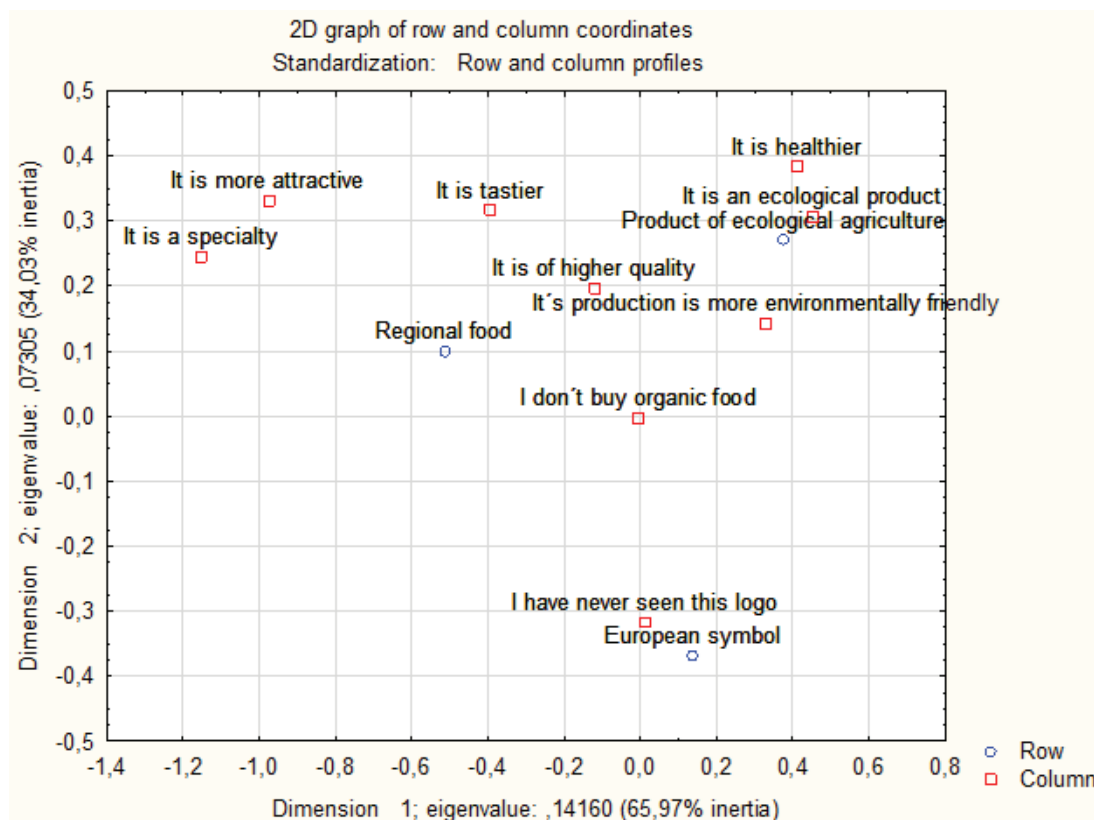
Source: own calculation

According to Pearson's chi-square test of independence we tested the relationship between the size of the amounts spent on organic food and sex of respondents. During testing we found the value of independence  $\chi^2 = 20.16$  with  $p = 0.0052$ . I.e. for a 5% risk we reject independence between the size of the amount spent on the purchase of organic food and sex. It was therefore proved dependence on sex.

From previous results, it is clear that most respondents don't spend on organic food more than 500 CZK per year. It is then clear from the modified contingency table from column of relative frequencies that there are always more women among buyers of organic food in the categories up to 500 CZK, while most men do not buy organic food at all. Women will spend on buying organic food more financial resources, probably also because they buy them more often. An interesting fact is that with higher expenses for organic food, the ratio of men and women smoothly decreases, from the amount of 1.000 CZK per year it even reverses.

## 6. CORRESPONDENCE ANALYSIS

From research is clear that respondents haven't encountered with the EU logo for organic food meanwhile. It is clear that even about 57% of the respondents know national brand while only 29% of respondents know EU logo.



7: Correspondence analysis – organic food labelling

Source: own calculation



In Fig. 7 there is a graphical output of the correspondence analysis. Two categories of magnitudes are displayed in the form of two types of points, categories of the first magnitude are various logos for organic food and categories of the second magnitude describe the most common fact that respondents associate the food with. Nearby points of both types in the graph mean that respondents often associate just these two categories of both magnitudes. On the contrary distant points indicate that respondents scarcely note link between such categories.

It is apparent from the subsequently performed correspondence analysis (see Fig. 7) that respondents really most often associate European symbol to indicate organic food (Fig. 2), with the answer – I've never seen this logo.

Addressed respondents believe that product labelled by the national organic label (Fig. 3) is an ecological product, so we can say that for such a product they trust its organic origin. Furthermore, they think that labelled products are healthier than conventional food and that their production is more environmentally friendly. Labelling of regional food is often associated with better quality and taste. People therefore trust that products with this logo come from fresh ingredients of the region and have better flavour.

From the correspondence analysis and frequency tables, it is clear that the respondents less often associate organic food with the fact that they are more attractive or that it is a specialty.

## 7. DISCUSSION AND CONCLUSION

The aim of this article was to establish the factors that affect young respondents when buying organic food using the knowledge gained from the questionnaire survey. At the same time to formulate recommendations to producers and traders of organic products to support their sales to the younger generation of Czechs.

It is evident from the conducted research that there are a large number of young people who do not buy organic food, approximately 43% of respondents. It is therefore necessary to take steps enabling us to address the young generation, because these are the customers who will make their purchases for many years. At the same time we managed to reach respondents from municipalities of various sizes, so recommendations can be directed to producers both from large cities and from small villages.

It is then apparent from the analysis of contingency tables that the target group is mainly young women who make purchases more frequently than men and are also usually willing to spend a higher amount of money on organic food. They are also potential mothers, who can be expected to buy quality organic food for their descendants in future.

It can be identified from the results of the research that young people are relatively well informed what organic food is and how it differentiates from

classic food. It is interesting that more than 50% of the surveyed young people associate the term organic food with the food which is expensive. For this reason, we recommend to traders organization of various discount actions also on organic food and to attract young customers on the basis of special discounts on organic food.

As we mentioned a significant percentage of respondents are well informed about organic food, but among them there are approximately 20% of those who do not trust that organic food is non-chemical and better. We therefore recommend focusing possible advertising on notification about the executed tests and quality controls and placing the advertisement not only to magazines and newspapers, but also on television, on the Internet or on billboards. Respondents had submitted that if they had seen advertising it had been mostly only in magazines and newspapers. But today the Internet is a great source of information for young people after all, so it is necessary to cover even this information channel.

If the respondents don't buy organic food, they mention that they don't feel that organic food is tastier. For this reason, we propose to make more tastings in the organic food shops, in supermarkets and hypermarkets, where respondents mostly make their purchases. As only a good personal experience may convince even the biggest opponents.

Similarly, we can recommend organizing more farmers markets and similar events where young people can gain personal experience with organic products and become a fan of them. It is obvious that this way of purchases could become very popular. Especially sell of regional products can be very encouraged through farmers markets.

Respondents to the questionnaire also stated that organic food is not sufficiently attractive for them, and even about 24% of respondents haven't looked for it in the shop so far. First of all the good personal experience could convince such respondents because it is evident from the analysis of contingency tables that watching advertising in magazines doesn't convince young people too much of more frequent purchases. It is therefore necessary to „attack“ them from another angle, as was already reported, by personal experiences, as well as by selecting another information channel than press. For this purpose we propose also thinking about more appropriate packaging of organic products, which are now relatively insignificant and easily overlooked.

In comparison to other countries (see Fig. 6) it is evident that in this country it is not spent too much on organic products. Most respondents reported that their annual payments amount to CZK 500, but rather only to 100 CZK. It is therefore necessary to promote the sale of this item. For example, to convince respondents through the labelling that foods labelled as organic really comply established standards and Ministry of Agriculture and regulators keep watch over their compliance.

It is clear from the results of the research that young people hardly know labelling of organic food produced in the EU (Fig. 3). Therefore they cannot be convinced of their higher quality. It is thus

necessary to conceive advertising differently and with its help to convince young people that the logo on organic products really guarantees their quality.

## SUMMARY

This article primarily aimed to gather knowledge concerning organic agriculture, organic products and their labelling, furthermore, using statistical methods, to analyze data obtained from marketing research and to identify the main factors that influence respondents when buying organic food. Based on the statistical processing we then intended to make recommendations to producers and traders of organic products how to make young Czechs become regular customers of this item for many years.

1,289 respondents participated in conducted the survey, they were mostly young people, who should be mainly marketing strategy directed on.

The research shows that there are a large number of respondents who don't buy organic food, it is 43% of surveyed young people. If the respondents don't buy organic food, they stated that the main obstacle for them is the financial aspect, which is a higher price of organic food. Furthermore, they claimed that the organic food is not attractive for them and also they don't trust their „non-chemical“ better origin. There are a relatively large percentage of respondents (13%) who do not follow, whether it is organic or not.

If respondents buy organic food, they mostly make their purchases in hypermarkets and supermarkets as well as in health food stores and organized farmers' markets become popular as well. Mainly the respondents buy organic fruits and vegetables, as well as organic milk and dairy products, and then organic flour and grains.

Respondents mostly make purchases of organic food once a month and the amount invested in this item moves up to 500 CZK per year, often only to 100 CZK per year. It is a lower amount in comparison with other European countries.

The dependence between the height of income and frequency of purchasing organic food was proved from the analysis of contingency tables. Furthermore, we can say that the willingness to buy organic is dependent on sex. Women buy organic food more often than men in our sample.

Surprising finding then was a fact that advertising doesn't affect respondents too much to more frequent purchases of organic products. Watched advertising in magazines, newspapers, on television or internet is not a factor that would motivate young people to buy organic food more. Furthermore, a dependence between the size of the amount spent on the purchase of organic food and sex of respondents was proved.

From the above correspondence analysis, it is clear that young people hardly know the EU symbol for organic food. National brand BIO, respondents most often associated with ecological, healthier product whose production is more environmentally friendly. A regional food labelling is then associated mainly with quality and better taste.

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