

# QUALITY LABEL AS THE GUARANTEE OF TOP QUALITY AGRICULTURAL AND FOOD PRODUCTS PRODUCED IN SLOVAK REPUBLIC – A CASE STUDY OF SLOVAK FOOD MARKET

Ingrida Košičiarová<sup>1</sup>, Ľudmila Nagyová<sup>1</sup>, Mária Holienčinová<sup>1</sup>, Jana Rybanská<sup>1</sup>

<sup>1</sup> Slovak University of Agriculture in Nitra, Tr. A. Hlinku 2, 949 76 Nitra, Slovak Republic

## Abstract

KOŠIČIAROVÁ INGRIDA, NAGYOVÁ ĽUDMILA, HOLIENČINOVÁ MÁRIA, RYBANSKÁ JANA. 2016. Quality Label as the Guarantee of Top Quality Agricultural and Food Products Produced in Slovak Republic – a Case Study of Slovak Food Market. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 64(6): 1937–1950.

The aim of the present paper was to determine the Slovak consumer's opinion about the purchase and quality level of agricultural and food products produced in the Slovak Republic, as well as to determine their knowledge and preference of the National Quality Label "Značka kvality SK". As research methods, there have been used the methods of survey and structured questionnaire consisting of 22 questions. The total number of respondents was 2.808 randomly selected respondents from all over the Slovak Republic. For a deeper analysis of the obtained results, there have been set out nine hypothesis, which have been tested with the use of Pearson's chi-square test, Fisher's exact test, Mann-Whitney U-Test and Cramer's contingency coefficient. The results of the present paper show, that the knowledge and preference of higher quality food is between Slovak consumers on a pretty high level – more than 44 % respondents think that they buy higher quality products, more than 49 % of respondents think that the agricultural and food products produced in Slovak Republic are rather higher and higher quality, more than 58 % of respondents know the Quality Label "Značka kvality SK", over 56 % of respondents could describe its logo, more than 60 % of them could spontaneously name five brands, respectively products labelled with this Quality Label and almost 50 % of respondents buy also the ecological products.

Keywords: Quality label, Značka kvality SK, quality, consumer, knowledge, preference

## INTRODUCTION

Consumers are from day to day changing. This does not mean that there are changing only them, but that there are changing also their preferences, requirements, expectations etc. and by that also their purchasing behaviour. The only constant is the fact that the most important criterion, respectively the decisive criterion in their purchase is the quality of bought products. To guarantee the quality, tradition and originality of the products produced in one or another part of the European Union, as well as to make it easier for customers to choose the higher quality products – different forms of Quality Labels have been introduced.

The European Union is a broad cluster of people and cultures, which have their own eating and consumption habits. "The Quality Policy of European Union represents a common vision of quality development of original and traditional products and support of cultural traditions and regions of Member States, where these products are produced" (Nagyová, Košičiarová and Kádeková, 2014). The task of the EU Quality Policy is to support the diversity of agricultural production, to protect the product's names from misuse and imitation, to support the consumers with information on the specific nature of the products, to protect consumers from counterfeit products and also to support the peripheral regions in EU Member States. This is why the main role of the EU Quality



1: 1: Logos of Protected Designation of Origin (PDO), Protected Geographic Indication (PGI), Traditional Specialities Guaranteed (TSG) and Organic farming (ec.europa.eu, 2016; ec.europa.eu, 2015)

Policy is to protect food producers from attempts of other producers to benefit from the reputation of their products (www.euroinfo.gov.sk, 2011). To the quality attributes, which are normally taken into account in an agricultural policy context, apart from the basic assumptions of health, safety, and taste, relate exactly to (European Commission, 2007):

- specific product characteristics, often linked to geographical origin or production zone (e. g. mountain areas), animal breed or production method (e. g. organic farming),
- special ingredients,
- particular production methods often resulting from local expertise and traditions,
- observation of high environmental or animal welfare standards,
- processing, preparation, presentation and labelling in ways that enhance the attractiveness of the product for consumers.

The European Union approves, protects, promotes and registers the control of certain food and agricultural products on the basis of principles and legislation of EU agricultural quality policy. Specific EU quality schemes, guaranteeing quality, can be differentiated into four main categories (ec.europa.eu, 2016; European Commission, 2015; www.mpsr.sk, 2015; Erhart, 2013; Food today, 2013; www.goveco.sk, 2011):

- designations associated with the territory – Protected Designation of Origin (PDO), Protected Geographic Indication (PGI), which include agricultural products and foodstuffs, which are produced, processed and prepared in a given geographical area using recognised know-how, respectively agricultural products and foodstuffs closely linked to the geographical area (at least one of the stages of production, processing or preparation takes place in the area),
- designations concerning on the specific production process – Traditional Specialities Guaranteed (TSG), used also for labelling of agricultural products and foodstuffs. This quality label highlights the traditional character, either in the composition or means of production,
- designations concerning on the products of organic agriculture – Organic farming, which is a voluntary instrument of environmental policy

and standards in agriculture. The labelling of organic products is a guarantee of quality for consumers and producers. Logo of such products, placed on the single market of the EU Member States, is as a voluntary system used for the improvement of the visibility of organic food and beverages as well as of organic products for all consumers. Products labelled as organic are a guarantee because they are subject to strict rules of control and subsequent certification,

- outermost regions – products specific for the Azores, Canary Islands, French Guiana, Guadeloupe, La Réunion, Madeira and Martique.

Besides the above mentioned EU quality labelling scheme, the Member States may also use their own – National quality labels. In the case of V4 countries we can talk about the National quality labels shown in the Tab. I.

As it can be seen from the Tab. I, in the case of Slovak Republic we can talk about exactly four different forms of National quality labels – Quality Label “Značka kvality SK”, Quality Label “Značka kvality SK Gold”, Environmentally Friendly Product (Environmentálne vhodný produkt) and EKO agriculture (EKO poľnohospodárstvo). While the first two quality labels are used for the labeling of high and premium quality agricultural and food products and are awarded by the Ministry of Agriculture and Rural Development of the Slovak Republic, the other two quality labels are used for the labeling of products of ecological agriculture and are awarded by the Ministry of Environment of the Slovak Republic in collaboration with SEA (Slovak Environmental Agency) to products or services that comply with the specific conditions under Communications of the Ministry of the Environment of the Slovak Republic for the relevant product group (in the case of label Environmentally Friendly Product), respectively they are controlled by Naturalis SK, which is also a certification body (in the case of label EKO agriculture) (www.sazp.sk, 2014; www.naturalis.sk, 2014).

The Quality Label “Značka kvality SK”, which is also the object of the present paper, was for the first time awarded at the exhibition AGROKOPMPLEX 2004 in Nitra and it represents a guarantee of higher quality agricultural and food products produced

## I: National quality labels of V4 countries

V4 country	National quality label	Description of the National quality label
Czech Republic	<b>KLASA</b>	indicates the best quality food and agricultural products from the Czech Republic
	<b>Regional Food (Regionální potravina)</b>	food or agricultural product produced in the region, coming mainly from domestic sources
	<i>Czech Product (Český výrobek)</i>	guaranteed by Food Chamber of the Czech Republic. For the first time it was introduced on 11 <sup>th</sup> May 2011
	<b>Czech Bio label (Produkt ekologického zemědělství)</b>	product of organic farming, which is from the year 2005 guaranteed by the Ministry of Agriculture in participation with the Association of Organic Farmers PRO-BIO
Hungary	<b>Quality food from Hungary (Kiváló Magyar Élelmiszer)</b>	used for distinguishing of the top quality Hungarian food from other products and awarded to such products marketed in Hungary, which have at least one characteristic distinguishing it from other products
	<b>Quality Hungarian pork (Minőségi Magyar Sertéshús)</b>	awarded only to pork meat produced and processed in Hungary, while the share of domestic feed used on the fattening of the pigs must be min. 30%
	<b>Quality local food – Szekszárd and surroundings (Minőségi helyi élelmiszer – Szekszárd és vidéke)</b>	awarded to products originating from 26 areas in the region Tolna
	<b>Hungarian product (Magyar termék)</b>	awarded to products manufactured from raw materials and on the area of Hungary
	<b>Domestic product (Hazai termék)</b>	awarded to products manufactured in Hungary with min. 50 % share of the domestic, ie. Hungarian raw materials and components
	<b>Local processed product (Hazai feldolgozású termék)</b>	awarded to products refined in Hungary but imported from abroad
Poland	<b>Taste a great food (Poznaj dobra żywność)</b>	awarded only to products meeting the criteria laid down by the Commission for the quality of food products, composed of independent experts. Granted at the discretion of the Polish Minister of Agriculture and Rural Development since 1 <sup>st</sup> May 2004
Slovak Republic	<b>Quality label SK (Značka kvality SK)</b>	guarantee of the highest quality agricultural and food products
	<b>Quality label SK Gold (Značka kvality SK Gold)</b>	awarded to products with premium quality parameters
	<b>Environmentally Friendly Product (Environmentálne vhodný produkt)</b>	national eco-label, which is owned by the Ministry of Environment and has a public-law nature
	<b>EKO agriculture (EKO poľnohospodárstvo)</b>	refers to plant and livestock products produced in organic agriculture

Source: Velčovská and Del Chiappa, 2015; Nagyová, Košičiarová and Kádekóvá, 2014; www.sazp.sk, 2014; Vég, 2011; www.ekoporadna.sk, 2009; agrilife.jrc.ec.europa.eu, 2005

in Slovak Republic from domestic raw materials. Its aim is to inform the consumer about that, that the product marked with its logo (created in national colours – white, blue and red) fulfils all the quality requirements given by the Ministry of Agriculture and Rural Development of the Slovak Republic.

## MATERIAL AND METHODOLOGY

The aim of the present paper was to determine the Slovak consumer's opinion about the purchase and quality level of agricultural and food products produced in the Slovak Republic, as well as to determine their knowledge and preference of the National Quality Label "Značka kvality SK". In order to achieve the mentioned aim, as research methods, there have been used the methods of survey and structured questionnaire consisting of 22 questions formulated as closed, so that respondents (total number of respondents was 2.808 randomly selected respondents from all over the Slovak Republic, Tab. II) had the possibility to choose one, or more options.

The questionnaire was evaluated with the use of contingency tables, which were prepared by Excel, under which there were subsequently developed graphic representations. For a deeper analysis of the obtained results, there have been set out the following hypothesis:

1.  $H_{01}$  – there does not exist the dependence between buying the higher quality products and the category of respondents.  
 $H_{11}$  – there exists the dependence between buying the higher quality products and the category of respondents.
2.  $H_{02}$  – there does not exist the dependence between impulses leading the respondents to

the purchase of higher quality products and their category.

$H_{12}$  – there exists the dependence between impulses leading the respondents to the purchase of higher quality products and their category.

3.  $H_{03}$  – there does not exist the dependence between impulses leading the respondents to the purchase of higher quality products and their age.

$H_{13}$  – there exists the dependence between impulses leading the respondents to the purchase of higher quality products and their age.

4.  $H_{04}$  – there does not exist the dependence between the knowledge of Quality Label "Značka kvality SK" and the category of respondents.

$H_{14}$  – there exists the dependence between the knowledge of Quality Label "Značka kvality SK" and the category of respondents.

5.  $H_{05}$  – there does not exist the dependence between the knowledge of Quality Label "Značka kvality SK" and the respondent's age.

$H_{15}$  – there exists the dependence between the knowledge of Quality Label "Značka kvality SK" and the respondent's age.

6.  $H_{06}$  – there does not exist the dependence between the knowledge of the logo of Quality Label "Značka kvality SK" and the category of respondents.

$H_{16}$  – there exists the dependence between the knowledge of the logo of Quality Label "Značka kvality SK" and the category of respondents.

7.  $H_{07}$  – there does not exist the dependence between the knowledge of the logo of Quality

## II: Characteristics of respondents

Category of respondents	Number	Place of respondent's residence	Number
Male	1,404	City	1,333
Female	1,404	Village	1,475
Age structure of respondents	Number	Educational structure of respondents	Number
up to 25 years	118	Primary education	23
26–35 years	508	Secondary education without A level	
36–45 years	817	Secondary education	350
46–55 years	1,037	Higher education	1,265
56 and more years	328		1,170
Economic activity of respondents	Number	Net income of the family	Number
Student	259	up to 500 €	313
On maternity leave Unemployed	194	501–800 €	605
Employed	510	801–1,000 €	776
Pensioner	1,656	1,001–1,500 €	993
	189	1,501 € and more	121

Source: Results of the research

Label “Značka kvality SK” and the respondent’s age.

- H<sub>17</sub> – there exists the dependence between the knowledge of the logo of Quality Label “Značka kvality SK” and the respondent’s age.
8. H<sub>08</sub> – there does not exist the dependence between the situation that product was at same time labelled with Quality Label “Značka kvality SK” and label of European agricultural product quality policy and the category of respondents.
- H<sub>18</sub> – there exists the dependence between the situation that product was at same time labelled with Quality Label “Značka kvality SK” and label of European agricultural product quality policy and the category of respondents.
9. H<sub>09</sub> – there does not exist the dependence between the situation that product was at same time labelled with Quality Label “Značka kvality SK” and label of European agricultural product quality policy and the respondent’s age.
- H<sub>19</sub> – there exists the dependence between the situation that product was at same time labelled with Quality Label “Značka kvality SK” and label of European agricultural product quality policy and the respondent’s age.

To test the formulated hypothesis, there have been used the methods of Pearson’s chi-square test, Fisher’s exact test, Mann-Whitney U-Test and Cramer’s contingency coefficient.

## RESULTS AND DISCUSSION

The need to create a national program on the support of sale of good quality Slovak agricultural products and food has become actual in the end of the 90<sup>th</sup> years of the last century (Supeková, 2007).

Quality Label “Značka kvality SK” (Fig. 2) was introduced in the year 2004 with the aim to support the domestic food production in increasing competitive environment after the Slovak Republic’s joining into the European Union (www.znackakvality.sk, 2009). The logo of the Quality Label “Značka kvality SK” was originally made from 24 submitted proposals, while the name itself has pointed on the quality of the exact product with the reference to the origin. The colour composition was based on the “tricolour” of national colours

of Slovak Republic. The change was done in the year 2009 (www.mpsr.sk, 2009), while the basis remains the same – colour composition as well as the location of the designation “quality mark” remained unchanged, except that in the modified Quality Label “Značka kvality SK” are used more intense colours, the signing “quality food” is shown on the left hip of the brand and the labelling of the country of origin “Slovakia” is indicated by a new brand SK.

The Ministry of Agriculture and Rural Development of the Slovak Republic has started the program called “National program for the promotion of agricultural products and foodstuffs Značka kvality SK”, which’s aim was and still is to draw the attention of Slovak consumers on quality homemade food and facilitate them in their decision making in the purchase of wide variety of domestic and foreign food products, as well as to support the domestic traditional food production (www.znackakvality.sk, 2004; www.opotravinach.sk, 2015).

In the selection of food, which will be marked with the Quality Label “Značka kvality SK” is involved the Food Research Institute – before the granting, the food which has to be marked with this label has to pass a detailed analysis of whether they meet the established criteria; for example (www.aktuality.sk, 2014; www.mpsr.sk, 2013; www.znackakvality.sk, 2009):

- the high quality of products in the usage of domestic raw materials, in the maintenance of the declared technology process, parameters of quality and food safety,
- their composition must be at least 75 % of Slovak raw materials,
- all stages of the production process must take place in the Slovak Republic (with the exception of imported raw materials),
- products which have superior quality characteristics, e.g. their qualitative parameters considerably exceed the similar products on the market, based on a peer review and the recommendation of the committee get the Quality Label “Značka kvality SK Gold”, as well as the right to use the gold logo of the brand



2: The original and revised logo of Quality Label “Značka kvality SK” (rno.sk, 2013; www.teraz.sk, 2013)

that will represent the product with premium quality parameters,

- fresh fruit and vegetables must be of the same origin, variety or commercial type and uniform quality (extra or choice or I. Class) meeting the business quality standards such as quality standards ECE, specific regulations, or other quality standards in the case of products which are not the subject of any European or international trade standards
- their quality and security is controlled by the State Veterinary and Food Administration.

The request for awarding with this quality label cannot be made to the products as feed and other products, non packaged products (the manufacturer shall ensure the labelling of these products in a way which enables a clear indication of their connections with the manufacturer and the brand) and products whose name, trademark or method of sale are in conflict with the philosophy and objectives of the brand (www.znackakvality.sk, 2009). Awarding is traditionally held on the occasion of exhibitions Agrokomplex in Nitra and Danubius Gastro in Bratislava for the period of three years, to seasonal products on one year (www.opotravinach.sk, 2014).

The decision about the awarding of product is given by a professional commission, which is appointed by the Minister of Agriculture and Rural Development of the Slovak Republic, who based on the recommendation of the committee and up to the principles for assessing and qualifying grants the Quality Label to the producers (www.znackakvality.sk, 2009).

The exact development of the number of products and producers awarded with the Quality Label "Značka kvality SK" is shown on the Fig. 3, from which it can be seen that the number of awarded products and producers is from year to year changing – while in the year 2012 there were

awarded "only" 68 products and 21 producers, in the year 2013 these numbers increased up to 165 awarded products and 32 producers. The reason of this increase could be not just the higher number of applicants, but also the fact that from the year 2012 the Quality Label "Značka kvality SK" is widespread with a Quality Label "Značka kvality SK Gold", which is given to the products with premium quality parameters (www.znackakvality, 2009). The last awarding was held on 28<sup>th</sup> January 2016 on the occasion of exhibitions Danubius Gastro in Bratislava, where there have been awarded exactly 64 products and 21 producers with the Quality Label "Značka kvality SK" and 37 products and 14 producers with the Quality Label "Značka kvality SK Gold" (www.znackakvality.sk, 2016).

Quality Label "Značka kvality SK" is a guarantee of top quality agricultural and food products and it informs the consumer about that, that any product with this logo has met the requirements set out by the principles for assessing and qualifying of the brand, that the producer complies the declared technological process and higher quality parameters, which clearly differentiates these products from similar products on the market (www.mpsr, 2012).

Ministry of Agriculture and Rural Development of the Slovak Republic is, with the aim of making consumers aware that in addition to the flood of foreign products on the Slovak market, there can be found also good quality Slovak products and food, trying to promote the quality products through media and food exhibitions throughout Europe. This promotion is done since the 4<sup>th</sup> December 2004, when there has started a media campaign of Quality Label "Značka kvality SK", by launching of TV spots, advertisements, image adverts and billboards (strategi.hnoonline.sk, 2005; znackakvality.sk, 2004). This activity of course did not stop in that year and until now there have been done many of different



3: Development of the awarding of products and producers with "Značka kvality SK Gold"  
Source: own processing of the authors based on available information

III: *The pros and cons of the Quality Label "Značka kvality SK"*

Pros of the Quality Label	Cons of Quality label
Supports the healthy patriotism and consumer confidence Activates the producers to the competitiveness and inventions in production Helps the sellers to increase the attractiveness of products in the consumer purchasing decisions Contributes to the development of the domestic economy Contributes to the change of dietary habits towards to the food with added value	Lack of support in comparison with surrounding countries Interruption of marketing activities Underestimation of the marketing in the initial phase of graduating Lack of awarded products in the sales network Poorly informed staff in shops

Source: Nagyová, Košičiarová and Kádeková, 2014

communication supports in the form of TV and billboard campaigns, image adverts and interviews in magazines and monthlies, always actual web page, participation in domestic and international food fairs, as well as always actual facebook page of the Quality label.

To obtain the aim formulated in the part Material and Methodology, the questionnaire survey was realized in September – December 2015. As it can be seen from the Tab. II, the main groups of respondents were represented by people living in the village (52.53 % of respondents), people with the age between 46 and 55 years (36.93 % of respondents), employed (58.97 % of respondents), people with secondary education with A level (36.93 % of respondents) and net family income between 1.001 and 1.500 € (35.36 % of respondents).

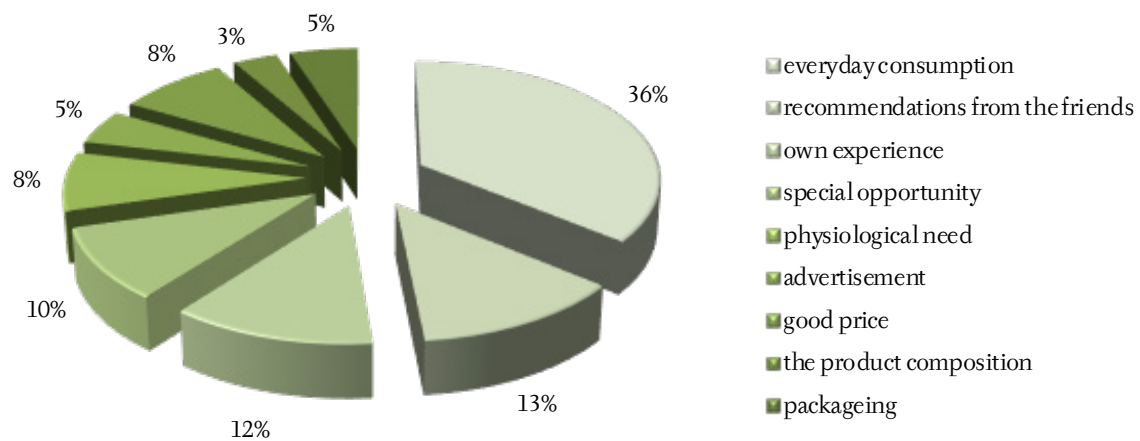
Up to the questions of factors leading to the purchase of food, the frequency of their purchase, as well as of the place of their purchase it can be stated that most of our respondents, exactly 35.82 % of them buy the food because of their everyday consumption, 41 % of them buy them for few times in a week and the mostly preferred place of their purchase is the supermarket, respectively the hypermarket (31.2 % of respondents and 29.17 % of respondents).

Because of the need to realize the Slovak consumer's opinion about their purchase and quality level of agricultural and food products produced in the Slovak Republic, in the questionnaire there were formulated not just the questions about the reading of information available on the exact product, but also the questions dealing with the mentioned issue. From their evaluation is clear, that most of our respondents, exactly 34.83 % of them, 29.97 % of them and 26.01 % of them track the information available on the package of the food products almost always, sometimes and mostly (Fig. 5), these respondents track mostly the information about the producer, composition and brand (32.12 %, 26.58 % and 24.71 % of respondents), further that 44.23 % of respondents (exactly 40.88 % of female and 47.58 % of male) think that they buy higher quality products, the majority of respondents (28.17 % of respondents and 21.39 % of respondents) think that the quality of agricultural and food products produced in the Slovak Republic is the rather higher quality and very high quality and 59.51 % of respondents think that the range available

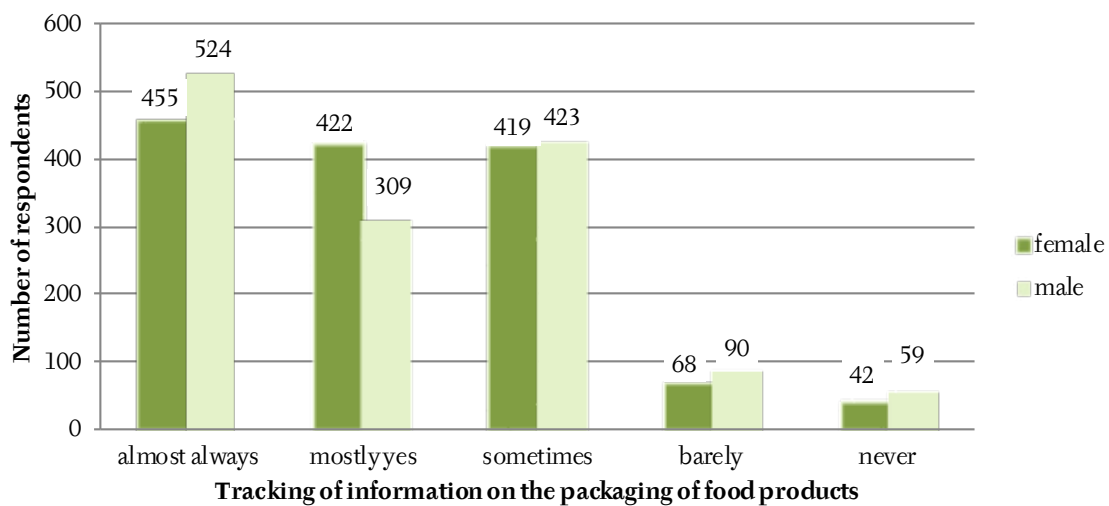
in retail chains make them possible to buy higher quality food.

Connected to the question dealing with the respondent's purchase of higher quality products, there has appeared also the question of the relationship between buying the higher quality products and the category of respondents (the first hypothesis formulated in the part Material and Methodology). The mentioned dependence respectively independence was tested with the use of Pearson's chi-square test and Cramer's contingency coefficient. Up to its evaluation it can be stated, that between the tested variables there exists a statistically very small dependence (the results of Cramer's contingency coefficient was equal to 0.020845), which can be seen also from the Fig. 6 – most of female (exactly 40.88 % of them), as well as of male respondents (exactly 47.58 % of them) think that they buy higher quality products.

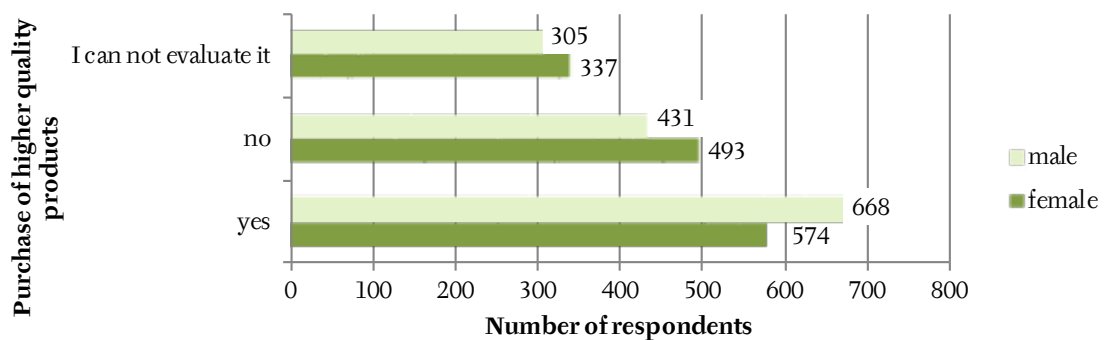
In the questionnaire, there were also formulated the questions of factors leading and discouraging the Slovaks to and from the purchase of higher quality products. While the majority of female respondents (60.89 % of them) stated that the most important factor in their purchase of higher quality products are their and their families health concerns and that the mostly discouraging factor in their purchase is the higher price of these products (51.74 % of them), the majority of male respondents (61.39 % of them) stated that they think that these products are better than other products and that the mostly discouraging factor in their purchase is their lack of awareness (58.25 % of them) (Fig. 7, 8). Up to the question of dependence respectively independence between the impulses leading the respondents to the purchase of higher quality products and their category (the second hypothesis formulated in the part Material and Methodology), as well as their age (the third hypothesis formulated in the part Material and Methodology), which was also tested must be stated that in the case of both tested relationships there exists some relationship, which in the case of first dependence (dependence respectively independence between the impulses leading the respondents to the purchase of higher quality products and their category) is unfortunately not statistically significant (in the case of Pearson's chi-square test the tested criterion was higher as the critical one –  $TC = 95.37 > CV = 9.488$ ; Cramer's contingency coefficient was equal to 0.031931;



4: Factors leading to the purchase of food.  
(Results of the research)



5: Tracking of information on the package of food products.  
(Results of the research)



6: The relationship between buying the higher quality products and the category of respondents.  
(Results of the research)

the critical value of  $U$  at  $p \leq 0.05$  was 2, which means that this relationship is at  $p \leq 0.05$  not significant) and in the case of second dependence (dependence respectively independence between the impulses leading the respondents to the purchase of higher quality products and their age) is statistically significant but still very weak (in the case of Pearson's chi-square test the tested criterion was higher as the critical one –  $TC = 652.99 > CV = 26.296$ ; Cramer's contingency coefficient was equal to 0.050069).

Last question connected with the issue of quality of products produced on the Slovak market was the question of that, which products are up to the Slovak respondents opinions the higher quality products. As it can be seen from the Fig. 9, the answers between the female and male respondents are not very different and most of respondents think that the products with higher quality are milk and dairy products (32.91 % of respondents), bread and pastry (20.55 % of respondents) and meat and meat products (18.56 % of respondents).

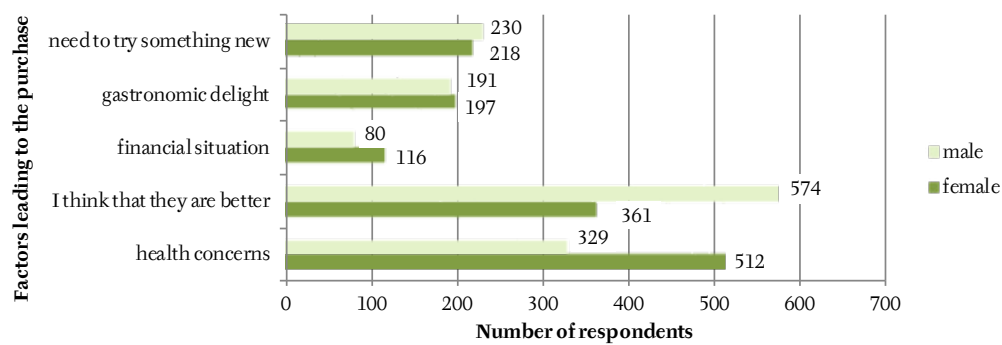
The second part of our questionnaire survey was aimed at realizing the level of knowledge and preference of National Quality Label "Značka kvality SK". This is why in the questionnaire there were formulated also the questions connected with the knowledge of Quality Label "Značka kvality SK", of the knowledge of its logo, of that if the sign of Quality Label "Značka kvality SK" is enough information about the quality of bought products, of appreciating of higher number of products marked with the Quality Label "Značka kvality SK", of known forms of communication support of Quality Label "Značka kvality SK", as well as of the situation of labelling one product with the Quality Label "Značka kvality SK" and at same time with the label of European agricultural product quality policy.

From the evaluation of above mentioned questions is clear, that the situation with the knowledge and preference of products labelled with the National Quality Label "Značka kvality SK" is on the Slovak market on a very good level – 58.21 % of respondents known the Quality Label "Značka kvality SK", 56.47 % of respondents could describe its logo, 30.84 % of respondents and 17.00 % of respondents would appreciate rather and exactly a higher number of products signed with this label and 29.56 % of respondents and 25.43 % of respondents have get in touch with the communicational support of mentioned Quality Label in the form of advertising spots on TV and advertising in printed medias. Connected with the questions of knowledge of the Quality Label "Značka kvality SK" and its logo, there have appeared also the questions of the dependence respectively independence between the knowledge of Quality Label "Značka kvality SK" and the category of respondents (the fourth hypothesis formulated in the part Material and Methodology), as well as their age (the fifth hypothesis formulated in the part

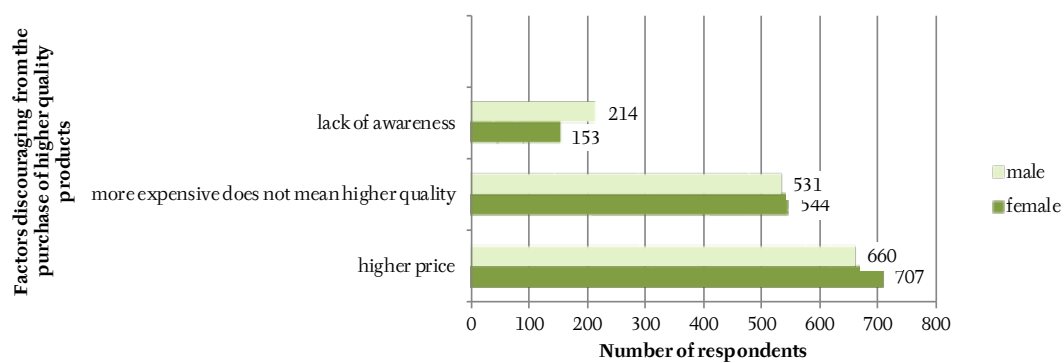
Material and Methodology) and the knowledge of the logo of Quality Label "Značka kvality SK" and the category of respondents (the sixth hypothesis formulated in the part Material and Methodology), as well as their age (the seventh hypothesis formulated in the part Material and Methodology). The mentioned relationships were evaluated with the use of methods of Pearson's chi-square test, Fisher's exact test, Mann-Whitney U-Test and Cramer's contingency coefficient.

The only dependence which was not confirmed was the relationship between the knowledge of Quality Label "Značka kvality SK" and the category of respondents (in the case of Pearson's chi-square test the tested criterion was smaller than the critical one –  $TC = 2.707 < CV = 3.841$ ; Cramer's contingency coefficient was equal to 0.015313 and the Fisher exact test's statistic value was 0.108016, which is at  $p \leq 0.05$  not significant). In the case of second (dependence respectively independence between the knowledge of Quality Label "Značka kvality SK" and the respondent's age) and fourth tested relationship (the knowledge of the logo of Quality Label "Značka kvality SK" and the respondent's age) we can talk about some relationship between the tested variables, which is unfortunately up to the result of Mann-Whitney's U-Test statistically not significant – in the case of Pearson's chi-square test the tested criterion was higher as the critical one –  $TC = 614.424 > CV = 9.488$  and  $TC = 105.904 > CV = 9.488$ ; Cramer's contingency coefficient was equal to 0.061321 and 0.02282; the critical value of  $U$  at  $p \leq 0.05$  was in both cases 2, which means that this relationship is at  $p \leq 0.05$  not significant. The only relationship, which was up to the results of Fisher's exact test statistically significant was the relationship between the knowledge of the logo of Quality Label "Značka kvality SK" and the category of respondents (in the case of Pearson's chi-square test the tested criterion was higher as the critical one –  $TC = 11.22 > CV = 3.841$ ; Cramer's contingency coefficient was equal to 0.02216 and the Fisher exact test's statistic values was 0.000924, which is significant at  $p \leq 0.05$ ), which can be seen also from the Fig. 10.

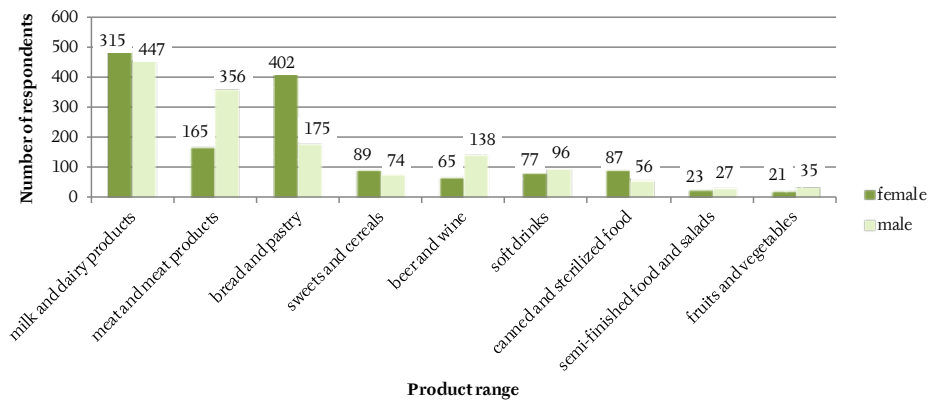
As it was mentioned above, in the year 2012 the Quality Label "Značka kvality SK" was widespread with a Quality Label "Značka kvality SK Gold". This is also the reason why in the questionnaire there were formulated the questions connected to this form of Quality Label. From their evaluation is clear, that while 39.67 % of our respondents know the Quality Label "Značka kvality SK Gold", only 29.33 % of them could spontaneously name five brands, respectively products marked with it. In the case of Quality Label "Značka kvality SK" the percentage was better – from the total number of 1.634 respondents who know the Quality Label "Značka kvality SK" exactly 60.67 % could spontaneously name five brands, respectively products marked with it. The rank of five most often mentioned products marked with



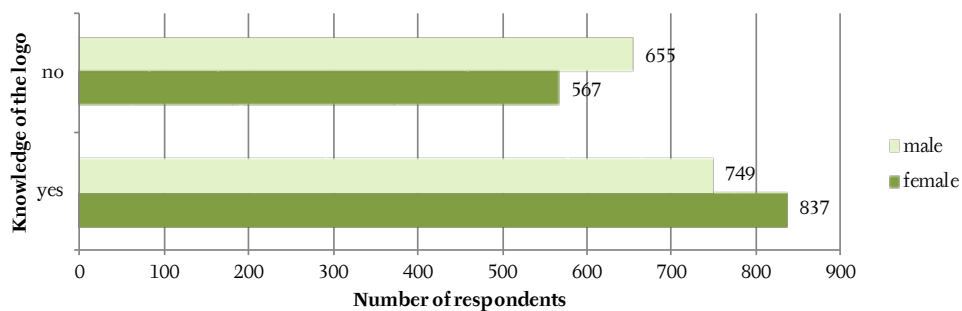
7: Factors leading to the purchase of higher quality products.  
(Results of the research)



8: Factors discouraging from the purchase of higher quality products.  
(Results of the research)



9: Products with higher quality.  
Results of the research)



10: Relationship between the knowledge of the logo of Quality Label "Značka kvality SK" and the category of respondents  
(Results of the research)

IV: The rank of five most often mentioned products marked with Quality Label "Značka kvality SK" and Quality Label "Značka kvality SK Gold"

Five most often mentioned products marked with Quality Label "Značka kvality SK"	Five most often mentioned products marked with Quality Label "Značka kvality SK Gold"
Rajo milk Rajo cream 33 % Ryba – cod Hyza – chicken Popradská kava	HSH – Royal chicken without giblets Dru – Tubes with hazelnut filling Považský cukor – crystal sugar HSH – Royal chicken legs Baron – sausage

Source: Results of the research

Quality Label "Značka kvality SK" and Quality Label "Značka kvality SK Gold" is shown in the Tab. IV.

The other two questions formulated in our questionnaire were aimed at the determination even Slovak respondents got in touch with the situation, in which one product was labelled not just with the Quality Label "Značka kvality SK" but also with the label of European agricultural product quality policy and if yes, with which label it was labelled. Up to the results of our research we can say, that only 39.57 % of our respondents have at the same time seen two different Quality Labels on one product and most of them, exactly 73.90 % of respondents (72.25 % of female and 76.42 % of male respondents), have seen that while the product was labelled with the Quality Label "Značka kvality SK", it was also labelled with the Quality Label "Protected Geographical Indication – PGI" (Fig. 11).

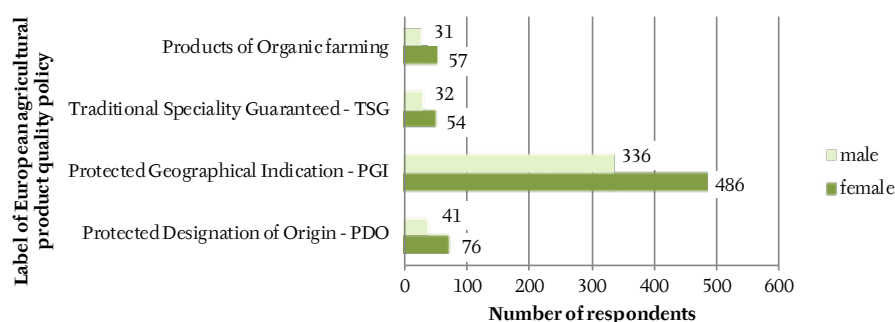
Connected with the above mentioned question, there were also evaluated the dependences respectively independences between the situation that product was at same time labelled with the Quality Label "Značka kvality SK" and label of European agricultural product quality policy and the category of respondents (the eight hypothesis formulated in the part Material and Methodology) and between the situation that product was at same time labelled with the Quality Label "Značka kvality SK" and label of European agricultural product quality policy and respondent's age (the ninth hypothesis formulated in the part Material and Methodology).

While the first dependence was tested with the use of Pearson's chi-square test, Fisher's exact test, and Cramer's contingency coefficient, the second one was tested with the use of Pearson's chi-square test, Mann-Whitney U-Test and Cramer's contingency coefficient. Up to the results of Pearson's chi-square test we can say that in both tested relationship the  $H_0$  hypothesis must be on the level of significance 5 % rejected and adopted must be its alternative  $H_1$  hypothesis talking about the dependence between the tested variables (the tested criterion was higher as the critical one in both cases –  $TC = 80.856 > CV = 3.841$  and  $TC = 631.724 > CV = 9.488$ ). Up to the results of Cramer's contingency coefficient, Mann-Whitney U-Test and Fisher's exact test we must say, that while in the case of dependence between the situation that the product was at same time labelled with

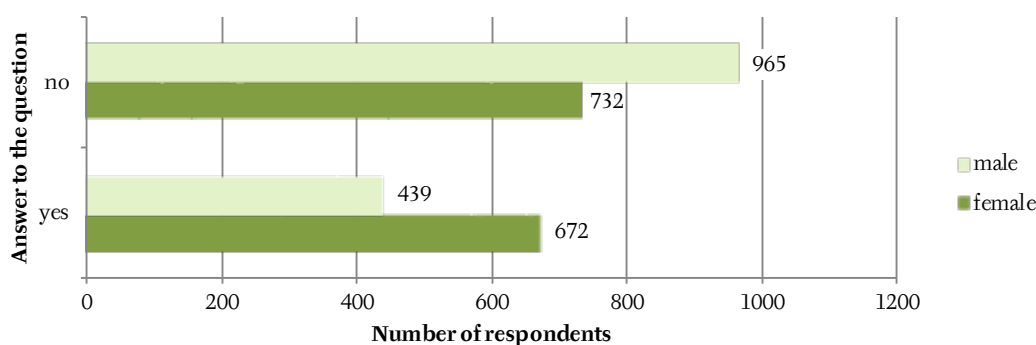
the Quality Label "Značka kvality SK" and label of European agricultural product quality policy and the category of respondents there exists a weak but statistically still significant relationship (Cramer's contingency coefficient was equal to 0.058674 and the Fisher exact test's statistic values was 0, which is significant at  $p \leq 0.05$ ), between the situation that the product was at same time labelled with Quality Label "Značka kvality SK" and label of European agricultural product quality policy and the respondent's age there exists only a weak relationship, which is statistically not significant (Cramer's contingency coefficient was equal to 0.073642, the U value was 10 and the critical value of U at  $p \leq 0.05$  was 2, which means that the result is at  $p \leq 0.05$  not significant).

The last two tested relationship can be seen also from the Fig. 12 and 13, from which is clear, that while mostly male respondents (60.49 % of them) have get in touch with the situation, in which one product was labelled not just with the Quality Label "Značka kvality SK" but also with the label of European agricultural product quality policy, in the case of the respondent's age category have with this situation get in touch mostly respondents in the age group between 26 and 35 years (35.16 % of them) and between 36 and 45 years (33.14 % of them), what to some extent confirms also to our previous findings which have been published in the year 2014 and where with the mentioned situation got in touch mostly female respondents (60.76 % of them) and respondents with age between 26 and 35 years (50.86 of them) (Nagyová, Košičiarová and Kádeková, 2014).

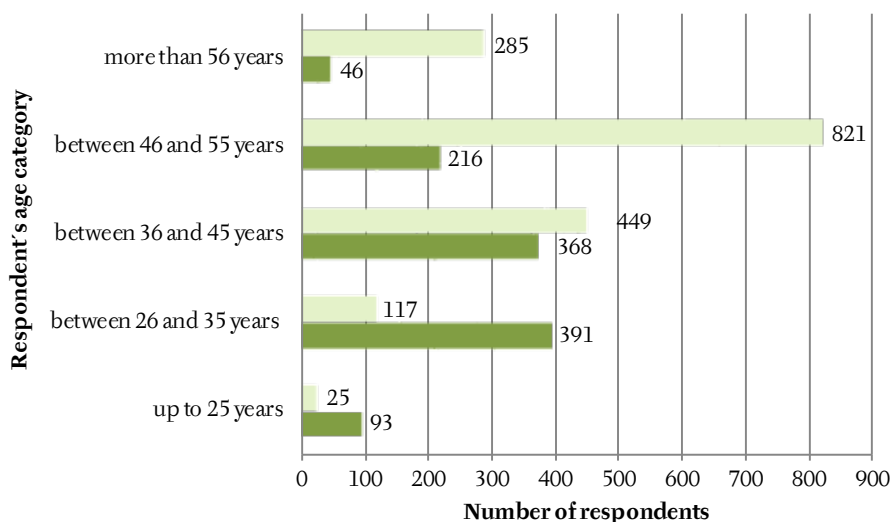
The last three questions formulated in our questionnaire survey were aimed at the determination even if the Slovak respondents buy also the products of ecological farming, which are the reasons of their purchase and even if they know the labels of ecological products produced in Slovak Republic. Up to the results of our research it can be stated that while almost 50 % of our respondents (exactly 49.73 % of them) buy also the ecological products and the most important reason why they do so is the better quality of these products, respectively their good previous experience (35.81 % and 27.7 % of respondents), only less than 10 % of them (exactly 9.54 % of respondents) know the labels Environmentally Friendly Product (Environmentálne vhodný produkt)



11: Label of European agricultural product quality policy.  
(Results of the research)



12: Relationship between the situation that product was at same time labelled with Quality Label "Značka kvality SK" and label of European agricultural product quality policy and the category of respondents.  
(Results of the research)



13: Relationship between the situation that product was at same time labelled with Quality Label "Značka kvality SK" and label of European agricultural product quality policy and the respondent's age.  
(Results of the research)

and EKO agriculture (EKO poľnohospodárstvo). The mentioned result is to some extent a shame because it can mean that our respondents buy mostly ecological products produced abroad and also labeled with a foreign labels of ecological products, respectively that this labels are still less promoted and only few of products produced by

ecological farming in the area of Slovak Republic are signed with them.

## CONCLUSION

The present paper was dealing with the issue of Slovak consumer's opinion about the purchase and quality level of agricultural and food products produced in the Slovak Republic, as well as with the determination of their knowledge and preference of the National Quality Label "Značka kvality SK". Up to the results of our own research we can say, that the situation on the Slovak market is pretty good – more than 44 % of respondents think that they buy higher quality products, more than 49 % of respondents think that the agricultural and food products produced in Slovak Republic are rather higher and higher quality, the most important factor which lead them to the purchase of higher quality products is the fact, that they think that these products are better (33.31 % of respondents), the most important factor which discourage them from the purchase of higher quality products is their higher price (48.66 % of respondents), the highest quality products are milk and dairy products (almost 33 % of respondents), bread and pastry (over 21 % of respondents) and meat and meat products (more than 18 % of respondents), more than 58 % of respondents know the Quality Label "Značka kvality SK", over 56 % of respondents could describe its logo, more than 60 % of respondents could spontaneously name five brands marked with this Quality Label, 47 % of respondents would appreciate a higher number of food signed with this label, over 39 % of respondents have at the same time seen two different Quality Labels on the one product, almost 50 % of respondents buy also the ecological products and the most important reason why they do so is the better quality of these products, respectively the good previous experience (more than 35 % and almost 28 % of respondents). Despite these really good results we must say, that there are still some reserves and ways how to raise the level of quality of Slovak products and the knowledge of the National Quality Label "Značka kvality SK". This is why we recommend the government and Ministry of Agriculture and Rural Development of the Slovak Republic, respectively the Ministry of Environment of the Slovak Republic to promote better not just the Quality Label "Značka kvality SK", but also the Quality Label "Značka kvality SK Gold" and the labels of Environmentally Friendly Product (Environmentálne vhodný produkt) and EKO agriculture (EKO poľnohospodárstvo), to increase the number of products labelled with the Quality Label "Značka kvality SK" and if it possible to increase also the number of products labelled with other Quality Labels used in the Slovak Republic, to introduce also new Quality Labels, like for example a Quality Label which will declare that the food is produced only from materials available in the given region, or in Slovak Republic, Quality Label which will be used for products from specific Slovak regions etc. Of course, there are also some recommendations also for the producers and retailers – to increase the quality of their products, so that they could be labelled with the Quality Label "Značka kvality SK" and Quality Label "Značka kvality SK Gold", respectively with the labels of Environmentally Friendly Product (Environmentálne vhodný produkt) and EKO agriculture (EKO poľnohospodárstvo), to promote more those products, which are now labelled with these marks, to decline their price, to bring more tastings of these products, so that the consumers will get more aware with them.

## Acknowledgement

The present paper is concerned on the detection of Slovak consumer's opinion about the purchase and quality level of agricultural and food products produced in the Slovak Republic, as well as to determine their knowledge and preference of the National Quality Label "Značka kvality SK", what is the extension of author's previous research, which was presented on the 19<sup>th</sup> International Conference Enterprise and Competitive Environment 2016, on 10–11 March 2016 in Brno, Czech Republic, as well as to some extent an extension of author's previous research, which was published in the year 2014 on the sample of 1.872 respondents.

## REFERENCES

- CENTRUM ROZVOJA ZNALOSTÍ  
O POTRAVINÁCH N.O. 2015. *Značka kvality SK*. [Online]. Available at: <http://www.opotravinach.sk/sciences/view/Značka%20kvality%20SK>. [Accessed: 2015, December 28].
- Čo je politika kvality? 2015. [Online]. Available at: <http://www.mpsr.sk/politikakvality/index.php?go=1>. [Accessed: 2015, December 28].
- Eko-značky. 2009. [Online]. Available at: <http://www.ekoporada.sk/poradca-ekospotrebitela/environmentalne-nakupovani%20e/48-ekoznacky.html>. [Accessed: 2016, May 10].
- Environmentálne vhodný produkt "EVP". 2014. [Online]. Available at: <http://www.sazp.sk/public/index/go.php?id=1571>. [Accessed: 2015, December 28].
- ERHART M. 2013. The EU agricultural quality policy: opportunities and perspectives. In: *European Flour Millers Conferences 2013*. [Online]. Brussels, 16. 05. 2013. Available at: [http://www.flourmillers.eu/uploads/Michael\\_Erhart\\_DGGAGRI\\_Flour\\_Millers.pdf](http://www.flourmillers.eu/uploads/Michael_Erhart_DGGAGRI_Flour_Millers.pdf) [Accessed: 2015, December 28].
- EUROPEAN COMMISSION. 2007. *European policy for quality agricultural products*. [Online].

- Available at: [http://www.seerural.org/wp-content/uploads/2009/05/02\\_EUROPEAN-POLICY-FOR-QUALITY-AGRICULTURAL-PRODUCTS.pdf](http://www.seerural.org/wp-content/uploads/2009/05/02_EUROPEAN-POLICY-FOR-QUALITY-AGRICULTURAL-PRODUCTS.pdf) [Accessed: 2015, December 28]
- EUROPEAN COMMISSION. 2015. *EU agricultural product quality policy*. [Online]. Available at: [http://ec.europa.eu/agriculture/quality/index\\_en.htm](http://ec.europa.eu/agriculture/quality/index_en.htm). [Accessed: 2015, December 28].
- EUROPEAN COMMISSION. 2015. *Geographical indications and traditional specialties*. [Online]. Available at: [http://ec.europa.eu/agriculture/quality/schemes/index\\_en.htm](http://ec.europa.eu/agriculture/quality/schemes/index_en.htm). [Accessed: 2015, December 28].
- FOOD TODAY. 2013. *Quality logos in the European Union*. [Online]. Available at: <http://www.eufic.org/article/en/artid/Quality-logos-in-the-European-Union/>. [Accessed: 2015-12-23].
- Geographical indications and traditional specialties*. 2016. [Online]. Available at: [http://ec.europa.eu/agriculture/quality/schemes/index\\_en.htm](http://ec.europa.eu/agriculture/quality/schemes/index_en.htm). [Accessed: 2016, May 11].
- Logo. 2015. [Online]. Available at: [http://ec.europa.eu/agriculture/organic/downloads/logo/index\\_en.htm](http://ec.europa.eu/agriculture/organic/downloads/logo/index_en.htm). [Accessed: 2016, May 11].
- Marketingová kampaň "Značka kvality" rok 2004. 2004. [Online]. Available at: <http://www.znackakvality.sk/index.php?choice=6&uid=3>. [Accessed: 2016, May 10].
- Mediálna kampaň Značky kvality pokračuje. 2005. [Online]. Available at: <http://strategie.hnonline.sk/spravy/marketing/medialna-kampan-znacky-kvality-pokracuje>. [Accessed: 2016, May 10].
- NAGYOVÁ, Ľ., KOŠIČAROVÁ, I. and KÁDEKOVÁ, Z. 2014. *Značka kvality: garancia kvality potravín na národnej úrovni krajín EÚ*. Nitra: SPU.
- Quick scan of the food supply chain dynamics, labelling and certification schemes and policies, rules and regulations in the selected EU country. 2005. [Online]. National Report, Poland. European Commission. Available at: [http://agrilife.jrc.ec.europa.eu/documents/NationalreportPL\\_000.pdf](http://agrilife.jrc.ec.europa.eu/documents/NationalreportPL_000.pdf). [Accessed: 2016, May 10].
- Národný program podpory domácich poľnohospodárskych výrobkov a potravín. 2004. [Online]. Available at: <http://www.znackakvality.sk/index.php?pl=7&mid=1>. [Accessed: 2016, December 29].
- Národný program podpory poľnohospodárskych výrobkov a potravín Značka kvality SK. 2004. 2009. [Online]. Available at: <http://www.znackakvality.sk/index.php?pl=7&mid=1>. [Accessed: 2015, December 28].
- Nové logo Značky kvality SK. 2009. [Online]. Available at: <http://www.mpsr.sk/index.php?navID=59&id=1558>. [Accessed: 2016, May 11].
- Označovanie ekologických produktov v poľnohospodárstve. 2011. [Online]. Available at: <http://www.go-eco.sk/userfiles/file/6%20Oznacovanie%20eko%20produktov%20v%20polno%20hospodarstve.pdf>. [Accessed: 2016, May 11].
- Politika kvality Európskej únie. 2011. [Online]. Available at: <http://www.euroinfo.gov.sk/politika-kvality-europskej-unie/>. [Accessed: 2016, May 11].
- Pravú Značku kvality SK môžu získať slovenskí výrobcovia už počas celého roka. 2013. [Online]. Bratislava: MPVR SR. Available at: <http://www.mpsr.sk/sk/index.php?start&language=sk&language=sk&navID=1&id=7535>. [Accessed: 2015-12-27].
- SUPEKOVÁ, S. 2007. *Značka kvality SK. Trendy v potravinárstve*. [Online]. Bratislava: Výskumný ústav potravinársky. Available at: <http://www.znackakvality.sk/doc/ts24072007.pdf>. [Accessed: 2015, December 28].
- Try Fine Food picnic: family Polish food festival. 2014. [Online]. Available at: <https://www.premier.gov.pl/en/news/news/try-fine-food-picnic-family-polish-food-festival.html>. [Accessed: 2016, May 11].
- Udeľovanie nových ocenení ZNAČKA KVALITY SK a ZNAČKA KVALITY SK GOLD. 2013. [Online]. MPVR SR, © 2009. Available at: <http://www.znackakvality.sk/?pl=10&uid=157>. [Accessed: 2016, May 11].
- Udeľovanie nových ocenení ZNAČKA KVALITY SK a ZNAČKA KVALITY SK GOLD. 2014. [Online]. MPVR SR, © 2009. Available at: <http://www.znackakvality.sk/?pl=10&uid=160>. [Accessed: 2016, May 11].
- Udeľovanie nových ocenení ZNAČKA KVALITY SK a ZNAČKA KVALITY SK GOLD. 2015. [Online]. MPVR SR, © 2009. Available at: <http://www.znackakvality.sk/?pl=10&uid=170>. [Accessed: 2016, December 29].
- Udeľovanie nových ocenení ZNAČKA KVALITY SK a ZNAČKA KVALITY SK GOLD. 2016. [Online]. MPVR SR, © 2009. Available at: <http://www.znackakvality.sk/?pl=10&uid=174>. [Accessed: 2016, May 11].
- VELČOVSKÁ, Š., DEL CHIAPPA, G. 2015. The Food Quality Labels: Awareness and Willingness to Pay in the Context of the Czech Republic. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 63(2): 647–658.
- VÉGH, K. 2011. Impact of the "Quality Food from Hungary" brand on the competitiveness of Hungarian food industry. *Journal of Economics and Business Research*, 1: 77–94.
- Zásady posudzovania a udeľovania Značky kvality SK na poľnohospodárske produkty a potraviny. 2009. [Online]. Available at: <http://www.znackakvality.sk/?pl=1>. [Accessed: 2016, May 11].
- Značka kvality SK a Značka kvality SK GOLD na pultoch predajní Coop Jednota. 2014. [Online]. Available at: <http://www.aktuality.sk/clanok/266843/znacka-kvality-sk-a-znacka-kvality-sk-gold-na-pultoch-predajni-coop-jednota/>. [Accessed: 2016, December 29].
- Značka kvality Sk... budúcnosť slovenských potravín. 2009. [Online]. Available at: <http://www.znackakvality.sk/index.php?pl=17>. [Accessed: 2015, December 28].