# ORGANIC PRODUCT LABELLING: CONSUMER ATTITUDES AND IMPACT ON PURCHASING DECISION

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Abstract: The objective of this research is to analyse attitudes of the consumers towards the organic products and to determine the level of confidence they have towards the legally established label for organic products. A large number of studies have shown that when buying, consumers usually opt for a product with a trademark that guarantees a certain quality. We used questionnaires designed specifically to obtain customer-level data in order to evaluate their attitudes towards organic products and labelling. Having in mind identified constrains and literature review, we structured questionnaires to test their opinion about organic food, basic criteria when opting for groceries and are they willing to pay more for the organic products. Survey results show that consumers in Serbia have awareness of the importance of healthy eating habits and they are ready to allocate more money to buy organic products due to their quality, safety and nutrition. Their basic criteria when opting for groceries is food composition, followed by recommendation and price.

**Keywords**: consumer attitudes, organic products, organic production, organic certification process, national organic label

#### 1. INTRODUCTION

Recent years brought environment preservation in the focus, stressing out concerns about food safety and intensive development of organic production and new alternative ways to produce healthy, safe and environmentally friendly products. Organic products have a number of advantages in terms of their wellbeing and absence of numerous harmful chemicals that are widely used in conventional production. In addition, the negative impact on the environment has been minimized. The organic products do not contain substances that are harmful to health - pesticides, heavy metal residues, hormones and other veterinary preparations, mycotoxins, synthetic additives or genetically modified organisms.

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Another aspect of organic production put points out that the products are produced in accordance with the basic laws of nature, in harmony with the flora and fauna, compliant with climatic conditions and as such have the vitality that primarily has a positive impact on the consumer. This sustainable production system does not pollute the environment. Synthetic protective agents and artificial fertilizers are not used, animal breeding takes place in a way that contributes to the well-being of animals themselves and enables the production of far more secure products of animal origin for consumers. During production, priority is given to renewable energy sources and the use of energy is minimized during production and processing.

Organic production is a legally regulated and includes the control and certification process from the farm to the market (FAO, 2011). It is a complex, strictly controlled production system that operates under the defined rules of IFOAM (the International Federation of Organic Agriculture Movements), which every country adapts specifically to its conditions and specificities of the local market and then regulates it. There are a number of conditions that each producer must fulfill in terms of the use of the law of the foreseen techniques and resources in order to carry out organic agricultural production. This fully controlled production is regulated in the Republic of Serbia by the Law on Organic Production (Sluzbeni glasnik RS", No.30/10,07.05.2010).

#### 2. THEORETICAL BACKGROUND

The intensive expansion of areas under organic crops reflects the importance of organic production. According to the latest data from the Organic Monitor, it is estimated that the global organic product market has reached 75 billion euros in 2015, with the US as a leading market (35.9 billion euros), followed by Germany (8.6 billion euros), France (5.5 billion) and China (EUR 4.7 billion). Switzerland, on the other hand has the highest organic products consumption of 262 EUR per capita in 2015 according to FiBL (www.fibl.org). There are a number of factors that influence consumer decision to buy organic products: availability, price, perceived quality, family reasons, political/ethical issues, health problems (Hjelmar, 2011). Organic barometer study conducted in Switzerland showed changes in organic demand trends for the first time in 2015: 608 consumers participated in the research, 11% of them are already buying organic products, 28% often buy organic products and 43% buy organic products only occasionally. All three groups of respondents intend to buy more organic products in the future. The most important motive for the purchase of organic products is the "avoidance of pesticide residues in food", "contribution to environmental protection" and "natural production/foods with less additives and processing" (FiBL, 2016).

On a global scale, organic production is interesting and important because it protects natural resources from pollution and preserves biodiversity. Also, it provides long-term maintenance and enhancement of soil fertility. At the country level, it can ensure sustainable socio-economic rural development, while at the consumer level, organic production provides safety (Ljumović, Lečovski-Milojkić, 2015a). Developing and transitional countries with optimal environmental conditions in rural areas have the opportunity to increase their supply of organic products on international market and thus boost profit without compromising the environment with dirty technologies, typical of these countries (Ljumović et. al, 2015). According to FiBL's available data from 2014, 43.7 million hectares of agricultural land is under organic production (including areas in the period of conversion). Almost 1% of the agricultural land in the world is under organic production, where 40% of total organic areas are in Australia and Oceania, 27% are in Europe, 15% in Latin America, 8% in Asia, North America 7% and only 3% in Africa (FiBL, 2016).

In Serbia about 2,000 producers are engaged in organic production, with about 15,000 ha under organic crops and a tendency of growth due to increasing demand for organic products on both domestic and foreign markets. According to the data from 2015, area under organic production reached 0.44% of total agriculture land, which is lower than the average in the EU (data from 2013 show, there was about 5.4% of land under organic crops in the EU, www.pks.rs). Organic production in Serbia is regulated since 2000 and the regulations are harmonized with EU regulations. The possession of the organic certificate enables producers to access the organic products market and provides consumers with security when buying. The process of obtaining the certificate is extremely rigorous, long-term and costly. However, with the acquisition of certificate, customers get certain security in product quality and producers can sell their products at a significantly higher price, which can lead to a rise in the profitability. In order to distinguish the organic from conventional products, they must be marked with a specific label, each country defining its own. During the 2006 in Serbia the Ministry of Agriculture, Forestry and Water Management prescribed the appearance and content of the label for the certified organic product and the label for the product from the period of conversion: "Organic products that are placed on the market shall be declared in accordance with special regulations governing organic production and labeling and advertising of food. The product from the conversion period, which implies the time period prescribed for the transition to the organic production system for a period of 1 to 3 years, also have its mark, prescribed by law" (Službeni glasnik RS, No.88/16, 28 October 2016). Both marks are displayed at Figure 1.

Figure 1: The national organic label for the products from the conversion period (right) and the sign of organic products (left)



The official EU logo for the labeling of organic products, known as Euroleaf (Figure 2), was introduced in July 2010. If used, this product must be legally qualified as organic and fully compliant with the conditions and regulations for the organic sector established by the EU. For processed products, this means that at least 95% of ingredients are of organic origin. Imported organic products have a label prescribed by the country in which they are produced, as well as a sign for organic products used in the Republic of Serbia.

Figure 2: Euroleaf - the official EU logo for the labelling of organic products



Certification and control process provide security for producers in terms of protection against unfair competition which attempts to manipulate certain labels and words in names of their products and often misleads buyers in terms of the quality of their products. The names of some products contain the prefix "bio", "eco", "organic" even if they have not actually passed through the process of control and certification or produced according to the principles of organic production. The consumers can be sure that the products labeled as organic have been produced under rigorous control which is constituted by the law that can confirm that the product is coming from controlled organic production system.

#### 3. LITERATURE REVIEW

Consumers opt for the purchase of organic products for several reasons - because organic production uses less pesticides and fertilizers, it is considered to be less environmentally damaging and there are also health reasons (Van Doorn & Verhoef, 2011). Many studies show that health and nutrition aspects are the most important factors affecting the procurement of organic food (Honkanen et al., 2006). In addition to health reasons, motives for buying and consuming organic food are ethic (animal welfare or environmental protection), quality (taste) and national origin (Hjelmar, 2011). On the other hand, when it comes to producing organic products, profitability is one of the basic criteria that agricultural producers take into account when deciding on a particular type of production. However, the number of producers, who, in addition to profitability, also require quality, safety and environmental protection is increasing (Lečovski-Milojkić, 2015). Recent research showed that it is possible to achieve profitability of agricultural production with respect to the organic principles. Analysis of organic soybean production pointed out that it is possible to achieve profitability and at the same time realize the benefit to the society as a whole (Ljumović, Lečovski-Milojkić, 2015b). The promotion of the use of organic products could be enhanced by introducing additional content at the organic farms, such as accommodation, food and beverage, natural tours, horse riding or even offer volunteering on organic farms in exchange for accommodation and food. Serbia has a big potential in terms of development of organic/eco tourism, due to the large number of protected resources, natural areas, national parks, reserves, monuments and a large number of protected plant and animal species. Since organic food has gained an increasing popularity worldwide including Serbia recently, there is the trend of increase of the cultivated land area under the organic production (Ljumović, Lečovski-Milojkić, 2015a). Promotion of organic products and rural tourism can also enhance entrepreneurship (especially female entrepreneurship), creation of new jobs and decrease of unemployment and also development of rural areas (Radović, Radović-Marković, 2017).

In Denmark, organic food consumption has become standard - organic food purchases are normal for Danish consumers - only 8-9% of them have never bought organic food (Kjaernes & Holm, 2007). Research related to the definition of a typical organic food buyer has shown that "an organic consumer is a mature woman with children living at home" (Hughner et al., 2007). In China, known for a large number of scandals in the food industry, a study was conducted as part of the Food Integrity project by FiBL, which showed that the official organic label presence on products can contribute to the growth of organic food consumption and growing confidence in the quality of organic food, especially for consumers who

had at least one negative experience with the purchase of fake products (FiBL, 2016). Labels are worth the measure in which they help to consolidate the long-term commitment of the consumer who is affiliated with the company-producer trademark owner and create a positive image (Simin & Janjušič, 2014). Over the years, most consumers have realized that their shopping habits have a direct impact on many environmental problems (Laroche et al., 2001). The diffusion of labeled, branded and certified food consumption is a major trend that is a consequence of changing consumer attitudes towards health and food safety (Stojković et al., 2011). An latest research on food safety in Serbia shows that respondents are in average not sure whether they have reasons to be optimistic or pessimistic (Domazet, Đokić, 2018).

The labeling of organic products does not only benefit consumers, but also sells organic products. Organic labeling allows organic producers to achieve greater negotiation power over retailers and thus to achieve greater market share (Bonnet & Bouamra-Mechemache, 2016). The most important organic food markets are USA, Canada, Europe (the largest organic food markets are Germany, Great Britain, Italy and France) and Japan (Paraušić et al, 2008). The total sales of organic products - food, bedding, pillows, clothing and tobacco - in the United States increased by as much as 83% between 2007 and 2012 (Cohrssen & Miller, 2016). The organic food market is moving towards increasing consumer attention on environmental and animal welfare issues, thanks to the large coverage of the media and the increasing awareness of the consequences of environmental pollution, global warming and the use of natural resources (Van Doorn & Verhoef, 2011). In Japan, consumers are willing to pay a 10% higher price for organic than conventional products that do not have a specific label, indicating the possibility of making a significant profit margin for organic producers and retailers (Kim et al, 2008). Producers, processors, exporters and even organic food businesses have to pass through the process of certification. Authorized organizations control production processes and services in terms of their compliance with defined standards. Inspection and certification (the certificate is valid for a period of one year, followed by a re-check of all the factors stipulated by the Law and, if fulfilled, the produces gets extension of the certificate) are the only guarantee to the consumer that the organic product is produced according to all criteria and standards of organic agriculture (Paraušić et al., 2008). Research conducted in the United States, Great Britain, Denmark and Sweden show that trust in the organic label is greatest in countries with a significant country participation, which suggests that governments can influence the growth of green consumerism through active and significant inclusion in eco and organic labeling (Sonderskov & Daugbjerg, 2010).

#### 4. DATA ANALYSIS AND RESULTS

The aim of this paper is to research the attitudes of consumers towards organic products and the trust they give to the legally prescribed label for organic products on the market of the Republic of Serbia. This research uses questionnaires designed specially to obtain customer-level data in order to evaluate their attitudes towards organic products and labelling. Having in mind identified constrains and literature review, we structured questionnaires that we used in the research. The survey was conducted at the end of 2016 and the beginning of 2017, with 124 respondents older than 18 years. The survey was anonymous distributed via social networks and in direct contact with respondents. Questions included were stipulated in a way that allows statistical analysis. The questionnaire consisted of two parts. In the first part, respondents gave answers to the questions that determined their basic characteristics and identity. The second part of the questionnaire contained questions used to test their opinion about organic food and basic criteria when opting for groceries. We also tested whether consumers are willing to pay more for the organic products. Last part of the questionnaire tested the connection between organic labelling and confidence in grocery purchasing. Each question in questionnaire is given with concise explanation, in order to eliminate possible errors and ambiguities. Data analysis was performed using MS Office Excel and SPSS.

In the first part of the questionnaire, respondents were asked to give basic information such as age, gender, level of education, occupation, number of household members, monthly earnings per household member. The results are shown in Table 1. The largest number of respondents belongs to the age group of 20-35 years (64.51%), 19% of the respondents are under the age of 20, 8.87% are aged 51-65 and 0.81% are older than 65 years old. Around 46% of the respondents have secondary education, while the respondents with the university degree constitute 43.44% of the sample, 9.01% with a master's degree or doctorate. Majority of the respondents (76.61%) live in Belgrade, 10.48% in a city with a population less 100.000, 3.23% in cities with a population more than 200.000, while other places of residence make up 9.68%. Most of the samples are students (43.9%), 38.21% are employed, 12.20% are unemployed. The largest number of respondents (38.71%) live in a four-member family, respondents whose family has more than 4 members make up 21.77% of the sample, 18.55% of the respondents come from two-member families and 7.26% of the respondents with one member. Monthly income per household member up to 40,000 dinars is 39.03%, from 40,000 to 70,000 dinars is 33.33%, from 70,000 to 100,000 8.94% and more than 100,000 per household member 18.70%. 49.17% of respondents come from families with children and 51.83% are from families without children.

Table 1: Frequencies of the basic characteristics of the sample

Question	Available answers	Frequency	Percent
Gender:	female	90	72.60%
	male	34	27.40%
Age:	less than 20 years old	24	19.35%
	20-35	80	64.51%
	36-50	11	8.87%
	51-65	8	6.45%
	65 or more	1	0.81%
Education	primary school	2	1.64%
	secondary school	56	45.90%
	University degree	53	43.44%
	master degree/doctorate	11	9.01%
Place of living	Belgrade	95	76.61%
	city with a population more than 100,000	4	3.23%
	city with a population less than 100,000	13	10.48%
	other	12	9.68%
Occupation	student	57	46.34%
	employed	47	38.21%
	unemployed	15	12.20%
	other	4	3.25%
Household members	1	9	7.26%
	2	23	18.55%
	3	17	13.71%
	4	48	38.71%
	more than 4	27	21.77%
Monthly income per	up to 40,000 RSD	48	39.03%
household member	40,000-70,000 RSD	41	33.33%
	70,000-100,000 RSD	11	8.94%
	more than 100,000 RSD	23	18.70%
Family	with children	59	49.17%
	without children	61	50.83%

Source: Authors own calculation based on the survey

The second part of the survey referred to the basic knowledge that the respondents have on organic products, leaving the possibility of defining organic products. This question was intentionally left as open one, since we wanted to determine what associates them to organic products and to check later the compliance of their answers (we asked them the similar question with with and we defined answers). Most frequent responses were healthy, not contaminated/treated with chemicals/pesticides, without additives, chemistry, produced in the old fashioned way, safe, delicious, eco, special conditions for production/controlled food production, produced by respecting certain principles of organic production. It is interesting that a lot of respondents tied organic products to a food without

genetically modified organisms. On the other hand some of the respondents connect organic food with words such as expensive, too expensive, hardly accessible, not necessary, current trend. The same trend was determined when they were asked this same question with pre-defined answers.

Consumer preferences depend on a large number of factors that can be extremely variable among consumers. As much as 85.4% of respondents think that food is not safe today. However, only 1% of respondents expressed health concern in each grocery purchase, 54.9% of them occasionally express concern about purchases, while 13.8% of respondents do not express their concern about food purchases. The majority of respondents trust the information and recommendations obtained from family and friends 66.6%. Higher level of importance as a source of information have consumer protection and organic associations, together constituting 16.2%. Most dominant criteria for the selection of food is composition of the groceries, 34.1% of the respondents opted for that, 22.8% of respondents select products based on the recommendation, 14.6% take the price as the basic criterion in the selection of food, 10.6% of the respondents as the selection criterion takes the origin of the food, the fact that the product is from ecological production selected only 7.3% of the respondents, 3.3% of the respondents believe in the brands and the same percentage of the respondents has the confidence in the recommendation, composition and origin. The stamp and the trademark as the criterion for the selection of groceries has the smallest number of respondents, only 2.5% of the sample. However, when respondents evaluated the organic product mark in terms of their safety, quality and safety credentials, 27.7% rated the maximum score (grade 5), while 10.1% of the respondents rated the lowest score. Majority or respondents declared that they read the declaration on product occasionally 41.5%, and together with those who do read the declaration more than 75% are interested in the content of food products they buy. It is interesting that respondents identified the usage of genetically modified organisms as the biggest threat when buying food products (36.6%). Expiration data presents another big threat (29.3%), while 23.6% of respondents identified usage of additives/preservatives as the biggest threat. Altogether, more than 70% of risks comes from the factors that are eliminated in organic production. Detail results from the survey regarding the basic criteria when opting for food products are presented in Table 2.

Table 2: Survey results related to the basic criteria when opting for groceries

Question	Answer	Frequency	%
Do you think that the food	yes	18	14.6
you consume is safe?	no	105	85.4
Do you have concerns when	yes	39	31.7
buying food	no	17	13.8
	sometimes	67	54.5
When it comes to information	recommendation of family and friends	82	66.6
about safety and quality of	the media	4	3.2
food you trust which sources	consumer protection associations	10	8.1
	information provided by the manufacturer	9	7.3
	ministry in charge	2	1.6
	organic associations	10	8.1
	internet	1	0.8
	other	5	4.1
Please state criteria when	recommendation	28	22.8
opting for groceries	packaging / design	4	3.3
	trademark	3	2.4
	composition	42	34.1
	price	18	14.6
	brand	4	3.3
	ecological production	9	7.3
	origin	13	10.6
	other	2	1.6
Do you read the declaration	Yes	43	35
on food products	No	29	23.6
	Sometimes	51	41.5
What is the biggest risk when	expiration date	36	29.3
buying food products	pesticide residues in foods	9	7.3
	additives/preservatives	29	23.6
	genetically modified organisms	45	36.6
	other	4	3.3

Source: Authors own calculation based on the survey

Respondents also gave answers related to organic production. Most of them 81.3% considers that they do not have enough information about organic products. They connect organic products with the same things they identified when asked to define organic production. Organic product are identified as healthy (52%), ecological (21.1%) and safe (11.4%). Most of the respondents (almost 50%) buy organic products sometimes, while there is 8.9% or regular buyers. When asked if and how much money would they allocat for the purchase of organic products if they were sure that this product was better, healthier, safer, more nutritious, 56.7% of respondents stated that they would be willing to pay up to 30% higher price for such a product, 14.2% of respondents are ready to allocate 50% more money and 5% of respondents are willing to pay 100% higher price. When opting for organic

groceries, 10% of respondents stated that they would certainly choose organic product at any price while 12% of respondents would not be willing to allocate more money for an organic product.

Table 3: Survey results related to attitude about organic food

Question	Answer	Frequency	%
Do you think you have	yes	23	18.7
enough information about	no	100	81.3
organic products			
Your association for the term	ecological	26	21.1
organic is	healthy	64	52
	quality	6	4.9
	safe	14	11.4
	expensive	11	8.9
	other	2	1.6
Do you buy organic products	yes	11	8.9
	often	11	8.9
	sometimes	60	48.8
	not	18	14.6
	do not pay attention to whether the food I buy	23	18.7
	is organic or not		
Would you pay more for organic products	not	18	14.6
	yes, I'm ready to pay the price up to 30%	70	57
	yes, I'm ready to pay the price higher than 50%	17	13.8
	yes, I'm ready to pay the price higher than 100%	6	4.9
	Yes, I would pay for any price for organic products	12	9.8

Source: Authors own calculation based on the survey

In the last part of the survey, respondents were shown signs that are found on certain food products that are usually found in the "healthy food" departments in Serbian grocery shops. These are labels on products that can be classified in the broadest category of "healthy", such as the green apple label, including, among others, the logo of organic products. The respondents have answered to what extent each of these signs gives them confidence in purchasing food, evaluating them with grades from 1 (very little) to 5 (very much). First four signs/labels that do not represent official/certified logo have the average values between 2.25 and 2.63. These are much lower values compared to the values obtained for official certified logo for organic product 3.63. This indicates that the consumers recognize official

labeling as a sign of trust, security, food products with high nutrition value and quality.

Table 4: Survey results related to different labels

	Logo 1	Logo 2	Logo 3	Logo 4	Certified logo of organic products
Average values	2.63	2.25	2.56	2.40	3.63
Standard deviation	1.05	1.10	1.26	1.17	1.26

Source: Authors own calculation based on the survey

#### 5. CONCLUSION

Based on the conducted research, it can be concluded that consumers in the Republic of Serbia today are certainly aware of the quality of organic products but also they consider other important issues such as food safety, health safety, origin and quality. A large number of consumers are ready to allocate more money to buy organic products due to the quality, safety and nutrition of these products. However, only 2.5% of respondents value products based on trademark and organic label. This indicates a relatively small significance for the consumers in the domestic market when they decide on the purchase of the product. Bearing in mind that it is precisely the sign of organic products that is the only guarantee that the product is truly produced in accordance with the principles of organic production and that the producer himself has undergone a rigorous process of control and certification, it is necessary for consumers to pay more attention to the presence of this label when making decisions about purchase.

The role of the state is extremely important in the process of bringing organic products closer to consumers and raising awareness about the importance of organic products, numerous benefits for consumers, producers and the environment in which they grow and produce. Research in the United States, Great Britain, Denmark and Sweden has shown that trust in organic food labeling is the highest in countries with a significant state participation. This is very important in order to prevent unfair competition in terms of misuse of certain terms in the product name, which misleads buyers in terms of quality and who have not undergone a rigorous process of control of competent institutions and are offered on the market as healthy and biologically.

At this stage of our research we are aware of numerous limitations of this analysis. Further effort should be made to stratify and increase the sample in the research.

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