

## FOOD SAFETY IN QUALITY MARK ASPECT

doi: 10.2478/czoto-2019-0071

Date of submission of the article to the Editor: 29/11/2018

Date of acceptance of the article by the Editor: 13/01/2019

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**Abstract:** The purpose of the publication is to determine the level of consumer awareness regarding the knowledge of quality marks and food safety awareness in the aspect of purchasing decisions. The research covered a group of 51 respondents who were residents of the Silesian Voivodship. On the basis of literature research and analysis in the field of food quality and safety, the following hypothesis was formulated: By using generally known management methods, we can determine the degree of consumer awareness in terms of quality labels and food safety in the aspect of purchasing decisions. The research was conducted on a quarterly basis in 2018 based on a questionnaire (CAWI - Computer Assisted Web Interview). The results of research and their analysis have shown that consumer awareness regarding the awareness of quality marks increases, however, there is still a great need to build consumer awareness regarding the existence of quality marks and information that they provide to the consumer in terms of both quality and food safety. Research has shown that consumers are aware of the quality marks existence, but their knowledge about familiarity is still too small. It was shown that consumers, when making purchasing decisions, pay attention to product quality, price, quality certificate and ecological certificate. The factor that determines the safety of the product according to consumers turns out to be its composition. Consumers showed in research that they will not buy a product that has palm oil, sulfur dioxide, glucose-fructose syrup and aspartame.

**Keywords:** quality mark, food safety, competition.

„Clients, in order to live with dignity and comfort, need the leadership of producers”  
(Parent M.)

### 1. INTRODUCTION

The growing competition between companies offering food on the market, many similar products obtained using similar technologies and with similar financial outlays, makes the quality of offered products becomes more and more important and becomes one of the key elements of marketing (Becker, 2000, Brewer and Rojas, 2008). Increasing world population worsens the serious problem of food security in

developing countries (Belluco et al., 2013). As noticed Godfray (Godfray et al., 2010) continuing population and consumption growth will mean that the global demand for food will increase for at least another 40 years. Authors Giuseppe (Giuseppe et al., 2010), Hsieh (Hsieh and Ofori, 2007) and Wisdom (Wisdom et al., 2018) claims that today's busy life styles are driving the development of healthy convenience foods. Our daily diet must include ample high quality foods with all of the essential nutrients, in addition to foods that provide health benefits beyond basic nutrition (Irfan and Datta, 2017, Gurgul et al., 2002, Bruhn and Schutz, 1999, Byrd-Bredbenner et al., 2007). Manufacturers and distributors are obliged to provide safe food that does not jeopardize the health and lives of the consumer. In the light of the Codex Alimentarius FAO / WHO food safety is the assurance that the food will not cause any harmful effects on consumer health if it is prepared for consumption as intended ([www.codexalimentarius.net](http://www.codexalimentarius.net)).

## 2. LITERATURE REVIEW

Authors (Hsieh and Ofori, 2007) underlie that food safety is a scientific discipline describing the handling, preparation, and storage of food in ways that prevent food-borne illness. Consumer attitude toward food choice have change immensely during the last two decades. These changes are a result of multiple factors, such as increased income level of consumers, increased product availability, technological changes, etc. (Yanyun and Mina, 2005). The past occurrence of various food safety incidents has increased consumer concerns and media attention while at the same time decreased public confidence in food safety and in food related hazards management (van Kleef et al., 2006, Verbeke et al., 2007, Mc Cluskey et al., 2005, Kielesińska, 2018.). The quality and safety of final products depend on the constant manufacturing processes, which are followed, according to the good manufacturing practices (GMPs) and good hygiene practices (GHPs), which constitute the prerequisites of hazard analysis and critical control points (HACCP) plans in the food industry (Wallace and Williams, 2001).

Authors Krasnowska G., Salejda A. M. stress (Krasnowska and Salejda, 2011) that the knowledge of consumers about food products labeling is still insufficient, however, the interest of consumers in this area is increasing. Research shows that in different countries consumers identify different qualities with quality (Shewfelt et al., 2006), e.g. in Sweden these are such features as: hygiene in production, freshness, nutritional values, taste, naturalness (Läppäläinen et al., 1998). In Greece, the most important aspects of fruit and vegetable quality refer to: attractive appearance, taste, nutritional value, health safety and environmental protection during the production process (Karagianni et al., 2003). According to research carried out in 2005 by the French SPAD agency in five EU countries, including Poland, in determining the information they pay attention to when purchasing food products, it was shown that Poles buying food primarily pay attention to the price (37% ), date of minimum durability or expiration date (26%), brand (25.6%), net content (8.2%), as well as product quality, taste, smell, as well as cleanliness, packaging appearance and information placed on the label. Similar results were also obtained in the surveys carried out by the SPAD agency in 2006, on the basis of which it was found that Poles mainly pay attention to the price (88%), the date of minimum durability or expiration date (87%), net content (70%) and the brand (64%) (Anonymus, 2006). Researchers carried out in 2003 by the authors Ozimek I., Gutkowska K., Żakowska-Biemans S. (Ozimek et al., 2004) on

a group of 100 respondents using the method of presenting consumers with food related risk factors showed that Polish consumers are most concerned about the presence of additional substances in food, chemical residues protection of plants, and the presence of pathogenic microorganisms and genetically modified food.

Similar studies were conducted in 2007 by the author Żakowska-Biemans S. of the same range and method (Żakowska-Biemans, 2009), which showed that among Polish consumers the greatest concern is the irradiation of food, which was attributed to 83% of consumers by the negative impact on health, 76% genetically modified ingredients, use of pesticides in plant protection (75%), bone meal in animal nutrition (73%), antibiotics in animal nutrition (73%) and use of food additives (72%). The most positive in the context of food safety is the use of raw materials from organic farming (Żakowska-Biemans, 2009, Nowakowska and Pabian, 2014). The purpose of the article is to determine the level of consumer awareness in relation to the knowledge of quality marks and food safety awareness in the aspect of purchasing decisions. So far, the issue of consumer awareness in relation to the knowledge of quality marks and food safety awareness in the aspect of purchasing decisions has not been the subject of broader, comprehensive scientific considerations.

### 3. METHODOLOGY OF RESEARCH AND RESULTS

The research covered a group of 51 respondents who were residents of the Silesian Voivodship. On the basis of literature research and analysis in the field of food quality and safety, the following hypothesis was formulated: By using generally known management methods, we can determine the degree of consumer awareness in terms of quality labels and food safety in the aspect of purchasing decisions. The research was conducted on a quarterly basis in 2018 based on a questionnaire (CAWI - Computer Assisted Web Interview). In order to examine the respondents' awareness of the quality marks and food safety familiarity in the aspect of purchasing decisions, a survey was conducted. The aim of the study was to collect empirical materials to determine what factors are taken into account by the respondents when shopping and what components of products cause that respondents do not purchase the product. The survey was conducted on a quarterly basis in 2018. Respondents were residents of the Silesian Voivodeship. In the study, women accounted for 78%, while men accounted for 22%. Table 1 presents the characteristics of respondents.

Table 1  
Characteristics of respondents

Age	% respondents share
18÷25	8
26÷30	16
<b>30÷40</b>	<b>48</b>
40÷50	24
>50	4
Education	% respondents share
Higher	80
Average	16
Professional	2
Basic	2
Marital status	% respondents share

Married	70
Single	18
Divorced	12
<b>Place of residence</b>	<b>% respondents share</b>
Village	22
City up to 250 000 inhabitants	30
<b>City over 250 000 inhabitants</b>	<b>36</b>
City up to 50 000 inhabitants	8
City up to 100 000 inhabitants	4
<b>Professional situation</b>	<b>% respondents share</b>
<b>Working</b>	<b>78</b>
Unemployed	10
Student	10
Pensioner	2
<b>Net income</b>	<b>% respondents share</b>
>2000	12
2000÷3000	26
<5000	2
<b>3000÷5000</b>	<b>30</b>
>5000	15
<2000	15

Source: own study

Table 2 presents the results of the survey of the respondents' quality marks awareness knowledge. The results in relation to customer awareness show that as many as 39% of respondents read the composition of products before making a purchase. Decision-making elements during shopping show that in 2018:

- for the 45% respondents, quality is the most important element in the decision to purchase a given product,
- for the 30% respondents, the price is the decision element about the purchase of a product,
- a quality certificate is important for 15% respondents,
- for 5% respondents, the ecological element is the decision-making element for the purchase of a given product.

Table 2

Respondents' awareness regarding knowledge of quality marks

<b>Do you read products' ingredients when shopping?</b>				
<b>Always</b>	Often	Sometimes	Never	
<b>39%</b>	26%	31%	4%	
<b>What elements decide about purchase the product?</b>				
<b>Quality</b>	Price	Quality certificate	Eco certificate	
<b>45%</b>	30%	15%	5%	
<b>What kind of quality certificate do you know?</b>				
Quality of the Year	Eco	Fairtrade	<b>Now Poland</b>	Know Good Food
5%	19%	17%	<b>50%</b>	9%

Source: own study

The study also analyzed the knowledge of quality marks. The results show that currently the most well-known quality mark is the Teraz Polska sign (50%), followed

by the Eco mark (19%) and the Know Good Food sign (9%). In the questionnaire, consumers were asked: What kind of product will cause the consumer not to buy it? Figure 1 shows the results. The analysis of Figure 1 shows that the conscious consumer will not buy a product composed mainly of glucose-fructose syrup (23.3%), palm oil (24.1%), sulfur dioxide (24.1%) and aspartame (21.7%). The conscious consumer realizes that glucose-fructose syrup (purified and concentrated aqueous solution of carbohydrate hydrolysis products - simple sugars: glucose - 55% and fructose- 42%, is even more dangerous than sugar. Consumption of syrup leads not only to obesity, but also for diabetes, increased risk of cancer and heart problems. It increases the level of bad cholesterol, does not provide any nutritional properties and has a higher glycemic index, which causes the unconscious consumer to consume syrup is faster hungry, eat more and much often. Pal oil is the next ingredient in products that the conscious consumer avoids in the product composition. Palm oil contains 45% of the body's unfavorable saturated fatty acids, promoting obesity, type II diabetes and the increase of "bad" LDL cholesterol in the blood. The last ingredient that the conscious consumer avoids is sulfur dioxide (24.1% respondents), i.e. the preservative that occurs in products under the symbol E220. Sulfur dioxide provides a longer shelf life for many food products and improves their appearance. Ingestion of too many products preserved with sulfur dioxide may cause nausea, vomiting, headaches and, in the case of asthmatics, difficulty in breathing. Respondents in products also avoid the ingredient which is aspartame (E951). Synthetic sweetener aspartame can cause brain tumors, multiple sclerosis, Parkinson's disease and Alzheimer's disease, epilepsy, lymphomas, diabetes and memory loss.

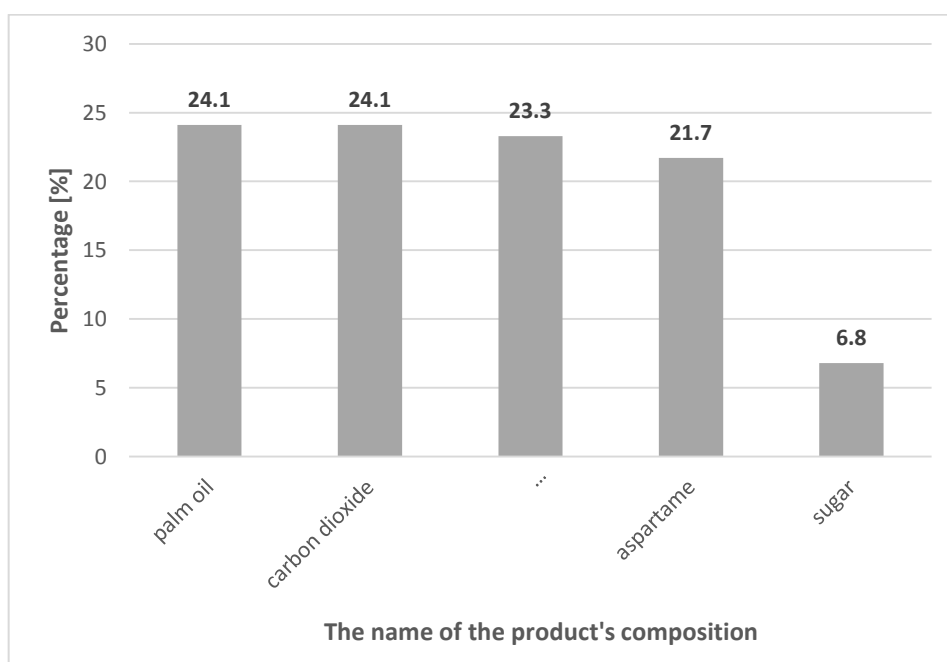


Fig. 1. The results of respondents' research on the question:  
What product composition will cause you not to buy it?

Source: own study

#### 4. DISCUSSION

The results of research and their analysis allow to state that only a conscious consumer, equipped with the appropriate knowledge, can become an equal partner

for producers and suppliers of food products, as well as a demanding client capable of making rational and well-considered decisions. It was found that it is important to assess the level and shape the nutritional awareness of various groups of Polish consumers, which will result in a positive change in their behavior and possibly in eating habits.

This particularly applies to low-income consumers who need to control food expenses, and young people who often do not yet have fully developed food awareness (Goryńska-Goldmann and Ratajczak, 2010).

It seems that building consumer awareness towards quality labels and food safety requires considerable expenditure related to organizing a well-prepared campaign informing, but at the same time learning to understand quality signs and packaging on packages, so that consumers make informed choices when buying food.

Quality marks and labels are an important influence on quality awareness. They are an important source of information about quality for consumers interested in safety and proper nutrition or seeking health values. If the label informs about the product quality parameters and the consumer trusts this information, then it becomes an attribute of the quality sought in the store and supports the consumer's choices.

It is important to identify those messages that are legible, understandable and the consumer considers them as quality identifiers (Becker, 2000). It was concluded based on foreign studies that there exists the need for professional assistance for consumers regarding food safety issues (Wilcock et. al, 2004, Rimal et. al, 2008).

## 5. CONCLUSION

The research results and their analysis have shown that consumer awareness regarding the awareness of quality marks is increasing, but there is still a great need to build consumer awareness regarding the existence of quality marks and information that they provide to the consumer in terms of both quality and safety. Research has shown that consumers are aware of the existence of quality marks (Quality of the Year, Eco, Fairtrade, Now Poland, Know Good Food) but their knowledge is still insufficient, although the results may indicate that the interest of respondents in this area is still growing. Respondents making purchasing decisions pay attention to product quality (45%), price (30%), quality certificate (15%) and ecological certificate (5%). The factor that determines the safety of a product according to consumers turns out to be its composition, which refers to not causing harmful effects on consumer health. Respondents showed in research that they will not buy a product that will contain palm oil (24.1%), sulfur dioxide (24.1%), glucose-fructose syrup (23.3%) and aspartame (21.7%) ).

It was found that the respondents are aware of the existence quality signs, especially the Now Poland sign, however, their knowledge of the information on the marks on the product is small. Consumers showed care for the safety of purchased food, which they understood as the composition of the product. This means that consumers first checked its composition before purchasing the product. If it turned out that the product in the composition contained palm oil, sulfur dioxide, glucose-fructose syrup or aspartame, the consumer treated it as harmful to health.

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