

MANUFACTURER'S AWARENESS OF HALAL PRODUCT (DRY VEGETABLE MIXTURE), PLACEMENT AND MARKETING

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Apstrakt

The aim of the research is focused on researching the perception of the quality of products based on dried vegetables, which influences the consumer to buy halal food products.

Three halal products based on dried vegetables DO-DO spice, Vegedor and Tajna-supplement to vegetable dishes were used for the research.

Halal product status was examined through composition, specification of raw materials, supervision of the procurement process, validation of the production process and verification of the composition of finished products. Hygienic-toxicological, technological, nutritional-physiological, sensory, and market-consuming quality factors were considered.

The content of iodized table salt as a basic carrier is different in the analyzed samples. The conducted analyzes determined that Vegedor and Tajna-supplement to vegetable dishes have a salt content of up to 56%, while DO-DO spice has a 60% content. If we compare the max. permitted content of salt in spices, we can conclude that Vegedor and Tajna - supplement to vegetable dishes have 4% less table iodized salt than allowed. By reducing the share of table salt, the producer focuses on the health of consumers if the WHO recommendation on the necessary reduction of daily salt intake is taken into account. The share of other raw materials in a homogeneous mixture is inherent in the nature of the spice produced.

The obtained results, determined HrCCP points indicate that DO-DO spice, Vegedor and Tajna, in addition to halal status, also have functional properties for the end user.

Key words: halal product, HrCCP, dried vegetable mix, quality factor.

JEL codes: M3

INTRODUCTION

With the increase in the need for halal products and the increasing trade in "halal" products, it is very important to accompany the proof of the halal status of foods.

Halal food is defined as food permitted according to Islamic laws and must meet the following conditions:

- that it does not consist of anything that is prohibited by Islamic regulations.
- that such food has not been prepared, processed, transported or stored using any facilities and means that have anything prohibited by Islamic regulations
- that such food must not come into contact with any foodstuffs that do not meet Sharia requirements in the process of preparation, production, transport and storage.

At the level of Bosnia and Herzegovina, BAS 1049:2010 - Halal food - Requirements and measures was adopted, on the basis of which work systems are further defined. Enterprises, corporations, systems that strive for business excellence should be based on full quality management. In order to ensure the quality of food that is placed on the market, it is necessary to precisely define specific quality indicators. Quality factors that affect the evaluation of the quality of food products are hygienic-toxicological Qht, technological Qt, nutritional-physiological Qn, sensory Qs, market-consumer Qtp. Precise definition of elements and requirements within the framework of five quality factors, analytical testing, processing of results, and their documentation influence quality management (QM), which ultimately ensures product quality (QA). In the halal quality management system, the rules of procedure are a document in which all elements of quality are determined and briefly described according to the requirements of the Halal standard, HrACCP, with the possibility of changes and additions. Taking into account that three different products were considered in the paper, there is a separate Regulation for the management of the quality system for each company. Respecting and adapting to the measures and requirements of BAS 10049:2010 for each product, a hazard analysis for halal raw materials, process hazard analysis, determination of haram CCP points, display of hazard analysis and establishment of preventive measures, HrACPP control map, internal decision-making standard, report and decision on non-conformities.

MATERIALS AND METHODS

The research included three spices from As Holding's production line: DO DO spice, Vegedor and Tajna. The research period includes the annual production of spices with dried vegetables. The mixture of spices with dried vegetables is a homogeneous mixture with kitchen iodized salt. According to the ingredients shown in Table 1, table iodized salt represents the carrier of the finished product.

Table 1. Presentation of the ingredients of the considered spices

Name of the finished product	Share of NaCl (%)	Share of vegetables (%)
DO DO začín	Aproxx. 60 %	to 15 %
Vegedor	Aproxx. 52 %	to 13 %
Tajna	Aproxx. 56 %	to 16 %

In order to consider the overall quality of the product in order to analyze quality factors, microbiological analyses, sensory analyses, nutritional composition, consistency, viscosity and structure were performed. Analyzes were carried out through the company's daily laboratories, and verifications were carried out through external laboratories.

All raw materials used in the production process have halal status, which was confirmed by the hazard analysis itself. Iodized kitchen salt produced in Solana d.d. Tuzla is used as the basic carrier in the process of producing spices with dried burrs, whose chemical and granulometric composition is shown in Table 2 and Table 3.

Table 2. Sensory and chemical composition of kitchen iodized salt

<i>Sensory analysis: salt dry, white without impurities, salt corresponds to the quality of salt etal. no. 1 (whiter salt > 95%)</i>			
NaCl (%)	Ca + Mg (%)	Moisture w (%)	pH 20% solution
99,73	0,0005	0,03	Neutral

Determination of chloride is done according to the Mohr method, and determination of calcium and magnesium is done using complexometric titrations. Moisture was determined using a moisture analyzer MA xR, RADWAG.

To determine the granulometry of kitchen iodized salt and raw materials, a Haver&Boecker sieve and granulometric sieves were used.

Table 3. Granulometric composition of kitchen iodized salt

Diameter of granulometric sieves (Ømm)	0,5	0,4	0,3	0,2	0,1	Residue	Below 0.3
% of salt on a sieve	8,56	11,30	37,89	30,73	10,52	1,0	42,25

The share of raw materials in the portion of dried vegetables differs according to type when we examine all three considered spices, shown in Table 4.

Table 4. Product quality properties, composition and granulometry of dried vegetables DO DO spices, Vegedor and Tajna

Finished product	Composition of dried vegetables	Granulometry	Smell, taste, color
DO DO spice	Carrot, parsnip, onion, parsley leaf	from 2 to 3 mm	Characteristic
Vegedor	Carrot, parsnip, leek, onion, dried parsley		
Tajna	Carrot, parsnip, parsley. Celery, onion		

For tested spices based on dried vegetables, the HrACPP was established in the purchasing department, which means that no raw material can enter the process without being halal.

In order to investigate quality factors in the market from the consumer aspect, a survey of 40 respondents was conducted with a preferential review.

RESULTS AND DISCUSSION

In order to complete the research of spices with dried vegetables, the quality parameter, hygiene and toxicological factor is shown in the example of Vegedor spices in Table 5.

Table 5. Microbiological correctness of Vegedor spices

Parameter	Unit of measure	The result	Maximum allowed value	It fits
<i>Enterobacteriaceae</i>	cfu/g	<10	10 ²	Yes
Mold	cfu/g	<10	10 ³	Yes
<i>Staphylococcus aureus</i>	cfu/g	<10	10	Yes
Aerobic mesophilic bacteria	cfu/g	2 x 10 ⁴	10 ⁵	Yes
<i>Salmonella spp</i>	cfu/g	not isolated /25 gr	n.n./25 gr	Yes

Based on the results presented in Table 5, it can be concluded that the complete chemical-toxicological correctness/safety of the food is ensured for the spice in all aspects of the quality of the food product.

In addition to hygienic and toxicological requirements, the product must also meet technological quality factors related to the processing and processing of raw materials (dried vegetables), i.e. the production of spices with dried vegetables itself. The parameters that are important during the technological quality factor are: structure, consistency, color, water content.

Table 6. Technological quality factors of DO DO spices

Finished product	Structure	Consistency	Color	Water content (%)	It fits
DO DO spice	Dried vegetables, their mixture	Specific to the product	Yellow - greenish - characteristic of the product	1,55	YES – according to the defined product specification

Table 6 shows the results of the analyzed parameters in the considered factor of the technological quality of the finished product. Based on the results, we can conclude that it is a product that is inherent to the defined product specifications and meets parameters of the technological production process.

From the point of view of the consumer, the requirements from the group of nutritional and sensory factors have the greatest importance. Table 7 shows the nutritional values of all three investigated spices. Nutritional values are calculated values obtained by following the recipe of the finished product.

Table 7. Qualitative characteristics of spices

Qualitative characteristics		Tested spices		
		DO DO spice	Vegeodor	Tajna
Look		Specific to the product	Specific to the product	Specific to the product
Smell		Specific to the product	Specific to the product	Specific to the product
Taste		Specific to the product	Specific to the product	Specific to the product
Average nutritional value per 100 gr.	Energy (kJ/kcal)	494/116	672/160	280/67
	Fats (g) of which saturated fatty acids (g)	0,25 0,02	0,50 0,1	0,00 0,00
	Carbohydrates (g) Of which sugars (g)	23,00 15,00	30,00 20,00	17,30 16,60
	Proteins (g)	5,50	9,0	0,28
	Salt (g)	64,75	52,00	65,61

Based on the results in Table 7, it is evident that the different composition of raw materials affects the energy value of the finished product. Vegeodor seasoning has the lowest salt content at 52%, which represents a very important quality factor in the part of selection and consumption by the end consumer.

Sensory properties are inherent to the product itself, because it is a specific product that contains raw materials of different colors and a subjective approach. The method of sensory analysis is not applied as a method of valid data, because the measurements were not made in an organoleptic/sensory laboratory.

Market-consumer factors compared to the previously mentioned factors form a specific group of factors. They are primarily supply, demand and price of products, but also social structure, purchasing power, religious affiliation, customs of a certain area, acquired consumer habits are like one element.

Figure 1. Diagram of the decision to buy spices/spice supplements

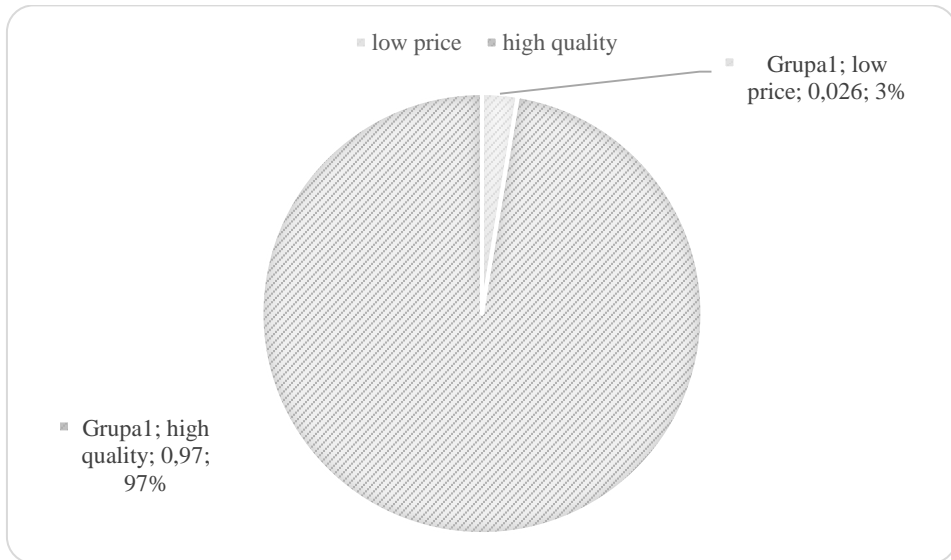
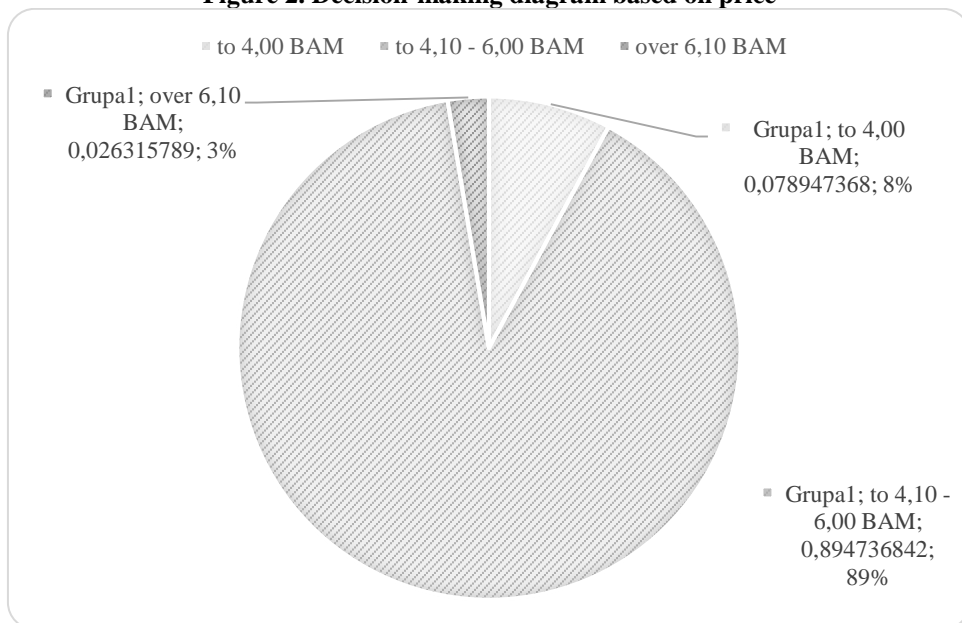


Figure 2. Decision-making diagram based on price



On the basis of Figure 1, we come to the conclusion that for the end consumer, in terms of the ratio of low price and high quality, quality, i.e. the healthiness of the finished product, is more important imperative. The price range from Figure 2 tells us that consumers consider the most acceptable price range between 4.10 and 6.00 KM for an example of 1 kg. seasoning with dried vegetables. If we look at the results of

the survey and the various factors that depend on the end consumers themselves, we can conclude that the market-consumer factor does not constitute the essence of quality, nor does it directly determine the selection and quality of the product.

CONCLUSION

Laboratory analyses, surveys, and consideration of quality factors were carried out in order to identify the awareness of the manufacturer and the actual marketing of the product on the market. On the basis of the conducted analyses, comparison with the requirements of the quality factors, it is possible to conclude that the final products produced by the members of As Holding meet the health safety requirements for the final consumer.

As haram, the critical control point for spices (dried vegetable mixtures) is the purchasing department/input control, i.e., no raw material can enter the producer's company in the process unless it has "halal" status.

DO DO seasoning, Vegedor and Tajna meet all the requirements of the quality factor, but in terms of nutritional value, there are obvious differences in energy values and in the proportion of NaCl salt. Vegedor has the lowest salt content at 52%. By reducing the share of table salt, the manufacturer focuses on the health of consumers if the WHO recommendation on the necessary reduced daily intake of salt is taken into account. The proportion of other raw materials in the homogeneous mixture is specific to the nature of the spice produced.

Through the conducted survey, we come to the conclusion that for the final consumer, in terms of the ratio of low price and high quality, quality, i.e., the healthiness of the finished product, is more important. The most acceptable price range is between 4.10 and 6.00 KM for example for 1 kg. seasoning with dried vegetables. If we look at the results of the survey and the various factors that depend on the end consumers themselves, we can conclude that the market-consumer factor does not constitute the essence of quality, nor does it directly determine the quality of the product.

Based on the obtained results, the established HrCCP points indicate that DO-DO spice, Vegedor and Tajna have functional properties for the end consumer in addition to halal status, and that As Holding accepts the quality of the end product as a strategic goal of growth and success.

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