

HALAL CERTIFICATION AND VALIDATION OF HEALTH SAFETY OF PRODUCTS

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Abstract

Halal Quality Certification Agency accepts mostly all legal regulations, especially those related to the health safety of products. In order to establish a system of control, monitoring and monitoring of the production process and to guarantee that the product is halal, it is necessary to establish an HRCCP system over the process. A preventive proactive approach is used in the establishment of the production system of halal food status. In process validation, there are analytical methods that prove the origin of food with ELISA, PCR and HPLC methods used for validation. Inspections and tests carried out in order to determine the non-halal origin of ingredients and product content must be carried out in accordance with inspection and testing methods that are based on confirmed and verified methods recognized at the national and international level. Validation of halal certification products includes sampling and analysis of products certified by the Halal Quality Certification Agency. Obligatory analyses in products, semi-products and raw materials such as the presence of pig DNA, proteins and pig fats/lipids, the presence of ethanol, the presence of GMO raw materials, prove the halal status of the product, however, it is necessary to perform some recommended analyzes in order to the health correctness of the product was also confirmed, such as the presence of residues and contaminants. Internal analyzes for the presence of haram ingredients in raw materials or halal certified products are carried out by the Halal Quality Certification Agency using rapid tests to detect certain components. After conducting the internal analysis, the results are recorded in the analysis database, and a report is prepared for each analysis.

Keywords Halal status, food safety, residues and contaminants, laboratory analyses

Introduction

The halal production chain includes all stages of food production including primary agricultural production, transportation of raw materials, reception and storage of raw materials, processing, packaging, storage of finished products, transportation and distribution and market supply, from origin to consumption. In each of the mentioned stages, it is necessary to ensure the conditions and fulfill the requirements of halal quality. Control of the production chain enables a preventive approach to fraud at any stage. In addition to the prevention of stunting, it is necessary to ensure the prevention of damage to the health of raw materials or products. In order to establish the control of the production chain, it is necessary to establish traceability

A preventive proactive approach is used in the establishment of the production system of halal food status. In process validation, there are analytical methods that prove the origin of food. It is particularly difficult to prove the presence of additives that undergo chemical transformations during the process. ELISA, PCR and HPLC methods are used for validation. This paper presents additives that are most often used in milk processing and can have haram (forbidden according to Islamic law) and meshbuh (dubious) origin.

The organization is obliged to regularly perform laboratory analyzes in accordance with legal regulations and halal quality requirements in order to ensure hygienic and health correctness and halal status of the product.

In the process of validating halal certified products, the Agency carries out sampling and analysis of certified products or raw materials for the presence of non-halal ingredients.

Inspections and tests carried out in order to determine the non-halal origin of ingredients and product content must be carried out in accordance with inspection and testing methods that are based on confirmed and tested methods recognized at the national and international level.

Validation of halal certification products includes sampling and analysis of products certified by the Halal Quality Certification Agency according to the requirements of the halal standard BAS 1049:2010 Halal food, requirements and measures.

Laboratory analyzes carried out by the Agency are classified into mandatory and recommended analyses.

Mandatory analyzes are carried out at least once a year on halal-certified products that may contain some of the components (depending on the nature of the product), which are prohibited according to the requirements of the halal standard (Halal standard BAS 1049:2010 Point 5.1.1.2 Non-halal animals).

The recommended analyzes are carried out in order to verify the healthiness of the product and compliance with the legislation of Bosnia and Herzegovina.

Material and methods

Collection of samples for laboratory analysis is done in several ways. Ready-made halal products are sampled (purchased) in retail stores with a random sample without prior consultation with the manufacturer and owner of the product. This method of sampling is done by the laboratory to which the list of products in the form Validation plan of halal certified products was previously submitted, or the staff of the Agency samples the products and submits them to the Laboratory. It is possible that certain products are sampled by the laboratory staff according to the previously submitted plan, and certain products are sampled by the Agency staff and delivered to the laboratory.

The samples collected during the audit, most often feed for livestock and poultry, are delivered by the Agency to the Laboratory for analysis.

When the goods are in bulk, such as fodder, then sampling is done according to the rulebook on fodder sampling.

In the case of the need to analyze fresh products such as meat, milk, fruit and vegetables, valid legal regulations on sampling methods for each analysis are applied.

In the event of a dispute, one sample is always analyzed and one sample is kept.

Results and Discussion

Mandatory product analyzes are performed in order to determine the possible presence of exclusively haram components in a halal certified product. In this regard, an annual plan of analyzes of halal certified products is made and the number of analyzes is planned annually. Depending on the type and nature of the product, it is determined which ingredients will be analyzed and listed in the form. Mandatory analyzes are carried out for the presence of the following ingredients in products, semi-products and raw materials:

- Presence of pig DNA, protein and pig fat/lipids in the products such as BAS ISO/TS 20224-3:2021
- Presence of alcohol (ethanol) in products
- Presence of GMO raw materials in products, semi-products and raw materials
- The presence of pork proteins and fats in feed for livestock and poultry

The recommended analyzes become mandatory if, through an audit or some other procedure, information is obtained that the product does not meet the legal legislation related to the health safety of the product. Likewise, all analyzes will be done if the Organization has a halal certificate and does not perform mandatory legislative analyses, such as:

- Microbiological analyzes (presence of pathogenic and total number of microorganisms)
- Chemical (presence of antibiotics, pesticides, mycotoxins and other residues in risky products)
- Physical (presence of physical pollution)

The recommended analyzes of halal certified products are carried out in order to check the quality and healthiness of the products and compliance with the applicable legislation. In this regard, an annual plan of analyzes of halal certified products is made and the number of analyzes is planned annually.

Depending on the type and nature of the product, it is determined which ingredients will be analyzed and listed in the form. The recommended analyzes are performed on the presence of the following ingredients in products, semi-products and raw materials:

- the presence of mycotoxins in milk, coffee, tea, etc.
- the presence of antibiotic residues in milk, chicken meat, etc.
- the presence of heavy metals in table salt, soda, fish, etc.
- the presence of an excessive amount of nitrite salt in meat products.
- the presence of pesticides in plant products and raw materials.

A list of products with specified components that will be detected is sent to the Laboratory where the analysis will be performed, or already sampled products are delivered to the Laboratory.

Recommended product analyses

Internal analyzes for the presence of haram ingredients in raw materials or halal certified products are carried out by the Halal Quality Certification Agency using rapid tests to detect certain components. The ingredients that are tested using rapid tests are:

- Detection of pig blood plasma in products, semi-products and raw materials
- Detection of pork proteins in products, semi-products and raw materials
- Detection of pork fat in products, semi-products and raw materials
- Detection of GMO raw materials in feed for livestock and poultry
- Detection of alcohol (ethanol) in drinks

After conducting the internal analysis, the results are recorded in the analysis database, and a report is prepared for each analysis.

Conclusion

Halal goods could be universally applicable regardless of race, faith or gender, opening scenarios for market opportunities on a global scale, and not only among Muslims.

Meanwhile, for society implications, religiosity, product specification (halal logo/halal certification), recommendation by close members (family/friends), and knowledge on halal cosmetics products can positively influence consumers' purchase intention.

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