



PRINCIPLES OF CERTIFICATION OF GRAIN AND FLOUR PRODUCTS

Nazira Makhmudjonovna Utanova

graduate student Ferghana Polytechnic Institute,
Uzbekistan, Fergana,

E-mail: utanovanazira289@gmail.com
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Abstract: This article is about providing the population with high-quality food by determining the basis of certification of grain products grown in the territory of the Republic of Uzbekistan and quality indicators in certification.

Аннотация: В данной статье речь идет об обеспечении населения качественными продуктами питания путем определения основания сертификации зерновой продукции, выращенной на территории Республики Узбекистан, и показателей качества при сертификации.

Key words: national certification, technical document, identification, standard, conformity assessment, regulation, morphology, microscopic structure.

Ключевые слова: национальная сертификация, технический документ, идентификация, стандарт, оценка соответствия, регламент, морфология, микроскопическая структура.

After independence in the Republic of Uzbekistan, the State Standardization System was created, which obligatorily ensures the unity of measurement work in the national certification system. The activity of this standardization system is aimed at ensuring the competitiveness of products produced by state enterprises and services provided by organizations in the foreign and domestic markets. Product quality indicators, their research and sampling methods form the basis of all standards mutually agreed with the producer, consumer and state inspection agencies. Therefore, standards play the role of a guarantee that ensures the trust between the producer and the consumer and the quality of the product, and ensures the level of quality included in the normative technical documents used in the production of the product.

I.R. Askarov and T.T. were the first in Asia in the field of chemical sciences in the Republic of Uzbekistan. Rizqiyev jointly implemented the science of "Classification and certification of goods based on their chemical composition".

Certification is a form of confirmation of compliance of objects with the requirements of technical regulations, rules of standards or terms of contracts, carried out by the certification body. A certification body is a legal entity or an individual entrepreneur duly accredited to perform certification work.

During the certification, in addition to the regulatory documents established for the product, it is necessary to follow the regulatory legal documents defining the mandatory requirements for the product and other documents officially published by the CIS.

Certification is carried out for the following purposes:

- controlling the sale of products that are dangerous for human health, property of legal entities and individuals, and the environment;

- ensuring product competitiveness in the world market;
- creation of conditions for international economic, scientific and technical cooperation of local and joint enterprises, entrepreneurs and participation in international trade;
- to protect consumers from dishonesty of the producer;
- confirm product quality indicators based on the manufacturer's application.

The following products produced by the joint-stock company "O'zdonmahsulot" have been certified by regulatory documents.

Table 1

Nº	Name of products	Regulatory documents
1	High grade flour	O'z Dst 1104:2021
2	First grade flour	O'z Dst 1104:2021
3	Second grade flour	O'z Dst 1313:2009
4	Bread products from wheat flour	GOST 27842-88
5	Bun products	GOST 27844-88
6	Pasta products	O'z Dst 992:2012
7	Soft feed products	Tsh 8-95:2012
8	Barley groats	GOST 5784-60
9	Manni groats	GOST 7022-97

Certification of grain products (flour, semolina) is carried out on the basis of the "Special technical regulation on the safety of grain processing products".

Certification steps

- Receipt of an application for certification and its consideration;
- Making a decision on certification and preparing a test program;
- Sample identification and sample selection;
- Analyzing the obtained results, issuing a certificate of conformity or refusing to issue it;
- Registration of the certificate of conformity in the State Register.

Certification of commodity grain mainly determines the following quality indicators according to the requirements of the general technical regulation "On Grain Safety":

1. Grain damage by pests;
2. Infection with fungi, Sporinya i golovnya (po sovokupnosti);
3. Presence of weed seeds (mustard polzuchii, sofora, lisokhostnaya, thermopsis lancetnii);
4. The presence of poisonous grass seeds (vyazel raznotsvetniy), Heliotrop opushennoplodniy; presence of elderberry seeds (Trichodesma sedaya);
5. The presence of blackbirds (mainly (maraniye, sineguzochniye) zerna);
6. Presence of fusarium grain;

Based on the above, if all the test results are found to be in accordance with the standard requirements, a certificate of conformity will be issued.

During the certification of flour and cereals, the following quality indicators are determined: flour whiteness, moisture content, the amount of mineral impurities, the amount of metallomagnetic impurities, sourness, damage by pests. If all the test results are found to be in accordance with the standard requirements, a certificate of conformity will be issued.

Negative situations that occur at the stage of bread production and the quality of bread components directly affect the health of the consumer, and a very sensitive approach must be taken by the manufacturer in this matter.

Thanks to modern technologies, grain morphology, microscopic structure and chemical composition, grain enzymes, foreign substances, grain transparency, sedimentary rock and wet gluten content determination, dough rheology measurement, grain amylase activity determination in storage are carried out in advanced laboratories. dry grinding can pass many tests.

When inspecting the appearance of the bread, attention is paid to its shape, surface condition and whether the outer surface is browned. Its shape should be correct, suitable for the type of bread being tested. It should not be stuck to each other, swollen and in some places bulging. The outer surface of the loaves should be smooth, shiny, without cracks, and browned.

The core should be typical of well-baked bread, elastic, with well-developed pores, composed of even small cells. The taste and smell should be pleasant, unique, without foreign tastes and smells. Moisture, porosity and acidity are determined from the main physico-chemical indicators. The moisture content of the core should be 34-51%, and the porosity should be 45-75%, depending on the type of bread. The sourness of bread is measured in degrees, and this indicator can be from 2° to 12° depending on the type of bread. It is also required to determine the amount of fat and sugar in enriched bread products.

The quality of bread and bakery products must meet the requirements of relevant standards. According to the regulations, the quality of bread is evaluated based on organoleptic, physico-chemical and safety parameters. For this purpose, a number of works are being carried out to equip bakeries with modern and cost-effective equipment. In particular, the implementation of the "Wachtel" technological system, which works on convenient, low-pressure gas or electricity consumption made in Germany by 15-20%, leads to high productivity. Naturally, this process is an important factor in ensuring the quality of bread products. In this place, viloyatidagi "Farg'ona don mahsulotlari" JSC, "Bag'dod don mahsulotlari" JSC, "Quva don mahsulotlari" JSC, "Qo'qon don mahsulotlari" JSC in Fergana region, which produce high-quality bakery products based on advanced and modern technologies products" JSC's products meet the quality standards.

The certification office under "Don mahsulotlari IIChM" LLC was established in 1994, and this office was one of the first in the country to be accredited by the National Accreditation System. Here, a wide range of breads: black, diet, baguettes, mold breads and various confectionery products are checked for quality and safety, and certificates of conformity are issued to them. The fact that the testing complex under "Don Products" LLC operates using modern measuring devices - atomic absorption spectrophotometer, high-performance liquid chromatograph, CB4-mineralizer, ultraviolet spectrophotometer is an important factor in determining the quality and safety of the product.

Bread, bakery products are classified in the 19th group of the IV section of the UzR TIF TN in the 1905 product position, and pasta products are classified in the 1902 product position of this group.

Table 2

Cereals and flour products	UzR TIF TN		
	Department	Group	Position
Wheat	II	10	1001
Rye	II	10	1002
Barley	II	10	1003
Oatmeal	II	10	1004
Rice	II	10	1006
Corn	II	10	1005
Grechikha	II	10	1008
Sorghum	II	10	1007
Legumes	II	12	1201
Cereals, processed grains	II	11	1103, 1104
Flour	II	11	1101, 1102, 1105, 1106, 1107
Bread and bakery products	IV	19	1905
Pasta products	IV	19	1902

The chemical composition of flour depends on the composition and type of grain. The higher the grade of flour, the more starch it contains. The content of other carbohydrates, as well as fat, ash, proteins and other substances increases with a decrease in the type of flour.

The structure of cereal products is almost the same, consisting of husks (fruits and seeds), aleurone layer, floury core (endosperm) and bran. The chemical composition of grain consists of the following substances:

- carbohydrates appearing as starch - 60-70%;
- protein - 10-20%;
- lipids - 2-3%;
- vitamins - E, B, carotene, etc.;
- mineral substances (phosphorus, potassium, magnesium, manganese, spirit, molybdenum) - 1.5-3%;
- enzymes;
- pigments - chlorophyll and carotenoids that color the grain.

All production processes of food products are taken into account in certification work. The certification process takes into account many details, from risk studies and inspections of production plants, and includes many tests and analytical studies in production plants, and based on the examination of the chemical composition of the product, people can be assured of quality food products. is the basis for providing with Also, certification of products increases the quality of products and serves as a basis for increasing export value.

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