

## The Effectiveness of Standardization, Technical Regulation and Certification

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**Abstract:** The article highlights the role and effectiveness of standardization, technical regulation and certification in ensuring the quality and competitiveness of agricultural and food products. The work and measures to ensure the quality and safety of agricultural and food products are considered and analyzed. Recommendations were developed to improve the work to assess and ensure the quality and safety of agricultural and food products.

**Keywords:** Standardization, Technical Regulation, Certification, Conformity Assessment, Accreditation, Technical Regulations, Product Quality And Safety, Testing Laboratory, International Standards.

### INTRODUCTION

It is known that food contains more than 650 substances necessary for normal life. Each of these substances has its own place in the chain of biochemical processes. 96% of organic and inorganic substances obtained with food have certain medicinal properties. According to the data of the World Health Organization (WHO), more than 500 thousand chemical compounds are used in industry, of which 40 thousand are harmful and 12 thousand are toxic. For many compounds, maximum permissible levels have not been established, including for food products. Ensuring food safety is a complex process that starts at the farm and ends at the consumer's table. Consequently, the quality and safety of products and services is the most important factor in the implementation of national interests in the broadest spheres of activity. In this regard, an urgent task is to control the quality of food products, the purpose of which is to protect the consumer from low-quality and dangerous products. Consider and analyze the work carried out and the effectiveness of measures to ensure the quality and safety of agricultural and food products in the Republic of Uzbekistan. In Uzbekistan, grown vegetables, fruits, grapes and melons are considered unique in their consumer properties. In order to widely familiarize foreign partners with the produced fruits and vegetables, increase the volume and expand the range of supplies for export of fresh and processed products, develop new markets for its sales, as well as ensure the quality and safety of fruits and vegetables and food products, planned and purposeful work is being carried out. Consider the basic terms and definitions for quality assurance and safety.

**The quality of food is determined by three components:**

- organoleptic indicators;
- quality indicators
- compliance with the requirements of regulatory documents for a specific product;
- safety indicators.

**Quality** - a set of properties and characteristics of a product that gives it the ability to satisfy conditioned or implied needs.

**Quality system** - a set of organizational structure, responsibilities of procedures, processes and resources that ensure the implementation of overall quality management.

**Food safety** - absence of toxic, carcinogenic, mutagenic or any other adverse effect on the human body when consumed in generally accepted amounts.

**Quality assurance** is a set of planned and systematically carried out activities necessary to create confidence that the product meets certain quality requirements. An important role is given to the appearance, organoleptic characteristics, packaging, information for the consumer about the quality and direction of use of the product. Classification of food products and chemical compounds: Depending on the purpose, food products are divided into 3 groups:

**1st group** - products of mass consumption, developed according to traditional technologies and intended for nutrition of the main population groups.

**2nd group** - medical (dietary) and therapeutic and prophylactic products, specially created for therapeutic and prophylactic nutrition. This group includes fortified, low-fat (reduced fat by 33%), low-calorie foods (less than 40 kcal / 100 g), with a high content of dietary fiber, reduced sugar and cholesterol.

**3rd group** - baby food products specially created for the nutrition of healthy and sick children up to three years of age. Food products are complex multicomponent systems made up of hundreds of chemical compounds. These compounds are conventionally classified as follows:

**1. Compounds with alimentary value.** These are the nutrients necessary for the body: proteins, fats, carbohydrates, vitamins, minerals.

**2. Substances participating in the formation of taste,** aroma, color, precursors and decomposition products of the main nutrients, other biologically active substances. They are conventionally non-alimentary. This group includes natural compounds that have anti-elementary toxic properties, such as solanine in potatoes, fazin in beans, or interfere with the metabolism of nutrients, such as antivitamin.

**3. Alien, potentially hazardous compounds of** anthropogenic or natural origin. They are called contaminants, xenobiotics, or foreign chemicals. These substances can be of both organic and inorganic nature, including microbiological origin. In Uzbekistan, a regulatory and technical base has been formed, all conditions and legal foundations have been created for the effective organization of production, as well as for assessing the conformity of the quality and safety of food products. The laws —On standardization, —On metrology, —On quality and safety of food products, —On protection of consumer rights, —On technical regulation, —On certification of products and services, —On conformity assessment were adopted. In the last three years, significant changes and additions have been made to these existing laws in order to maximize the approximation of the stated requirements to international norms and rules. In the next decade, the legal basis for certification was formed. There was a transition from certification as an activity carried out by a third party to a more general safety control - assessment and confirmation of conformity. The main form of conformity assessment is the control of the quantitative and (or) qualitative characteristics of products. The transition to a new meaning of the concept of certification was necessary, since a condition for preparing Uzbekistan's accession to the World Trade Organization (WTO) and the elimination of technical barriers to trade is the harmonization of domestic rules of standardization, metrology and certification with international rules. The next step on this path was the adoption on April 23, 2009 of the Law of the Republic of Uzbekistan "On Technical Regulation". The essence of the law is to partially replace mandatory compliance with the principle of voluntary certification. This does not override the mandatory certification.

Mandatory confirmation of product quality must be made only in relation to safety requirements established in a new form of legislative acts - technical regulations.

The rules for certification of food products and food raw materials operate within the framework of the regulatory document. The object of certification is any food product intended for sale on the domestic market.

For specific groups of homogeneous food products, a certification procedure is being developed. Certification of food products is carried out according to a certain scheme, the choice of which depends primarily on the guaranteed shelf life of the product.

The work on confirmation of conformity is carried out by certification bodies, the competence of which is confirmed by the accreditation procedure. Any form of conformity assessment provides for product testing. The accreditation of Testing Laboratories and Certification Bodies is carried out by the State Unitary Enterprise—Accreditation Center under the agency for Standardization, Metrology and Certification Uzstandard.

According to the Certification Rules, only an accredited testing laboratory (AIL) is allowed to test specific products, which tests specific products and issues test reports for certification purposes.

AIL is responsible for the compliance of its certification tests with the requirements of regulatory documents, as well as for the reliability and objectivity of the results.

In the Republic of Uzbekistan, there are a total of 456 accredited testing laboratories, for the purpose of certification of food and fruit and vegetable products, 95 testing laboratories and 25 certification bodies have been accredited. The testing laboratories are re-equipped with modern measuring instruments and equipment every year. In laboratories that test agricultural and food products, modern test methods are mastered in accordance with the requirements of international standards, norms and rules.

Annually, in the National Certification System of the Republic of Uzbekistan, from 34 000 to 36 000 certificates of conformity are issued for food and fruit and vegetable products, including through the recognition of certificates of foreign countries.

The testing laboratories are re-equipped with modern measuring instruments and equipment every year. After the re-equipment of the laboratories, the testing time was reduced from 14-16 hours to 3-4 hours, and the cost of services was reduced by 4 times, it becomes possible to conduct tests for compliance with international ISO standards. Urgent tests of various substances, preservatives, color and flavor additives in food products are carried out, the laboratory has the ability to conduct short-term accurate rapid tests.

In the near future, certification will develop in the following areas:

Harmonization of domestic orders and rules with international rules. The need for harmonization is caused by the development of trade cooperation, preparatory work for accession to the WTO, the introduction in the EU of mandatory confirmation of product conformity as a prerequisite for the admission of goods to the European market. Improvement of certification methods and schemes, convergence of certification schemes with European ones. Increasing the variety of schemes will allow the applicant to choose the most acceptable of them, both from the point of view of costs and taking into account the degree of danger of the product, the volume and nature of its production, circulation and use. One of the main tasks of the ongoing work on standardization is to update and harmonize the requirements of national standards with the requirements of international ISO standards and standards of industrialized countries. This will ensure the quality of food products in accordance with the level of development of science and technology, international experience. To date, the State Fund of

Normative Documents for Standardization of the Uzstandard Agency has registered 2623 existing standards that determine the requirements for the conditions of production, preparation, processing, delivery, storage, transportation of food products, of which:



- 612 international standards (ISO);
- 654 interstate standards (GOST);
- 330 State Standards (O'zDSt);
- 1027 standards of organizations (Ts).

In 2018-2019, 682 standards were registered, developed and approved by ministries and departments, organizations and enterprises. With the adoption of the Law of the Republic of Uzbekistan from 23.04.2009. "On technical regulation", the economy of Uzbekistan is switching to a fundamentally new system of establishing requirements for products and services. The transition to a new meaning was necessary, since the condition for the preparation of Uzbekistan's entry into the World Trade Organization (WTO) and the elimination of technical barriers to trade is the harmonization of domestic rules of standardization, metrology and certification with international rules. In accordance with the adopted State Programs, work is being carried out to develop general and special technical regulations. At present, 36 General technical regulations and 10 Special technical regulations have been developed and adopted in the technical regulation system. The following technical regulations have been developed and adopted for the food and processing industry:

#### **General technical regulations:**

1. General technical regulation "On grain safety"
2. General technical regulation "On the safety of alcoholic beverages"
3. General technical regulation "On the safety of milk and dairy products"
4. General technical regulation "On the safety of packaging in contact with food"
5. General technical regulation "On food safety in terms of its labeling"
6. General technical regulation "On the safety of fat and oil products"
7. General technical regulations "On the safety of meat and meat products"
8. General technical regulations "On tobacco products"
9. General technical regulation "On the safety of drinking water packaged in containers"
10. General technical regulation "On the safety of fruit and vegetable juice products"
11. General technical regulations "On the safety of soft drinks".

**Special technical regulations:** the following special technical regulations were adopted by the resolutions of the Uzstandard agency:

1. Special technical regulation "Safety requirements for gossypol resin";
2. Special technical regulation "On the safety of grain processing products";
3. Special technical regulation "On the safety of bakery and pasta products";
4. Special technical regulation "On the safety of bakery and pasta products" - new edition (MTR.008-2020).

These Technical Committees carry out work on organizing the development and examination of projects of national, interstate and international standards, implementation, formation of the Program for the development of national standards, updating and harmonization in accordance with international requirements and best practices of developed countries, analysis of standards for their updating and further use. Raising the quality and safety of agricultural and food products, further expanding the volume of export of agricultural products and its geography in our country to a new level, requires special attention to the system, the implementation of the results of scientific research, innovative approaches, best practices, the introduction of the requirements of international standards in the agro-industrial sector ISO, Organic and Global GAP.

Based on the analysis, the current system of standardization, technical regulation and quality assessment of the republic, it is recommended to carry out the following measures to improve work for a high-quality and safe organization of food production:

- Compliance with republican and international requirements of legislative acts on quality and safety assurance;
- Development of the necessary regulatory documents and modern infrastructure for growing, processing, manufacturing, evaluating and selling, as well as the consumption of agricultural and food products, ensuring its quality and safety;
- Organization of permanent training and practical courses, master classes to improve the qualifications of executives and engineering and technical workers, specialists;
- Search for new methods and forms to improve educational processes of training highly qualified personnel, ensuring effective integration of education - science - production;
- Periodic equipping of production technological processes with modern technological lines and equipment, provision of production with the latest control measuring and testing means;
- Harmonize and update regulatory documents with the level of requirements of international standards, the use of international best practices;
- Together with sectoral ministries and departments, as well as national bodies of other countries, create technical committees for the main types of agricultural and food products, comprehensively considering and studying problems in terms of standardization, technical regulation and certification in the development of new standards, special programs for the development of the industry, assessing the quality assurance and competitiveness of products;
- Acceleration to implement in agricultural industries, farms, agro-clusters, as well as food and processing manufacturing enterprises of the requirements of international standards Global G.A.P. and Organic, ISO 22000 food safety management system, quality management system management.

- To formulate special sectoral and state scientific and technical programs (SSTP) for conducting fundamental, applied and innovative research on priority and top-priority tasks and problems to ensure the quality and safety of agricultural and food products.

## CONCLUSION

Carrying out systematic work and taking appropriate measures to establish and organize quality control and safety of agricultural and food products based on the requirements of regulatory documents using modern methods and means ensures the welfare and satisfaction of consumers and the health of the population of the republic. The enterprises of the food and processing industry of the Republic of Uzbekistan have high capacities and are equipped with modern technological equipment, testing and measuring instruments that allow to fully satisfy the needs of the population and export high quality products.

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