

CURRENT STATUS OF QUALITY CONTROL IN THE FOOD INDUSTRY

The main problem. Strategically important sector of the economy has been and remains the food industry, on which the welfare of the Ukrainian people depends, that's why its rapid development is an important precondition for overcoming the crisis and achievement of sustainable economic growth.

Ukrainian food industry lags behind the economically developed countries on the structure, state of production and technical base, technical and economic indicators, the development of infrastructure, especially for complex processing of raw materials, automation and mechanization of production processes, quality of products and its packaging.

Despite of the extremely favorable soil and climatic conditions, the population is not fully supplied by food products of high quality. Recently, Ukraine is losing foreign markets of food, and the domestic market is filled with foreign products (often of poor quality), at that time when there are all necessary capacities and raw materials for problems to overcome.

Increased competition for the consumer and Ukraine's accession to the WTO require significant changes in terms of the food industry to improve the quality of goods and services, including a reliable quality control of food products. Positive factor in solving of this problem is the introduction at local food organizations of international systems of food quality management. Today, according to the monitoring, system of quality management and environmental protection is implemented in more than 150 companies.

For Ukraine with WTO accession become relevant such issues as for manufacturing of competitive products that may be implemented in European countries and will meet international standards.

Obviously, the problem of improving the quality and competitiveness of products is not only relevant, but is one of the most important. The outcoming of crisis for the domestic economic in market conditions is only possible if the industry in Ukraine, including food, will produce only high quality products, safe for life and health.

Analysis of resent researches and publications. Problems of quality management in enterprises can be considered in scientific papers by E.M. Kupryakov, A. V. Glichev, N.V. Pavliha, O.V. Mishko, V.I. Pavlov, V.P. Rudenko, I.V. Opyonov, M.I. Shapoval.

It is needed to mark among basic problems, that not all enterprises now are in a position of introduction of control system by quality products. It is predefined absence of practical experience in relation to introduction of control system by quality, by the lack of skilled specialists in the field of quality of products.

Problem statement. The aim of the article is studying and improving of the elements of quality management system at food enterprises.

The main material of the study. At the present stage of Ukrainian development one of the main directions both as the service sector, so the production is quality but not the volume of products output or services. An important prerequisite for long-term gains of markets is higher quality, considering consumer requests, but not lower prices.

Technical and organizational-economic problems related to the quality, has long enough been the subject of considerable research. The role and importance of quality is constantly growing under the influence of production technology development and human needs. The problem of quality of products and services has been and remains relevant. It is a strategic problem, and of its solving depends the stability of our country's economy.

To the solution of problem of quality increasing are engaged all countries, as it is evidenced by numerous publications on the theory and practice of quality improvement.

With the accession of Ukraine to the WTO, the depletion of natural resources, the development of competition, harsh environmental degradation aspects of quality have become the most important for food manufacturers.

Quality is an integral part of the product, which is particularly important in business. And it is no secret that in order for a company to "survive" in a competitive environment it is necessary to produce only high-quality goods. [2]

Product quality is one of the most important criteria for the functioning of the organization in a saturated market and the majority of non-price competition. Improving of technical level and products quality determine the pace of scientific - technical progress and growth of enterprise efficiency in general, affects the strengthening of economy, the competitiveness of domestic goods and standards of living of the population.

For quality control are used four types of methods [4]:

- Economic methods that enable the creation of economic conditions that encourage groups of companies, engineering, technological and other organizations to study the demands of consumers, create, produce and maintain products that meet these needs and demands.

Among economic methods there are pricing rules, credit terms, economic sanctions for failure to comply with standards and specifications, compensation rules for economic loss to consumers for selling him defective products;

- methods of financial incentives, providing, on the one hand, encouraging staff for creating and producing high quality products (these methods include: the creation of bonuses for high quality, the mark-ups of wages, etc.), on the other hand, the collection for damage caused by its poor quality;

- organizational and executive methods implemented by binding directives, orders, decrees of managers. Among the organizational and executive methods of product quality management can be included as well the requirements of regulatory documentation;

- educational methods that affect the mind and mood of the participants of the production process, leading them to high-quality work and precise execution of specific functions of quality control. These include: moral incentives for high quality products, upbringing of pride for factory mark, etc.

Choice of methods of quality control and search of their most effective combination is one of the most creative moments in the creation of management systems as they affect the people involved in the development and manufacture of products, i.e. the mobilization of the human factor.

Analysis of the forms and methods of organization of work with quality, determining the possibility of completion of work on quality by the general principles of management theory, the development of quality control mechanism, determining the needs nature, the state of market conditions as the initial element of quality control, critical review of definitions of key terms indicate the following [1]:

1. Modern organization of works on quality is theoretically acceptable but practically it is appropriate and efficient to build not on the overall global control, but on the principles of general theory of management based on schemes of mechanisms for quality control;

2. Modern quality management should be aimed directly at the nature of needs, their structure and dynamics, capacity and market conditions; incentives related by economic and technological competition, characteristic for a market economy;

3. Modern quality management in the enterprise, regardless of ownership and scale of industrial activity, should optimally combine steps, methods and means to ensure, on the one hand, the production of products that meet the current needs and demands of the market, on the other hand, the development of new products that can meet future needs and future market demands.

In determining the quality management we must proceed from the fact that the quality management is an organic part of the overall management of enterprise, one of its branches, one of its functions [7].

It is clear that the modern concept of quality management is a concept of operating by any purposeful activity that can, as experience shows, succeed not only in production but also in state and municipal administration in various fields.

Thus, the quality is multiphase concept, and it will require combining of scientific forces, from creativity to the experience of many experts. For current conditions in Ukraine a quality problem is not only very important, but it should be solved by common efforts of state, heads of groups of companies, scientists, designers, by every engineer, and worker.

Therefore, so that every designed and documented quality system should work effectively it is necessary [5]:

- to use the motivation for staff;
- to teach them both professional matters and quality control;
- to build trustful relationships with customers;
- to learn to manage your suppliers so that in time get from them the necessary raw materials of pre-set quality.

Nowadays in the competitive environment, companies are increasingly forced to pay attention to the quality problems. Consumers of products are becoming more demanding and expect high quality at low prices. They want confirmation and guarantee of that fact that the quality is observed. This type of warranty is a certificate confirming the existence in the company of realized quality system.

National standards for quality systems were first established in the UK in 1983. The aim of the conducted campaign was the introduction of quality systems in enterprises and the establishment of procedures for the certification of such systems. Britain was followed by other European countries [6].

In ISO 9000 are established common international standards for quality management system in any manufacturing company. This standard is applied to the system as documented in a series of activities from the production process realization. It contains requirements for building a system that will provide long-term support and improving quality.

Complex of international standards ISO 9000 contains the following elements:

- ISO 9000-87 - total quality management and quality assurance standards. The standard defines the key contractual and non-contractual conditions of contractual deliveries and reveals the basic principles of quality policy. The rules are defined for the application of models of quality systems and it is specified in standards ISO 9001-9003;

- ISO 9001-87 – a model of system for quality assurance in design or development, manufacture, installation and maintenance. The standard establishes requirements concerning the quality system, if the

contract concluded between the two parties, requires the supplier to demonstrate the ability to develop and deliver products;

- ISO 9002-87 - a model of system for quality assurance in production and installation. The standard specified requirements for quality if the contract concluded between the two parties requires the demonstration of the control of technological processes which is crucial for the adoption of the final product;

- ISO 9003-87 - a model of system for quality assurance in final control and testing. The standard specifies requirements for quality if the contract concluded between the two parties requires the demonstration ability to control and perform final tests required for acceptance of the final product;

- ISO 9004-87 - general management and quality system elements. The standard discusses the elements of the quality system. It gives guidance on the general principles of the development and implementation of quality systems in conditions not related to the contract.

The standards do not provide for the division into sectors, but beginning of 1993, in standards are reflected the following main product categories: hardware (9004-1) software (9000-3), services (9004-2), technology (9004-3).

Other important standards include:

- ISO 8402-86 - in the standard are revealed terms and definitions in the field of quality;

- ISO 10011-92 - guidance on checking the quality system;

- ISO 10012-92 - confirmation system of metrological suitability of test equipment, management of measurement process;

- ISO 10013-94 - guidelines for developing management on quality.

The final conclusion of the creation of quality system is a set of documents which is composed of three levels of documents. The main document of quality system is a quality management, including content of quality policy, the scope of application and a description of the organizational structure of the company indicating the responsibilities and powers. In management quality are shown all provided by standards ISO 9000 elements of quality system.

The main users of the quality management are top management, and enterprise customers. The second stage in the hierarchy of quality system documents take methodical instructions, in which are established what duties and by whom, in what sequence will be performed to implement elements of the quality system. Methodical instructions are intended for all services and divisions of the enterprise. A detailed description of performing of certain activities on production, distribution, installation, monitoring and other processes is contained in the operating instructions, instructions for control, directories that make up the third level in the hierarchy of documentation and are intended for use by ordinary employees. The documentation of the quality system must meet the following requirements: the same structure for all documents, general headings, numbered [8].

Adherence to company standards of ISO 9000 is confirmed by a certificate issued by an independent organization based on the results of quality system certification. This certificate is recognized worldwide and is sufficient to ensure quality for a customer. Certificate for compliance of company's quality system to standards ISO 9000 becomes a significant competitive advantage, can be used as a marketing tool to create the image of the company. In some areas the ISO 9000 certificate is a prerequisite for proper functioning, receiving orders.

In all EU countries quality and safety of products is controlled by the manufacturers themselves and is provided by enterprises implementing quality systems such as ISO, HACCP and GMP standards (Good manufacturing practice - GMP is a part of quality assurance which ensures that products are consistently produced and controlled according to quality standards. GMP standards particular attention pay to the creation of quality in process of production and are aimed at reducing the risks).

Without bringing theory and practice of food production in accordance to the established in the civilized world rules and regulations, the success in a market economy cannot be achieved. For example, the implementation of food safety management throughout the food supply chain (primary producers, food producers, organizations that provide transportation and storage of retailers, and producers of equipment, packaging material, additives and ingredients) allows adaptation to local terms of ISO 22000 "Management system of food safety". Requirements for the organization in the food chain, which in August of 2007 came into force in Ukraine as EN ISO 22000:2007. This standard establishes requirements for the management of food safety if an organization in the food chain has the need to present its ability to manage hazards of food to ensure that food is safe at the time of human consumption.

Among the main international documents that interpret and make recommendations on the implementation of HACCP (the Hazard Analysis and Critical Control points is scientifically-based system that helps to ensure the production of safe products by identifying and controlling of hazardous factors. The system evaluates the hazards that could affect food product during its manufacture, storage, sale and use. HACCP system involves the division of the production process into blocks and implementation of a control system for potential "risk" in each of these areas. While planning these activities, qualified and responsible operations by each specialist of food processing and documentation of all measures allow to reduce the possibility of defective production to a minimum, almost to a zero. HACCP system is the only system of food

safety management, which has proved to be effective and is accepted by international organizations. Implementation of HACCP system in the enterprise depends on the available resources.

While introducing the system it is done: complement of product control by processes control, satisfaction of need in the ever dangerous foods, increasing of the efficiency of investments, etc. This system is connected with the system of rules and regulations of businesses, which should focus on the implementation of the principles of HACCP - a modern quality management system, whose main task is to evaluate the manufacturing process in terms of the analysis of threats and risks that may occur during the production of food products.

Employees of the food industry should have a higher level of training for quality, because they will be involved in the whole complex of works on evaluating the needs of consumers, market research, strategic planning of the company, developing of new products, quality control of projects, evaluation of the degree of pre-production and understanding of other problems to be solved by functional services of the company. In the production should be used innovative technologies, more sophisticated equipment, control and measurement equipment, and thus will increase the value of statistical control methods, to increase the amount of work with automated design of new products [3].

Food enterprises need to establish such relationships with the suppliers that will allow them to get necessary raw materials in time and of pre-installed quality. Control of these should be delegated to a specialist or specially created department of logistics.

Conclusions and further researches. The economic effect of the technical control is distracting damage that reflects itself in the form of reduced losses that occur if the control is not performed. Such losses include: loss of defects if the defect of production is not warned (the parameters of the production process are not controlled, the normative means of measurement are not used); losses from fraudulent defects that arise when suitable products are considered inadequate requirements due to poor control.

Food industry needs to remain the leading sector of the national industrial output. Such strategic tasks should be solved for these trends have not changed:

- to undertake a complex modernization of food enterprises, to introduce into production the latest achievements of science and technology;
- to ensure growth of investments to enhance innovation, the introduction of resource-saving and low-waste production, developing of new and improving of existing products;
- to control the quality and safety of food products based on methods of HACCP, quality management system according to international standard ISO 9000;
- to develop and implement effective mechanisms for improving the competitiveness of the domestic and foreign markets.

References

1. Kravetskyi, A.V. and Babchynska, O.I. (2010), "Quality management: problems and perspectives of introduction at domestic enterprises", available at: http://www.rusnauka.com/15_APSN_2010/Economics/67675.doc.htm
2. Styrenko L.M. (2009), "Evaluation of the Quality Management System within the context of "cost-results", *Proceedings of the National University of Food Technologies. Special Issue. Economics*, no. 23, pp. 97-101.
3. Quality system in accordance with international standards ISO 9000 – 2011 — available at: http://toplutsk.com/articles-article_379.html
4. Trachenko, L.A. (2009), "Flowchart of quality management in the food industry", *Naukovyi zhurnal «Visnyk»*, no. 1, pp.79–86.
5. Trachenko, L.A. (2008), "Approach to quality control in the food industry", *Naukovyi zhurnal «Ekonomika rozvytku»*, no. 2, pp. 95-98.
6. President of Ukraine Decree "On measures to improve the quality of domestic products", *Voice of Ukraine*, 24.12.2001
7. Feihenbaum, A. (2002), *Kontrol yakosti produktsii* [Quality control products], Dilo, Kyiv, Ukraine, 318 p.
8. Shvets, V.Ye. (2004), "Quality Management" in the system of modern management", *Standarty ta yakist*, no. 6, pp.48-50.

Drabanich A.V., Kovalenko I.A. CURRENT STATUS OF QUALITY CONTROL IN THE FOOD INDUSTRY

Purpose. The aim of the article is studying and improving of the elements of quality management system at food enterprises.

Methodology of research. The following general research methods were used in the article. Among them are: analysis (for the understanding of quality management, its main components and characteristics have been analyzed) and synthesis, observation (focused on the perception of the research object, which recorded its basic properties), formalization (the study of the economic process by displaying its contents

and structure in symbolic form), and the method of synthesis, by which it has been made general conclusions.

Findings.. It has been defined that employees of the food industry should have a higher level of training for quality, because they will be involved in the whole complex of works on evaluating the needs of consumers, market research, strategic planning of the company, developing of new products, quality control of projects, evaluation of the degree of pre-production and understanding of other problems to be solved by functional services of the company. Assertion has been formed in the production should be used innovative technologies, more sophisticated equipment, control and measurement equipment, and thus will increase the value of statistical control methods, to increase the amount of work with automated design of new products.

Originality. It has been substantiated that among the main international documents that interpret and make recommendations on the implementation of NASSR points is scientifically based system that helps to ensure the production of safe products by identifying and controlling of hazardous factors, that in same queue to reduce the possibility of defective production to a minimum.

Practical value. Such introductions can be offered in all spheres of food industry and will create the economic effect of the technical control is distracting damage that reflects itself in the form of reduced losses that occur if the control is not performed.

Key words: quality of products, food industry, quality standards, quality control, quality certificate.