

The Quality Management System at the Enterprises of Kazakhstan Republic Agribusiness Within a United Customs Union

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Abstract: The product quality is one of the most important competition, winning and market position retaining means. The quality management is the main part of the production process. It is aimed not so much at defects or flaws detection but on product quality check during its production. The skillful implementation of standardization, metrology, certification and quality management principles and mechanisms stimulate the acceleration of effective economic reformation and the integration of Kazakhstan into the world community. During the solution of these issues, almost all industrialized countries have entered a new phase, characterized by the development of Integrated Quality Management Systems (IQMS) based on the Quality Management System (QMS), Environmental Management Systems (EMS) as well as the Occupational Safety and Health Management Systems (OSHMS). The modern QMS in all industries, including agriculture should be developed and improved focusing on the requirements of ISO 9000, ISO 14000, OHSAS 18001. In this regard, there is an objective need for an analysis and the evaluation of international standards used in the field of quality management and the development of recommendations on its basis for their adaptation and use at the agricultural enterprises of Kazakhstan. This approach allowed us to find the most preferred option of a structural combination and the development of QMS various types and will create and support the competitive potential of economic actors in the agricultural sector and especially in such a strategically important industry for the country as grain production. In market economy, during a market intense competition intensification, the enterprises may survive, introducing the systematic management of manufactured product quality.

Key words: Quality, standard, system, management, competitiveness, integration, products

INTRODUCTION

The problem of quality is always not easy. It is particularly important now within the customs union terms. One has to compete with foreign representatives using internationally recognized standards within the united customs area. In this regard, enterprises should gradually introduce international quality standards which mean the transition to modern technologies, including eco-friendly ones. It will also help the enterprises producing and processing products to carry out independent foreign economic activity actually to increase production efficiency and the wealth of production groups and this will significantly speed up the terms of international market entry international and will create the prerequisites for the introduction of work organization modern methods. The basis for this should be the principles of voluntariness and economic interest as for a small agricultural producer, so as for a major industrialist. The product quality, its operational safety

and reliability, its design, its level of after-sales service for a modern buyer are the main criteria when making a purchase and therefore, determine the success or failure of firms at the market (Kaplan and Norton, 2001).

The modern market economy imposes absolutely new requirements concerning the product quality. This is explained by the fact that the survival of any company now, the stability of its position within the market of goods and services is determined by the level of competitiveness. In its turn, the competitiveness is associated with the action of a few dozens of factors, among which one may determine two main ones: the product price and quality. At that the second factor takes gradually the first place. The productivity, the saving of all kinds of resources give way to product manufacture. An innovative approach to business strategy is determined by the fact that the quality is the most effective means of meeting the consumer requirements and at the same time the most effective means of production costs reduction.

MATERIALS AND METHODS

According to the International Standard ISO 8402 “Quality Dictionary”, it is useful to mention some of the basic concepts included in the modern concept of quality. Quality is a set of properties and characteristics of products that give it the ability to meet the supposed or conditional needs.

In the socio-economic conditions inherent currently to the most developed countries, the quality of products is developed by the impact of the following basic factors:

- Susceptibility of industrial enterprises to the operational use of the latest achievements concerning the scientific and technical progress
- A thorough study of domestic and international market requirements and the needs of different categories of consumers
- An intensive use of “human factor”, especially the creative potential through the training (of workers and managers), education, the systematic qualification increase, the use of material and moral incentives

Quality is a complex concept and its provision requires the association of scientific minds: from the creative potential to the practical experience of many experts. The quality management in market conditions is carried out systematically. This means that the company has a quality management system which is the organizational structure that clearly distributes the responsibilities, procedures and resources necessary for quality management. The product quality management process is revealed through the functions of planning, security, control and regulation of the product quality level. This process involves:

- The planning of appropriate product quality values at all stages of a life cycle
- Coordination of technical, organizational and economic measures ensuring the achievement of the planned quality level
- Determination of the actual product quality level through technical supervision and regulatory impact in case of quality deviations from the set parameters

In the terms of market economy, when the intense market competition is intensified, the enterprises may survive, introducing a product quality system control which is reduced to the following provisions: the

quality is considered on a par with all technical innovations from the beginning of a product development.

The planning of scientific-research and development works is organized in such a way that the product chosen for the manufacture from the variety of options must meet the state and international standards in respect of its technical and economic parameters. The acceleration of a product design within a short time is the main criterion of the development system.

To date, the most effective method is the implementation of quality management systems based on ISO 9000. The obtaining of such a certificate from a reputable and an independent body significantly strengthens the company positions at the markets as it provides its customers with some more confidence in the ability of an enterprise to secure the required level of quality in a stable way (Feigenbaum, 2004).

The series of International Organization ISO 9000 standards summarized the global experience of quality management which are accepted for use by the international community. The list and the relationship of ISO 9000 family standards are presented on Fig. 1.

The level of our consumer needs is compared in essence with the level of requirements for the goods and services at foreign markets. The possibility of a free choice and a tough competition always influence the producers, forcing them to think about quality. The certification of products also plays an important role for the products and services quality improvement. It is closely related to the development of a systematic approach concerning management. The quality management is mainly based on standardization. The standardization is a standard way of management. Its impact on the object is performed by establishing the rules and regulations issued as regulatory documents with a legal force. Standard is a normative and technical document establishing the basic requirements on product quality. An important role in quality management belongs to the technical specifications. Specifications is a standard and technical document establishing additional standards besides the state ones and (if these standards are absent) the independent requirements for product quality indicators as well as the a datasheet, a recipe and a sample-standard which are equated to this document.

Standards define the planning order and methods to improve the product quality at all stages of a life cycle, establish the requirements for the means and methods of quality assurance and evaluation.

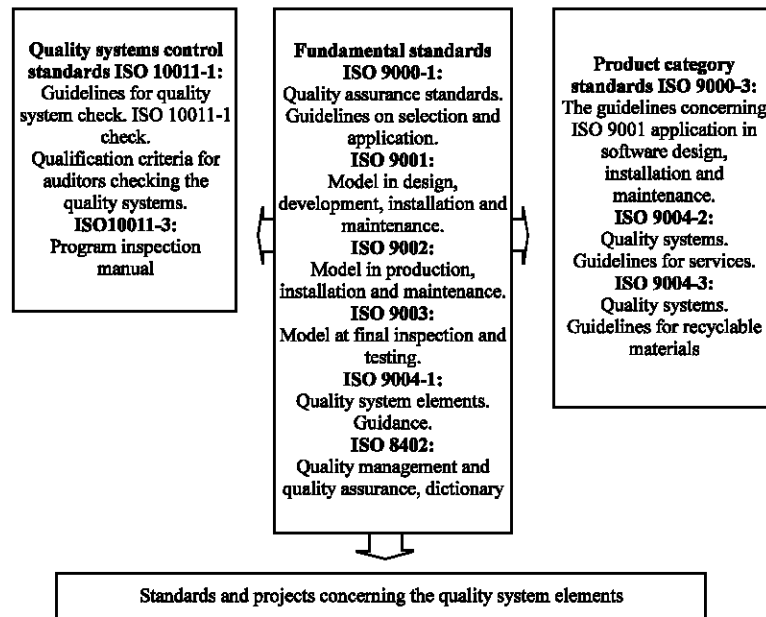


Fig. 1: The list and relations of ISO 9000 family standards

RESULTS AND DISCUSSION

During recent years, there is an increase of low-quality food at the consumer market. This problem is related to the deterioration of raw materials quality, the low technical, technological and sanitary level of production, the weakening of control over the quality of food, the insufficient level of certification and standardization. This situation calls for a greater state control and quality management at all stages of food promotion to the consumer from agricultural production, its processing, transportation and storage to its sale for population. The quality problems should be solved at the level of a specific producer as well as at the state level. Therefore, it is necessary to increase the role of public services concerning the quality of products to give them an appropriate status and accelerate their work.

The regulation of product quality as the basis of its competitiveness may be performed by direct and indirect methods. The direct methods include: competition policy, standardization and certification, state support and the limitation of prices, licensing and other methods. The indirect methods include: preferential loans and taxation, the pricing, investment and customs policy, the implementation of quality systems, etc. The market methods of regulation include marketing programs, factory standards and voluntary certification. The main guarantee of food safety is their certification and standardization. The main objectives of the quality system certification are:

- The confirmation of quality system compliance and its elements to the requirements set forth in the corresponding standardized documents
- the confirmation of the manufacturer's capabilities for a stable product manufacture of planned quality within the periods set by contracts and within the planned volumes
- The creation of favorable conditions for the certification of products
- The creation of confidence among product consumers, the organization management the manufacturer and other interested parties concerning the product provision opportunity by manufacturers. This opportunity shall conform the specified requirements

The basic principles of quality system certification shall be: voluntariness, non-discrimination in concerning the system access, the objectivity and reproducibility of results, confidentiality, awareness, authenticity of the applicant documented evidence concerning a current quality system compliance with established requirements.

The objects of audit and evaluation during an applicant company QMS certification are the quality policy, the organizational structure, processes, documentation, resources and the product quality level.

The procedure of quality system certification in the Republic of Kazakhstan State system certification is harmonized with the relevant European and international

rules and regulations which are aimed for the development of Kazakhstan certificates recognition abroad as well as for the inclusion in the international systems (ISO 9001, 2000).

Now a days, the food industry of Kazakhstan introduces new quality management systems. The system of food quality management on the basis of HACCP principles (Hazard Analysis and Critical Control Points) makes the reduction of infectious disease reported cases and food poisoning possible. The main purpose of HACCP system introduction is the issue of safe products.

The hazard analysis system and critical control points are based on an original approach concerning safe food production by prevention of problems. As a rule, the HACCP system does not deal with the product quality problems.

As a rule, the HACCP system does not affect the product quality problems. Its main task is the production process evaluation in terms of the hazard analysis and the corresponding risk levels. Then the monitoring and control procedures for the production process stages are developed. These procedures have the probability of hazard appearance. The implementation of HACCP provides a constant process of safe food obtaining.

HACCP system has become the synonym of food safety. It is a systematic and preventive approach which is intended to prevent biological, chemical and physical hazards.

Three controlled stages shall be developed in order to produce safe food products:

- Hazard prevention
- Spread of hazard prevention
- Elimination of hazard

The processes of the world economy globalization make the emergence of an international standard appearance necessary. This international standard shall establish the uniform requirements for HACCP systems and completely harmonized with the provisions of existing management system standards ISO 9000 and 14000.

In 95% of contract conclusion abroad the obligatory condition is the presence of a certified quality management system at an enterprise which guarantees the

sustainable production of quality products. Therefore, the heads of all food enterprises, even the smallest ones have to think about the future and begin to work on the implementation of effective quality management systems immediately as it takes 1 year and a half for the implementation and certification of a QMS. The food business management which decided to introduce their own quality management system, generally has the issue of choosing a system model. At the same time, the theory and practice of offer him two most common models: the quality management system for food safety based on HACCP principles and the Quality Management System (QMS) that is based on the international standard ISO 9001:2000 or its Russian analogue GOST ISO 9001-2001.

It is a false alternative for a food company. In our opinion, there is no need to choose one of these two. It is only necessary to create the right technology of both systems development.

QMS based on MS ISO 9000 aims to meet the established and assumed consumer requirements and involves the entire enterprise management system regulation due to its basic procedural approach. QMS covers all stages of food products life cycle that is the main production processes (Fig. 2).

During the development of a QMS for any enterprise, including food industry enterprise ISO 9000 standards require the identification of all related processes functioning at an enterprise and the development of such methods and means of management which should lead to constant improvement of these processes effectiveness. This requirement for standards is also spread for the management processes (strategic planning, financial management, etc.) and the supporting processes (maintenance of equipment, staff training, etc.). The main purpose of HACCP system is the provision of consumer and manufacturer confidence concerning the manufactured products safety. The implementation of HACCP system is a mandatory requirement for all food enterprises not only in EU countries but also in the US, Canada, Australia and New Zealand. The essence of the system is the production of a particular food product at all production stages from the receipt of raw materials and till the finished product sale. Each production line and each intermediate technological stage demands the revealing of



Fig. 2: The basic processes of a food industry enterprise

hazards that may threaten the product safety (microbiological, toxicological, mechanical, physical, etc.).

The process of HACCP system development and implementation at an enterprise usually includes eight stages:

- Organization of works
- Collection of baseline information on the basis of existing procedure analysis
- The selection of accounted hazards
- The revealing of Critical Control Points (CCPs)
- The setting of limit parameter values controlled in CCP
- The development of a monitoring system which includes the necessary corrective operations in cases of critical deviations for monitored parameters
- Introduction of HACCP system
- Organization of internal audits performance with the development, in the case of discrepancies, corrective actions followed by the assessment of their effectiveness

CONCLUSION

Thus in our view, there is no doubt that the quality management system of a food enterprise, built on the basis of ISO 9000 always includes a HACCP system. At that there may be no reference of HACCP application in the quality system documents. The product and processes monitoring and measurement system designed for a food enterprise shall include the analysis and identification of all existing hazards. The setting of critical control points at all stages of the production process as well as the implementation of the necessary measurement values of monitored parameters in these points and the

initiation of corrective actions in cases of critical deviation detection from the prescribed limits of these parameters.

Therefore, the QMS for a food enterprise that is based on MS ISO 9000 in our view should always be integrated with HACCP system. But usually more time is required (1, 2 years) in order to develop an effective QMS. Therefore, the management of a food company before starting the work on the design of its enterprise quality system may decide on a phased QMS development, during the first stage of which a HACCP system is developed and implemented in the production for the period of 4-6 months.

Similar approaches for a food enterprise QMS design were included into the international standard ISO 22000 "Food Safety Management Systems" which came into effect on the 1st of September 2005. This standard provides some clear and specific requirements to identify and manage the risks of food production that are also provided by HACCP system. At that the structure of ISO 22000 is basically consistent with 9001:2000 structure. Thus, the international standard ISO 22000 also provides the guidance on the integration of HACCP system in QMS according to ISO 9001:2000 standard.

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