
The Need of “Food Quality Management” Educational Program Greening in Order to Ensure Environmental and Food Safety

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Abstract

The relevance of the issue of “Food Quality Management” educational program greening is caused by the need to consider increasing requirements to ensure the environmental and food security in the work of specialists on quality management in food production. To implement the environmental safety requirements at all management stages, a specialist is required who is able to integrate knowledge in technology, food production, quality management, food ecology and put it into practice. The purpose of the article is to develop methodological approaches to the greening of the educational program “Food Quality Management”. The leading approach to the study of this problem is the method of regulatory legal documents analysis, analytical, scientific and other materials, results interpretation, method of consolidation and information synthesis. The study allowed to justify the need to improve the existing system of training specialists in quality management in food production meeting the current geo-economic situation synthesis. The authors of the article suggested including an environmental component in the results of “Quality Management in Food Production” educational program graduates competencies formation. The materials of the article are of practical value for educational organizations engaged in the training of personnel for the food industry, agriculture and the enterprises of this sphere themselves.

Keywords: greening, quality management, food safety, environmental safety, educational program, competences

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INTRODUCTION

The quality of life increase of Russian citizens is priority of sustainable development in the country. Improving the quality of life of Russian citizens should be ensured in particular, by the availability of high-quality and safe goods, including food, guaranteed supply of which is defined as one of the main directions of ensuring national security in the food sector.

Modern geo-economic situation is characterized by different levels of food consumption by region: from industrial’s abundant high-quality food to developing regions with lack of food (Bobarova and Iosipenko 2017).

Lifestyle and food structure changes leads to a decrease in the share of natural, environmentally friendly products in the diet under the influence of modern production technologies, processing, and storage. Food safety problems arise due to anthropogenic contamination of raw materials, uncontrolled use of food additives, as noted by many scientists and experts (Gerasimenko et al. 2016, Zabolotnykh 2014). With an increase in the standard of living, the requirements for food consumption increase, including not only quantitative indicators, but also quality, directly dependent on environmental safety. In recent decades, especially in European countries, there is demand growth on products grown and produced in accordance with certified organic standards.

Table 1. The environmental aspects of the competences formation result of “Quality Management in Food Production” educational program

Competences	Disciplines	The environmental aspects of the competences formation result
Ability to apply knowledge of quality management approaches	Quality Management Basics Food chemistry Environmental assessment Food Marketing	Knowledge of food quality categories, production quality, food security, organic production, quality management, food ecology, interrelations between them, the ability to apply this knowledge in practice, taking into account the environmental component
Ability to apply quality management tools	Means and methods of quality management Technology and organization of production Environmental assessment	Knowledge of a set of methods and tools for quality management, allowing for the assessment and management of the environmental component of food quality at all stages of their production and sale, possession of the skills to use them in practice
Ability to apply problem-oriented methods of analysis, synthesis and optimization of quality assurance processes	Quality level assessment Quality Management Systems Basics of technical regulation Technology and organization of production Environmental assessment	Knowledge of problem-oriented methods of analysis, synthesis and optimization of food quality assurance processes, the ability to put them into practice, taking into account the complex problems associated with the increasing role of the environmental component
Ability to monitor and master methods for assessing progress in quality improvement	Quality Management Systems Quality control at the enterprise Monitoring and quality control of food products Environmental assessment Workshop on food quality control Food Marketing	Knowledge of international and national quality management systems, readiness to follow their principles and norms, taking into account global trends in the production of organic products
Ability to participate in corrective and preventive measures aimed at improving quality	Quality Management Systems Certification and confirmation of food compliance Quality control in the enterprise Environmental assessment Workshop on food quality control	Knowledge of methods and methods of food quality control at all stages of the production process, the ability to carry out corrective and preventive measures aimed at improving the quality and environmental performance of products
Ability to advise and develop skills in aspects of their professional activities	Quality Management Basics Environmental assessment Food Marketing	Possession of the skills for consulting and organizational work on the management of the quality of food production, the skills of working with consumers, focused on the consumption of environmentally friendly products

In this regard, the requirements for the training of highly qualified specialists in quality management in food production with theoretical knowledge and practical skills in the field of quality management and environmental management, production technologies and marketing are increasing.

The scientific basis for the study of the “Food Quality Management” educational program greening in order to ensure environmental and food safety is a study of Russian and foreign scientists in the field of sustainable development, organic agriculture, food production, training for the food industry. In this study, the authors of the article used the methods of regulatory legal documents analysis, analytical, scientific and other materials, results interpretation, the method of consolidation and information synthesis.

In 2019, Altai State University begins “Quality Management in Food Production” educational program implementation for bachelors’ preparation in the direction of preparation “Quality Management”. The program relevance for the regional labor market is determined by the fact that the Altai Territory is one of the regions with a highly developed agro-industrial complex. The region accounts for 11% of flour

production, 27% of cereals, 14% of Russian cheese. In the Altai Territory, more than 1,900 enterprises produce food (Rosstat, 2018). Agreeing with the opinion of I.V. Larionov (2015) that the quality and safety management of food must be preventive in nature and carried out directly in the production process, we consider it expedient to train specialists capable of implementing modern approaches to quality management at all stages of food production. In this case, the initial stage should include the determination of the characteristics of the food products quality, taking into account the needs of the population and current trends in dietetics. The full cycle must be completed with a waste and packaging recycling process. At all stages, quality management is based on the environmental component. To implement this approach, a specialist is required who is able to integrate knowledge in the field of technology, food production organization, quality management, food ecology, put it into practice in order to ensure environmental and food safety, improve the level and quality of life. **Table 1** presents the author’s point of view, reflecting precisely the environmental aspects of the competences formation result of “Quality Management in Food Production” new educational

program, developed and adopted for implementation in Altai State University in 2019.

Thus, the inclusion of the environmental component in the competencies formation results allows us to conclude that program graduates will be able to implement corrective and preventive measures aimed at improving the environmental performance of products at all stages of their production and implementation, using international best practices to ensure environmental food safety.

Based on the analysis of the own research (Zaitseva et al. 2017), we note that the educational program implementation success largely depends on the applied educational technologies, content, giving students the opportunity to study various domestic and foreign practices in the field of quality management.

In our opinion, electronic resources, interdisciplinary design, workshops and case-study using methods received recognition in the field of food quality assessment may be of interest (Csapo 1986, Hague and Jackson 1992, Stone 2005). Since competences are formed in the course of activity, the learning process is structured in such a way that students acquire skills in real situations assessing the environmental safety of food. All this will ensure the demand for graduates of the educational program on the regional and national labor markets (Butakova and Sokolova 2015, Krutikhina et al. 2018).

As a result of mastering the program, graduates will be able to work in the quality management departments

at the food industry and trade enterprises, as experts of certification and environmental impact assessment agencies, experts, auditors of the quality management system, consultants, quality specialists in consulting firms, specialists in work with suppliers and consumers, consultants for the development and implementation of a quality management system.

Summing up the results of this study, we would like to emphasize that "Quality management in food production" educational program, developed and adopted for implementation in the Altai State University in 2019, has prospects of demand for the labor market. Since the program competence formation considers requirements for providing environmental safety at all stages of quality management in food production.

The role of food security as one of the most important national security components, the current trends in the production of organic products in Russia will only increase due to the enactment on January 1, 2020 of the Federal Law "On Organic Products and on Amendments to Certain Legislative Acts of the Russian Federation". The development of a national organic products certification network that meets international standards is also required. Consequently, the requirements for the quality management specialist professional competencies become more complex in the field of food production. Specialists in this field should be able and willing professionally solve problems and practical problems in the field of environmental and food security.

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