

Review

Food Safety Policy in the European Union

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Received: 25 October 2021; Accepted: 11 March 2022

Abstract: The aim of the research is to analyze the food safety policy in the European Union and the strength of the legal and regulatory framework that covers the entire food production chain "from the field to the table". The legal framework refers to feed and animal health, protection and care of animals, veterinary examinations, animal health measures, plant health checks, preparation and hygiene of food products. For the preparation of this paper, a descriptive method, analysis and synthesis technique, as well as analysis of the content of laws in the field of food safety policy in the European Union were used. The findings show that the food safety policy in the European Union is based on the principles of an integrated approach; primary responsibility, traceability of food, and its ingredients, transparency and risk analysis. The Republic of Serbia has adopted many amendments to the laws on food safety, plant protection products, plant health, as well as plant nutrition products and soil improvers, which are aimed at further harmonization with the *acquis communautaire*.

Keywords: food safety policy; European Union; legal framework.

1. Introduction

Food safety is considered one of the most important issues in the production and processing of traditional food products [1]. At the international level, all food systems have adopted an integrated safety system with a focus on prevention and proactive actions, emphasizing the importance of interventions in places where animals are raised (control from "farm to table"), in order to ensure better hygiene, food quality and safety [2]. This system defines the responsibility of all participants in the entire integrated chain of production, processing and distribution of food, while at the same time this system respects and encourages the production of traditional food and food with a geographical origin. The site *EU_lex* accesses European legislation highlights a number of regulations, ordinances and decisions related to the regulation of food safety with a division into legislation in the field of food, animal health [3,4] and plant health [5]. Due to the importance of increasing trade flows with the EU [6], the Republic of Serbia has been adjusting its standards to European standards. The Law on Food Safety of the Republic of Serbia also relies on internationally accepted standards, guidelines, guides and recommendations developed within the United Nations Food and Agriculture Organization (FAO), the World Health Organization (WHO), the Codex Alimentarius Commission, the International Organization for Conservation Animal Health (OIE), International Plant Protection Convention (IPPC), European and Mediterranean Plant Protection Organization (EPPO), International Association of Chemical Analysts (AOAC), International Collaborative Council for Pesticide Analysis (CIPAC), European Organization for Cooperation and

Development (OECD), European Food Safety Authority (EFSA), International Organization for Standardization (ISO), etc. [7].

With all this in mind, the aim of the research is that the analysis of food safety policies in the European Union and the strength of the legal and regulatory framework covering the entire food production chain "from field to table" refers to: animal feed and animal health, protection and care on animals, veterinary examinations, animal health care measures, plant health checks, preparation and hygiene of food products.

2. 2. Legal Framework of the European Union in the Field of Food Safety

In 2000, the European Commission established the general principles on which the Food Safety Policy in Europe should be based [8]. These principles include [9]: "an integrated strategic approach throughout the food production chain; clearly defining the roles of all actors in the chain from feed manufacturers, through farmers, all the way to European institutions, Member States and consumers; the principle of traceability (that each of the stages that a certain product has gone through can be reached at any time); coherent, effective and dynamic policy; the principle of risk analysis (consisting of risk assessment, risk management and risk information); greater role of scientific institutions, and application of precautionary principles in risk management". The White Paper emphasized the need to launch a dialogue with consumers in order to inform and educate them at the same time about food safety risks. The consumers have an equally important role and consumers should be educated on their role in food safety, food preparation and careful reading with an understanding of the information on food labels [10]. To this end, the European Food Safety Authority (EFSA) was established in 2002. The European Union has adopted Regulation (EC) no. 178/2002 of 28 January 2002 [11] laying down the general principles and conditions of the Food Law. The key elements were the functional separation of risk assessment and risk management and the establishment of EFSA, with an emphasis on a high level of science quality, independence, openness, transparency and rapid response. Controlling food-related risks involves considering every step in the chain, from raw materials to food consumption because hazards can occur at any point in the food chain until the food reaches the consumer. Businesses have three main goals in developing, implementing and maintaining a traceability system: to improve inventory management; to facilitate the monitoring of food safety and quality; and to differentiate and sell foods with subtle quality attributes [12]. According to the Codex Alimentarius Commission Procedural Manual, traceability is defined as: "The ability to monitor the movement of food through certain stages of production, processing and distribution"[13]. ISO 22005: 2007 explains the principles and requirements for the design and implementation of food monitoring systems and enables organizations operating at any step in the food chain: material flow monitoring; identifying the necessary documentation and monitoring for each stage of production; ensuring adequate coordination between different actors; improving communication between the parties and the proper use and reliability of information, efficiency and productivity of the organization.

The definition of food traceability may vary according to food industry sectors. Food traceability can be the information needed to describe the production of plants for human consumption, as well as any subsequent transformations or processes to which plants are exposed on the way from growers to consumer plates [14]. Traceability is not just product and process information, but a tool that makes that information available to all stakeholders. UK Food Standards Agency [15] identified three basic characteristics of the traceability system: identification of units/batches of all ingredients and products; information on when and where they were moved and transformed; and the system that connects this data.

Traceability can be classified according to the activity or direction in which information is obtained within the food chain. Depending on the activity in the food chain, three different types of traceability can be distinguished [16]: "backward traceability or supplier traceability; internal traceability or process traceability; and forward traceability or customer traceability". According to the author Opara [17] traceability encompasses six important elements: product traceability, process

traceability, genetic traceability, intake traceability, disease and pest traceability, and measurement traceability with an emphasis on the agricultural food supply chain.

According to Regulation EC 852/2004 [18] all forms of food must be supervised and controlled at all stages of production in order to check the fulfillment of hygiene requirements. The regulations known as the "hygiene package" define food safety objectives and the responsibility for the application of safety measures that guarantee food safety. Food business operators must be registered and apply the principles of risk analysis and critical control points (HACCP). The most important food safety management systems in the EU are ISO 22000, BRC and IFS. Regulation No. 853/2004 [19] defines hygiene rules for foodstuffs of animal origin and prescribes special rules on food hygiene of animal origin, which supplement the aforementioned Regulation 852/2004 on food hygiene, with which food business operators must comply.

Regulation (EC) no. 854/2004 refers to official control, while Regulation (EC) no. 882/2004 refers to official controls performed to determine compliance with the law on nutrition and animal feed, as well as with regulations in the field of animal health and care. Regulation on microbiological criteria for food (EC) 2073/2005, (EC) 1441/2007 and (EU) 365/2010 prescribes as a microbiological criterion the criterion that determines the acceptability of a product, batch of products or processes, based on the absence, presence or number of micro-organisms and/or the amount of their toxins/metabolites per unit mass, volume, area or batch. Microbiological criteria are used to validate and verify Hazard Analysis and Critical Control Points (HACCP) procedures and good hygiene practices. Commission Regulation (EC) No. 2230/2004 stipulates that the competent organizations designated by the Member States must carry out scientific and technical support tasks in the areas covered by the European Food Safety Authority.

In 1992, the European Union created a system known as protected designation of origin, protected geographical indication and traditional speciality guaranteed for the promotion and protection of food products. Traditional speciality guaranteed does not refer to the origin, but emphasizes the traditional character, either in composition or means of production. Non-European product names may also be registered as geographical indications if their country of origin has a bilateral or regional agreement with the EU that includes the reciprocal protection of such names. EU quality schemes protect product names for which there is an intrinsic link between the quality or characteristics of the product and its geographical origin. There are: Protected Designations of Origin (PDO) for agricultural products and food products and wines; Protected Geographical Indications (PGI) for agricultural products and foodstuffs and wines; Geographical Indications (GI) for alcoholic beverages and aromatised wines. The support system for the promotion of agricultural products with protected geographical origin is defined by European Union regulations: on quality schemes for agricultural products and food products, on the protection of geographical indications and designations of origin for agricultural products and food, on the establishment of a common organization of agricultural markets, on the definition, description, presentation and labeling of alcoholic beverages, the use of the names of alcoholic beverages in the presentation and labeling of other food products, protection of geographical indications for alcoholic beverages and on the definition, description, presentation, labeling and protection of geographical indications of aromatised wine products [20]. Although traditional food is still subject to the same rules and regulatory requirements designed to ensure safety, geographical indications are a major tool developed by the public sector as a means of preserving the integrity of products that have strong and long-lasting links with a given territory. In 1996 and 2016, over 60% of total registrations were carried out in four European countries: France, Italy, Spain and Portugal [21]. However, this is also a way to add economic value to these traditional products [22]. Numerous studies point to the fact that when buying a product, the customer makes the decision to choose a particular product based on information about the quality of the product. Quality is not the only factor influencing the decision, but research shows that it is a crucial factor for a large number of users. The quality of the product is assessed by the customer on the basis of previous experience with the product itself or another product of the same brand or on the basis of information that he/she consciously or unconsciously collects about the product/brand [23]. It is also possible for the European Union to register agricultural products as traditional speciality guaranteed (TSG). Council Regulation (EC) no. 509/2006

of 20 March 2006 on agricultural products and food products as guaranteed traditional specialties states that this possibility encourages diversification of agricultural production and has positive consequences in several areas. To qualify for TSG, food must be of a "specific character" and any raw material, method of production or processing must be "traditional". According to the Article 3 of Regulation 1151/12, "specific character" is defined as "a characteristic production attribute that clearly distinguishes a product from other similar products of the same category" while the term "traditional" is defined if it is "proven use on the domestic market in a time period that allows transmission between generations; this period should be at least 30 years." In order for a food name to be registered under the TSG scheme, it must (a) be traditionally used to label a particular product; or (b) identify the traditional character or the specific character of the product".

3. Food Safety in the Republic of Serbia

The *acquis communautaire* in the field of food safety aims to ensure a high level of protection of consumer health, animal and plant health and welfare, while preventing the spread of infectious and parasitic diseases and organisms harmful to plants. Serbia has recognized the main goal of food safety policy in the European Union as the protection of the health and interests of consumers, while guaranteeing the smooth functioning of the single market. In the EU, food safety and human health are priority issues, leading to the reform of the entire food production, processing and trade system [24]. For the implementation of food safety legislation, each Member State must have appropriate administrative structures in order to be able to inspect and control food products, including adequate laboratory capacity. Chapter 12 – Food safety, veterinary and phytosanitary policy also includes regulations relating to genetically modified organisms (GMO). The Republic of Serbia (RS) is making preparations for the opening of Chapter 12. The first of the three benchmarks for opening this chapter set by the EC is for Serbia to adopt a legislative framework that is in line with the EU *acquis*, allowing full transposition of the *acquis* and make provisions for a clear allocation of responsibilities, in particular for control bodies. Second benchmark is for Serbia to present to the Commission a comprehensive country strategy with an action plan, which will serve as a basis for transposing, implementing and enforcing the *acquis* in this chapter, including plans for developing relevant administrative capacity bodies and assessing the necessary financial resources. The third benchmark for opening the chapter is for Serbia to present to the Commission the classification of all food establishments and all establishments that treat by-products of animal origin on the basis of the *acquis communautaire*. The classification will serve as the basis for the future National Program for the Improvement of Institutions Dealing with Food and Animal By-Products [25].

In the report for the Republic of Serbia for 2018, issued by the European Commission it has been stated that Serbia is moderately prepared for the area of food safety, veterinary and phytosanitary policy. The European Commission's 2019 report in the area of Chapter 12 confirms that Serbia needs to develop a comprehensive strategy for the transposition, implementation and enforcement of the *acquis* on food safety, veterinary and phytosanitary policy; significantly strengthen the administrative capacity of the Veterinary, Phytosanitary and Directorate of National Reference Laboratories and retain highly competent staff; and consistently apply an improved approach based on border control. In the coming period, Serbia should adopt a Strategy and Action Plan for the full transposition of the *acquis*. Serbia should increase the efficiency of official controls, improve the risk-based approach at borders and introduce audit of inspection staff. Integrated multi-annual control plans have yet to be developed. Law on Food Safety relies on internationally accepted standards, guidelines, guides and recommendations of the United Nations Food and Agriculture Organization, the World Health Organization, the Codex Alimentarius Commission, the International Organization for Animal Health, the International Convention on Plant Protection, European and Mediterranean Plant Protection Organization, International Association of Chemical Analysts, International Collaborative Council for Pesticide Analysis, European Organization for Cooperation and Development, European Security Agency Food and International Organization for Standardization.

4. Conclusions

As we can conclude from this paper, food safety policy in the European Union is indeed based on the principles of an integrated approach; primary responsibility, traceability of food, and its ingredients, transparency and risk analysis. Republic of Serbia has been adjusting its standards to European standards and current technical barriers to exports to the EU relate to health, sanitation, animal welfare and environmental regulations; quality standards; safety and industry standards; packaging and labeling regulations. We can conclude that in order to achieve adequate competitiveness of traditional agro food products in the domestic and foreign markets, it is necessary to produce high quality products in accordance with the internationally recognized food standards, whose production process is traditional and, if necessary, characteristic of a particular climate, or passed down from generation to generation. This creates the conditions for future fulfillment of the necessary requirements of the domestic market, as well as adequate future harmonization with the legislation of the European Union.

Conflicts of Interest: The authors declare no conflict of interest.

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