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TRACEABILITY OF FOOD PRODUCTS IN SMALL AND MEDIUM ENTERPRISES IN SERBIA

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Abstract

There are a multitude of ingredient suppliers, manufacturers, packaging suppliers, distributors, wholesalers, and retailers in value chain of the food industry. At each point in the value chain there is a risk for food poisoning. The main purpose of this paper is to describe how production system "from farm to fork" works in sector of small and medium enterprises in Serbia. Within this paper we compare situation of traceability of food products in big, small and medium enterprises from this sector. Based on the data and analysis, the conclusion was made, that investments in quality of raw materials and farmer's education is important for safe food.

The analysis is based on the secondary data. Sources of secondary data for this topic are surveys, organizational records and data collected through qualitative research in literature.

Key words: *Value chain, food safety, standards, traceability.*

Introduction

Traditional food control systems, examining of final products, are increasingly less deemed appropriate, so this control system, the so-called „detection inspection“, is being replaced by an integrated control form, widely known as „from field to table“ or „from farm to fork“. It is commonplace that in production processes of food of herbal and animal origin, that is in the process of their industrial treatment, packaging, manipulation, storage, distribution and sale, different sorts of contamination can occur, that is irregularities which for themselves, undoubtedly, carry certain health risks for a person who consumes such a product.

The introduction of the HACCP system in small and medium enterprises

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presents a very significant issue for further growth and development. Specificness we can single out as a feature for small and medium enterprises posing as an obstacle that can hamper establishing of food security management system, and the following and traceability of products or raw material, is especially hampered with small enterprises.

Product traceability

ISO 22000 states that communicating and traceability in the food chain is essential. Thus all relevant dangers for food security are identified and appropriately managed at every step in the food chain. [6]

To follow the way of food „from field to table“ is very difficult with small and medium enterprises in Serbia. Most often this way includes only one part of the „value chain“ and that is the one from raw material reception to finished goods sale, one step before (primary agricultural production or semi-product reception) and a step after (transport, wholesales, retail, end user) is out of control of almost all our enterprises. The so-called „integral HACCP“ is actually the final goal of providing food security management system. Only this way can we be sure that the end product, that is, what a customer consumes at his table has „properties“ of a healthy and safe product.

A company has to introduce quality systems such as HACCP or similar set, but it also has to fulfill other regulations, which gives additional obligations to economy subjects that want to launch their products to specific markets. For example, for the EU market, the products must be controlled by competent national authorities of the member states and have an appropriate certificate. [4] Also, for exporting food into the USA, requirements are very strict when it comes to packaging, that is the outlook of the packaging, labeling the product and its contents. According to the US regulations, a product, among other things, has to be declared in a certain manner and to fulfill additional requirements – product mass needs to be expressed in both measurement systems, the product name needs to be written in both English and Serbian, and nutritional value of each product needs to be presented in a proposed table.

The European Commission put Serbia on the list of countries approved for milk import in April 2008, but the dairies are required to respect high standards of quality and food security. Serbia was given the license to export milk and dairy products into the EU market, as well as to transport these goods through EU countries to other markets, from EU Standing Committee for Food Chain and Animal Health. The basic standards that the dairies must fulfill if they want to export their goods into the EU are constant control of cow health, but milk quality control as well, from milking to end product (from field to table). The fulfillment of these criteria of dairies that enter the process of getting the export license is checked by veterinary inspection, but the EU inspection as well. Thus it is clearly known that the first step is very important, starting from health of animals that provide raw material for further production. Our dairies do not have great control in this part of the production.

Example of big producers

In order to fulfill the EU requirements, Serbian producers must follow flow of food from raw materials to end product. The following examples show us how big systems do it, where they have the ability due to their size to provide quality raw materials, primarily from their agricultural producers – associates.

Belgrade-based company Imlek has 14,000 suppliers, and it has invested 30 million Euros in development and improvement of production in the last three years.³ This company is aware of significance of primary production and raw materials quality and thus it has started giving loans to farms, in order to see primary agricultural producers increase milk production and buy necessary equipment. The very product control from field to end user is the end goal of funding by this company. Imlek will feel the benefit from this system not only in preserving the customer base, but in strengthening their associates who will improve their businesses through convenient loans and bind themselves for Imlek long-term. If we oversee a very important aspect, and that is desire of the company to secure itself in increasingly volatile milk market, the other very important element is milk quality.

Sombor dairy, a member of Lactalisgrupe Dukat, has the same goals in acquiring an EU number. If a dairy wants to get an EU number, it needs the whole chain – starting from raw materials, treatment, to end product, to be certified. In order to provide high quality raw materials in the following period, this dairy is planning significant investment in development of primary milk production and starting a modern central laboratory within the factory that will enable meeting strict requirements and regulations. Not having an EU number hampers other exporting activities so today this dairy can not use the potential of the Russian market, because without this number, you are not allowed to transport goods through EU member states. [1]

In the early 2008, first farms are certified for food health security. These are firstly milk producers - associates of Imlek and Subotica dairy.⁴ The control of delivered fresh milk starts at the very entrance into the dairy. Key parameters are number of microorganisms and somatic cells. Milk mustn't contain water or antibiotics. Milk quality is also marked, and the best milk has label of extra class. Certificate is issued

3 In Danube Foods group they say that, beside undisputed quality our milk has, exporting into European market takes huge investment in primary milk production. Only in 2007, this company invested 26 million Euros in production, out of which 13.3 million was designated for production alone, 7.2 million for new storage rooms and over 4 million in refrigerators. www.imlek.rs/index.php?page=6&type=clippings

4 According to manager of raw material sector of Imlek, Jerimja Milovanovic, these are the first farms in Serbia with HACCP certificate, and additional 50 farms have conditions for getting the certificate which guarantees food production security in all phases. Farms that have received the certificate: "Tomić" from Stajićevo, "Radin Salaš" from Samoš, "Stanču" from Lokva, "Plamen" from Vršac, "Balan" from Kuštalj, "Gere" from Novi Kneževac, "Kovač" from Male Pijace and "Šečerov" from Srpski Krstur.

every third year, and production conditions on farms will be constantly monitored.

We see that funds of big companies are invested in the system of “small or partial” control of these companies, which is in raw material base. With this investment, big companies provide supply of correct raw materials. Unfortunately, through further distribution, not even big companies like Imlek or their consumers can be sure that integral HACCP is respected, primarily due to lack of certified wholesales and retails. One also needs to pay attention to the fact that there are a small number of restaurants, hotels, canteens or other objects which prepare food and have HACCP system introduced. A tiny step forward was made by Delta, which introduced HACCP in its retail chain in December 2007.

Problems of small and medium food producers

The above mentioned are warning us not to expect better situation in sector of small and medium enterprises of fruit, vegetables, meat and milk producers. There are a lot of common and individual problems which form such a situation and confirm difficult implementation of the whole system of food security from field to table.

Major issue in Serbia is so-called “production of everything” of agricultural producer.[9] Together with broken-up property and insufficient education of our farmers it is a great obstacle in producing appropriate raw materials which will be certified as a quality product for our processors.

Small and medium dairies in Serbia are supplied with raw milk by a range from few dozen to several thousand agricultural producers who have 3.6 cows on average.⁵[2] Such tiny producers have no interest in certifying their farms. Such is the case with refrigerators which buy fruit and vegetables from hundreds of producers. An average area for growing raspberry and increasingly present blackberry in Serbia is less than 30 ares. Knowing that average yield of raspberry per hectare is 15-20 tons and 30-40 tons for blackberry, refrigerator owners have a major job checking a great number of small properties in order to be sure raw materials they buy will fulfill their capacity. Such is the situation with other products because the properties of our producers are very small; up to 80% of fields are property of small producers of up to 5 hectares on average.[7] In order to produce quality raw materials which would be processed to reach tables of discerning Europeans, the producers will have to specialize and perfect one or two products.

As an incentive for producing quality products, the processors stimulate primary agricultural producers with higher purchasing price. For example, purchasing price for raw milk in 2008 was increased by 1 or 2 dinars per liter for top quality. [5]⁶ For raspberry this

5 In Zlatibor, Raski, Toplicki and Rasinski counties. The poll conducted from 2006 to 2007 by Mercy Corps an NGO implementing CRDA program in these counties.

6 Milk with less than 100,000 bacteria per milliliter, less than 400,000 somatic cells per milliliter, and more than 2.8% of protein is considered first class quality.

prize was even higher; first class raspberry is 50% more expensive than second class.⁷

Beside quality which needs to be met by primary agricultural producers, another problem is quantity which our country can sell in foreign markets. Although at first sight it is not directly bound for following health food security, it is a very important aspect that affects quality. Out of quantity we can choose quality, but if do not have enough quantity in agricultural products, quality is hampered due to lack of competition which stimulates producers to reach better quality. An example of such a problem is export of baby beef into the EU. Back in 2007 we exported only 2,200 tons of baby beef, and we could have exported 8,700 tons, the quantity approved during negotiations for Stabilization and Association Agreement.[3] Of course, the reason is lack of quality cattle fund.

Education is a one of the major problem, domestic producers will have to find out which chemicals they are allowed to use, which fertilizers are forbidden etc. Domestic cattle breeders, vegetable and vineyard producers are expected to follow news in plant breeding and food production. On the contrary, they risk failure in getting certificates necessary for market breakthrough (GLOBALGAP). Certificate houses will require peasants to maintain records of plants they grow, which chemicals and fertilizers they used, what they fed their cattle with etc. There are non-mandatory EU standards, but our producers will apply them in order to withstand competition. The choice before a Serbian peasant will be easy: he will either respect standards, or his goods, facing competition with thousands of others who have passed all the examinations, will fail to find a buyer.

It is a clear market message, but so far seen only by experts and only a few well-informed customers, but not by people living from it. Agriculture must become a serious job to live from, not just some part-time job, or because you have some free space in the field.

A part of our agricultural producer's mentality is to be an individualist, to produce everything and to sell goods of uneven quality. The way out of this situation is associating, where producers jointly sell and buy goods. Those who want to live from agriculture will have to become parts of big associations which will apply the same technology and enter the markets with series of identical, classified goods which they will know to who to sell.

The government has identified this problem and has taken measures as early as 2008, passing a decree to sustain funds for introduction and certification of good agricultural production practice. The intention is to bring as many individual producers as possible into process and make them become producers of healthy products which will be sold directly or as raw materials for further processing. GAP will require producers to keep a record, which is production protocol, for example, when the fruit was sprayed and with which chemicals. Thus we will exactly know the history of strawberries in our ice-cream, and appropriately apply the system "from field to table". Up until then

7 Resarch data from: Association Vilamet Ivanjica, Association of Agronomic Center Priboj and Panici Brus refrigerator.

our small and medium enterprises need to do some work on their purchasing network, education of their partners and suppliers and improvement of their labor conditions.

Conclusion

A great number of agricultural producers who supply the raw materials to processors produce everything and sell goods of uneven quality. It is necessary to commit oneself to intensive agricultural production in order to produce raw material base of appropriate quality and quantity.

For any integral system of food security management it is necessary to view the whole production flow, from raw material to end user. Small and medium enterprises cannot in these circumstances fulfill this requirement. The way out of this situation is specialization of agricultural producers on one product, association and introduction of GLOBALGAP standard. The government and international donors saw this problem well and as of 2008, they have been subsidizing producers to stimulate them to introduce standards of good agricultural practice GLOBALGAP. The distribution and sales also remain out of control of small and medium enterprises so the destiny of a product beyond the enterprise gates becomes uncertain.

Small and medium enterprises in the future need to work on their purchasing network, education of their partners and suppliers and improvement of their labor conditions.

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