

On the Selection of Priorities when Organizing Risk-based Supervision of the Safety of Consumer Products Circulating on the Single Economic Space of Russia, Belarus, and Kazakhstan

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Large volumes of mutual trade among the Eurasian Economic Union countries combined with the accuracy of public protection from the risks associated with the negative impact of product on public health offer the challenge of improving supervision over the products circulating in the market. One way to solve this problem is for the sanitary service to switch to a risk-based model and select the products subjects to urgent (priority) control. In this review, we discuss the approaches to selecting the priorities with the account for the product usage, characteristics of the consumer groups, known hazards, and results of the control and supervision activities. We determined the list of priority products exported by the EEU members to the single market and posing the highest public health risks: milk products; bird eggs (group Customs Commodity Code (CCC) 04); fats and oils of animal or vegetable origin and their cleavage products; prepared edible fats; waxes of animal or vegetable origin (group CCC 15); sugar and sugar confectionery (CCC 17); meat, fish or crustaceans, shell fish or other aquatic invertebrates (CCC Group 16); alcoholic and soft drinks and so on. (CCC 22); vegetables, roots and tubers (CCC Group 07); toys, games and sports equipment (CCC 95). These groups of products require priority validation of the risk profiles, development of the procedures and regulations on the control and supervision activities, and improvement of the methods of laboratory control.

Key words. Consumer goods, safety, risk-based supervision

The Eurasian Economic Union today covers an area of over 20 million sq. km, with an estimated population of over 182.1 million. The annual volume of mutual trade exceeds 60 billion US dollars, including 14 billion USD of mutual trade of consumer goods, 7.5 billion USD – nonfood goods; 6.6 billion USD – food goods. The volumes of the mutual trade between Russia, Belarus, and Kazakhstan are the highest in the EEU. The populations of these countries (totaling 173 million) form the biggest consumer market [6].

Free movement of goods, services, capital, and the workforce is the main condition of existence and development of the EAEU. However the circulation of a large amount of range of commodities by various manufacturers from different countries in the single market requires effective measures aimed to ensure public safety in each of the member countries and in the EAEU as a whole.

Public protection from poor-quality and potentially hazardous consumer goods in the single economic space including the goods imported from the EAEU member states is considered by the RF Federal Service for Consumer Protection and Human Wellbeing the most important area of activity. Sanitary services use a wide range of control and

supervision tools secured in legislation including supervision of food production (including the implementation of HACCP principles) and licensing of certain types of activity including those related to consumer product manufacturing and registration of the surgical, biological substances and preparations introduced into production for the first time, some hazardous products and goods including the foods imported in Russia for the first time.

Controlling the safety of products that have already been introduced to the market and experienced transportation, packaging, transshipment, etc. on the way from the manufacturer to the consumer is yet another important task. The goal of state sanitary supervision should be, and is, to set up a reliable barrier that will prevent potentially hazardous goods from getting to consumers. For instance, in 2014 alone, Rospotrebnadzor Directorate over the RF constituent territories withdrew from commerce, in accordance with the procedure established by law, 101623.2 units of goods, in volume terms, which totaled 3.0% of the total amount of inspected goods. The agency withdrew the following goods: meat and poultry (around 72 tons, or 1.8% of inspected products); sausage products (more than 19 tons, or 0.7% inspected products),

whole milk products (more than 44 tons, or 3.4%), dry baby milk food (77.4 tons, or 0.8% inspected products), etc. [4]

In 2014, in the Republic of Belarus, the sanitary inspection service revealed that out of 113,45 thousand samples of food products and food raw materials, 0.56% of samples did not meet the hygienic standards in terms of content of chemical contaminants; about 1.7% of fruits and vegetables did not meet the requirements in terms of microbiological indicators which created a hazard to consumer health. The agency withdrew the products from commerce [5].

In the first half of 2013, in the Republic of Kazakhstan, the sanitary inspection service identified and rejected 100 tons of substandard food products (dairy products - 43 tons, 14 tons of meat products, confectionery products - 10 tons, drinks) which did not meet the sanitary standards in terms of microbiological indicators and/or did not have the documents that proved compliance with the mandatory sanitary and epidemiological requirements [2].

At the same time, it is very difficult to keep control of the safety of consumer goods in the setting of a significant and diversified market. Moreover, the number of parameters to be studied in the assessment of product safety is expanding [1,9-11]. Monitoring and supervision activities need appropriate laboratory methods that meet the requirements but their use makes the monitoring procedure more expensive. For this reason, they should be used solely for specific purposes and results. In view of this, well-founded selection of control (supervision) priorities becomes a challenge. First of all, it is necessary to identify the products that pose the highest health risks. This is a big challenge for all the EAEU members including Russia.

It should be pointed out that in Belarus, the list of products that bear potential public health risks is secured in legislation [7]. According to the Decree by the Belarus Ministry of Health, the list includes the following:

- mineral water (natural table, medical and table, medical), bottled water, packaged in containers (including for use in baby food);
- tonic beverages;
- alcoholic beverages, low-alcohol drinks, beer;
- specialty foods, including baby food, food for pregnant and lactating women, and dietary products for sports nutrition;
- BADs, raw materials for the production of BADs;
- foods produced using genetically modified (transgenic) organisms,

- food supplements, flavorings, vegetable extracts, etc.;

- starter culture microorganisms and bacterial yeast, technological processing aids, including enzyme preparations;

- cosmetic products; oral hygiene means and products;

- means of disinfection and disinfestation,

- household products.

- personal hygiene for children and adults;

- items for children under 3: dishes and products used for nutrition, hygiene care;

- children's clothing (first layer);

- products designed for contact with food (except cutlery and technological equipment);

- other products.

The approved list is rather extensive. It is difficult to exercise control over the entire list; for this reason, additional prioritization criteria are needed.

The following products used to be considered hazardous in the Russian Federation: materials, equipment, devices and other technical means of water treatment, intended for use in the drinking water system; disinfection, pest and deratization agents for use in the home, in healthcare facilities and other facilities to ensure the safety and health of people (except those used in veterinary medicine); household products. However, the Decree № 262 of 04.04.2001 [3] in force until 2012 was denounced.

Currently in the EAEU there is no list of priority goods subject to priority control at the state of market circulation.

According to the EAEU Foreign Economic Activity Commodity Classification approved by the Resolution of the EEC Council of 16.07.2012 № 54 [8], out of 97 groups of products, individual items from 69 groups are subject to the sanitary and epidemiological supervision at the customs border and in the EAEU including Food products (CCC 02 - 05, 07 - 25, 27 - 29, 32 - 34, 35), children's goods (CCC: 32, 34, 39, 40, 42 - 44, 46, 48 - 56, 60 - 65, 87, 94, 95), perfumes and cosmetics, hygiene products (from the group CCC 33), etc. Market control based on risk-oriented approach should be exercised in regards to these products as a matter of priority.

Switching to a new model of control and supervision activities with the account for potential consumer health risks, i.e. risk-based supervision meets the interests of all the parties involved – citizens as consumers, authorities, businesses.

Focusing the efforts of the monitoring authorities on entities that present the highest hazard to consumer health can increase consumer assurance in safe products and, at the same time, promotes a

rational and effective use of the funds allocated for the state function management. In order to ensure adequate intensity of the monitoring activities, the authorities decrease the frequency of inspections at the low-risk entities which decreases the general administrative pressure on business. Transparency and accountability of the risk assessment procedures increase public trust towards the monitoring authorities.

To introduce the risk-based model of supervision over the safety of consumer goods, several approaches to the preliminary selection of priorities in the EAEU single economic space were suggested.

The following criteria were considered for the selection of priority goods: frequency of possible violations of mandatory requirements to product safety; vulnerable population groups – children, pregnant, elderly or disabled; and the scope of possible negative health effects.

In the collection and analysis of preliminary data, the following principles:

- The goods must be included in the Single List of goods subject to sanitary and epidemiological control of the Customs Union,, and have a commodity code under the EAEU Foreign Economic Activity Commodity Classification;
- The volume (rate) of consumption per person per year must be established for each of the goods;
- The units of measurement of the amount of goods must match the units of measurement of the volume (rate);

- Assessment is based on the publicly available data on the commodity circulation and results of the past sanitary and epidemiological inspections.

To determine the priority products, we calculated the contribution of each of the products by the formula:

$$W_i = \frac{potr_i}{\sum_{i=1}^n potr_i} * 100$$

where w_i – share of the product in the total product consumption;

$potr_i$ – number of consumers of one specific type of products

$Spotr_i$ – total size of population using the goods.

The number of consumers of a specific type of product was established as a ratio of the total mass of products in circulation (value, units, etc.) and the average consumption of the product.

The approaches were tested through the use of the following reference data: statistical information on the volume of exports of basic goods of the Russian Federation, Kazakhstan and the Republic of Belarus to the countries - members of the Single Economic Space for 2012, and statistical information on production in volume terms in 2012, in the Russian Federation, Kazakhstan and Belarus (Table. 2).

Example of reference data – in Table 1

Table 1

Total volume of mutual export supply of a number of basic products of the Russian Federation, Kazakhstan, and Belarus (2012).

The Customs Union Customs Commodity Code	Product	Units of measurement	Total volume of export supply	Average yearly rate of consumption per 1 person
1	2	3	4	5
0401	Milk and cream, concentrated	T	296420	0.11
0402	Milk and cream, concentrated and dry	t	197757	
0403	Buttermilk. yogurt. kefir	T	46030	
0404	Milk serum	T	66968	
0405	Butter	T	81996	0.004
0406	Cheese and curd	т	141549	0.024
from 0407	Eggs	Thousand units	658950	0,260

0702	Tomatoes	T	38995	0.12
1512	Sunflower oil	T	116971	0.01
1601	Sausages and similar products of meat	T	103693	0.07
1604	Prepared or preserved fish. Caviar	T	24506	0.016
1701	Sugar	T	302680	0.024
1806	Chocolate and other food preparations. containing cocoa	T	72418	0.0146
1905	Bread and pastry	T	69881	0.095
2203	Beer	L	1430727	182.5
6202	Women's outerwear textile	units	751596	0.4
6203	Menswear textile	units	1787361	1.9
6204	Women's clothes textile	units	1714746	2,9
6403	Shoes with leather uppers	pairs	9147587	2
8471	Computers for automatic data processing	units	4784690	1
8517	Communications equipment and parts to it	units	4356804	1.5
from 2402	Tobacco products	Thousand units	8664920	7,3
from 6115	Hosiery	units	4647999	5
from 6212	Corsetry	units	1216320	3.75
from 8413	Pumps for liquids	units	2068341	1
from 8414	Air or vacuum pumps. compressors and fans	units	1202673	1
from 8418	Refrigerators. freezers and refrigeration equipment	units	1125152	1
from 8433	Machines and mechanisms for harvesting and threshing agricultural crops	units	189197	1
from 8516	Household and other electric heaters. cookers	units	1428210	1
from 9013	Liquid crystal devices. Lasers	units	28	1

The frequency of violations of the sanitary and epidemiological requirements registered in regards to a specific product was copied from the data by the

appropriate authorities that reflect the results of the past sanitary and epidemiological inspections (see Table 2 for examples of the RF data).

Table 2

Results of the inspections of local agencies of Rospotrebnadzor in regards to specific goods (products) (2012 - 2014)¹

Name of product (product group)	The ratio of products that do not meet the sanitary and epidemiological requirements and standards, %		
	2012	2013	2014
Meat and poultry	5,0	11,0	1,8

¹ Federal statistical monitoring form № 1-KCh Information about the quality of inspected consumer goods and trade violations” of July 4, 2005 № 38.

including poultry	5,0	4,0	2,4
Sausage	3,0	0,9	0,7
Canned meat and cereal	2,0	0,3	0,3
Canned cereal food children	0,2	0,0	0,1
Food Fish products (excluding canned fish)	4,0	4,2	4,8
Canned and preserved seafood	1,0	1,1	-
Butter	2,0	1,3	1,8
Mayonnaise and margarine	1,0	0,7	2,0
Cheese	1,0	1,6	1,8
Dairy	4,0	0,6	3,4
Infant dry food	1,0	0,5	0,9
Bird Egg	4,0	0,1	0,7
Pasta	1,0	0,4	0,2
Sugar	1,0	0,2	0,7
Confectionery	6,0	4,3	3,5
Spices, flavoring, seasonings, additives	7,0	5,7	7,0
Soft drinks and mineral water	2,0	2,5	0,3
Canned fruits and vegetables, and berries	2	0,4	0,6
Canned baby, dietary and diabetic food	1,0	0,0	0,6
Detergents, synthetic	1,0	23,8	0,5
Perfumery-cosmetic products	9,0	1,6	3,9

Obviously, of all the goods exported by Russia, Kazakhstan and Belarus to the common market, most residents of the EAEU state members are exposed to the potential negative impact in terms of food products – products from the “dairy” group (CCC group 04), from the “Fats and oils of animal or

vegetable origin and their split products” group (CCC group 15) and from the “Ready-to-use meat, fish or crustaceans products, molluscs or other aquatic invertebrates” (CCC group 16) – more than 5 million people (Table 3).

Table 3

The number of consumers of some goods from the export supply of the Russian Federation, Kazakhstan, and Belarus to the EAEU state members and the Single Economic Space (2012)

Customs Unions Customs Commodity Code	Products	Number of potential consumer of the product, people	Rate, %
1	2	3	4
Group 04 Dairy produce; eggs; natural honey; edible products of animal origin, not elsewhere specified or included, inc		39 425 750	22,75%
0406	Cheese and curd	5 897 875	
0401	Milk and cream, concentrated	5 519 772	
0402	Milk and cream, concentrated and dried		
0403	Buttermilk, yogurt, kefir		
0404	Milk serum		
0405	Butter	20 499 000	
из 0407	Eggs	2 534	
Group 07 Edible vegetables and certain roots and tubers		324 958	0,23%
Group 15 Fats and oils of animal or vegetable origin and their split products; prepared edible fats; waxes of animal or vegetable origin		14 453 220	8,34%
Group 16 Ready-to-use meat, fish or crustaceans, molluscs or other aquatic invertebrates, incl .:		4 263 180	2,46%
1601	Sausages and similar meat products	1 915 214	
1602	Prepared or canned meat		
1604	Prepared or canned fish, caviar	1 531 625	
Group 17 Sugar and sugar confectionery		15 579 675	8,99%
Group 18 Cocoa and products thereof, incl .:		4 960 136	3,54%
Group 19 Preparations of cereals, flour, starch or milk; pastries,		735 589	0,52%
Group 22 Alcoholic and non-alcoholic beverages, and vinegar		783 960	0,56%
Group 24 Tobacco and manufactured tobacco substitutes		23 739	0,02%
Group 61. Clothing and accessories, knitted or crocheted		11 489 790	6,63%
Group 62. Clothing and accessories, excluding knitted or crocheted		8 491 170	4,96%
Group 64. Footwear, gaiters and the like; their parts		5 649 580	3,26%
Group 85. Electrical machinery and equipment and parts thereof; Sound recording and playback equipment, apparatus for recording and playback of television image and sound, their parts and accessories .:		8 006 760	4,62%
Group 94. Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included;световые вывески, световые, в т.ч.:		4 713 760	2,72%
from 9403	Other furniture and furniture parts	2 832 262	
from 9401	Furniture for seating and its parts	983 245	
Group 95. Toys, games and sports requisites; parts and accessories thereof .:		41 037 440	23,68%

The priority group included the products with the number of potential consumers of more than 5% of the total population; in regards to this group, the cases of sanitary and hygienic violations were registered, and the group of consumers included vulnerable population groups.

Overall, with the account for the prevalence of the goods, specifics of the consumer groups, known hazards, results of past sanitary inspections, the group of priority goods exported by the EAEU state members

to the common market and bearing the highest potential health risks also includes the following:

- Dairy products; eggs (CCC group 04)
- Fats and oils of animal or vegetable origin and their split products; prepared edible fats; waxes of animal or vegetable origin (CCC group 15)
- Sugar and sugar confectionery (CCC group 17)
- Ready-to-use meat, fish or crustaceans products, molluscs or other aquatic invertebrates (CCC group 16)

- Alcoholic and non-alcoholic beverages, etc.. (CCC group 22)
- Edible vegetables and certain roots and tubers (CCC group 07)
- Toys, games and sports requisites; parts and accessories thereof (CCC group 95)

The list of priority groups is incomplete and constantly changing. The decrease or increase in the frequency of sanitary and epidemiological violations in the sphere of technical regulation in

regards to a specific product, changes in the commodity classification or volume exported to the common market of the single economic space - all that can change the structure of priorities. However, to date, in regards to the identified groups of goods, it is necessary to validate the risk profiles, introduce risk-based inspection, develop the procedures and regulations for the control and supervision activities, with the account for the potential consumer health risks, and also improve the methods of laboratory testing.

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