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Determination of Competitiveness of Agricultural Goods of Kazakhstan in the Eurasian Economic Union

Abstract. *The article analyzes the definition of competitiveness and efficiency of agricultural products of the Republic of Kazakhstan in the EAEU. The competitiveness of agricultural products and their effectiveness between the Republic of Kazakhstan, the Russian Federation and the Republic of Belarus are revealed. For this, indicators of export and import of agricultural products of these countries are based (live animals, meat and fish products, dairy and egg products, fruits and vegetables, cereals and flour products, animal or vegetable fats, sugar and sugar confectionery, pasta and drinks, alcohol and vinegar, feed products). Based on the competitiveness of Kazakhstani agricultural products, currently identified advantages in foreign trade in agricultural products of Kazakhstan are calculated using the net trade index. According to the net trade index, the most competitive flour products among agricultural products of Kazakhstan in the Russian market, and in the Belarusian markets, flour and vegetable products are most competitive.*

Keywords: *competition, competitiveness, net trade index, foreign trade, export, import.*

DOI: <https://doi.org/10.32523/2079-620X-2020-4-66-74>

Introduction. In many ways, we can be one of the world's largest producers of agricultural export products. This is especially true of environmentally friendly foods. The brand «Made in Kazakhstan» should be the benchmark for such products.

In addition, in Eurasia we need to be a «bread basket» in Eurasia. It is necessary to shift from raw material production to quality finished products [1]. The State Program for the Development of the Agro-Industrial Complex of the Republic of Kazakhstan for 2017-2021 should ensure the production of competitive agricultural products that are in high demand in the domestic and foreign markets [2]. Only then can we be competitive in international markets.

Purpose and objectives of the research. The purpose of the research is to study the

competitiveness of agricultural products of the Republic of Kazakhstan in the context of the Eurasian Economic Union and to determine their effectiveness.

History of research. Kazakhstan's current foreign trade policy is implemented within the framework of the Trade Development Program approved by the Government for 2010-2014. Currently the main trading partners of Kazakhstan are the EU (41% of total trade) Russia (17.9%), China (17%), Switzerland (4.1%), Ukraine (3.3) [3].

The formation of the Eurasian Economic Union places new demands on the functioning and further development of an important sector of the national economies that provide food security of the partner countries. Regional economic integration in the common market of

the EAEU does not reduce the competitiveness of agriculture. It will promote the establishment and stimulation of a single market of consumer goods in the agricultural sector, taking into account the absolute and relative advantages of the country.

The Eurasian Economic Union is an international organization for regional economic integration, which has the subject of international law and was established by the Treaty on the Eurasian Economic Union [4].

The EEU will ensure freedom of movement of goods, services, capital and labor, as well as a coordinated, coordinated or uniform policy in the field of economics.

The Republic of Kazakhstan, the Russian Federation, Belarus, Kyrgyzstan and Armenia are member states of the Eurasian Economic Union.

Results and discussions. The EAEU was established in order to modernize, cooperate and improve the competitiveness of the national economies and improve the living standards of the Union member states.

Research methods. Comparison, systematization, classification and economic-mathematical modeling of economic and statistical indicators.

Results and discussions. The following tables 1, 2, 3 show the indicators of exports and imports of agricultural products between Kazakhstan, Belarus and Russia for 2015-2017. We use these data to determine the competitiveness of agriculture.

Based on the tables (1, 2, 3) we determine the competitiveness of agricultural products of the Republic of Kazakhstan and its efficiency within the EAEU countries. To do this, we use the net trade index. To measure the efficiency of foreign trade, a net trade index is calculated, which characterizes the ratio of exports and imports.

Also, in world practice, the net trade index is recognized as an important indicator for determining the comparative advantages of products, including the competitiveness of agriculture.

Table 1

Trade relations between Kazakhstan and Russia, thousand US dollars [5]

Product name	Exports of Kazakhstan to Russia			Imports of Kazakhstan from Russia		
	2015	2016	2017	2015	2016	2017
All goods	4547,5	3509,2	4515,2	10 529,3	9 129,8	11 472,9
Live animals	3,6	2,4	1,3	10,2	9,1	12,5
Meat and meat by-products	21,9	14,6	15,1	41,5	35,6	50,1
Fish products	5,04	6,6	7,1	14,9	17,0	15,5
Milk and cream	3,5	4,6	8,5	38,6	32,1	29,2
Cheese and cottage cheese	3,3	2,5	7,2	29,4	30,2	35,1
Egg products	2,3	4,03	2,3	4,2	3,7	5,5
Fruits	5,3	8,1	19,5	6,3	4,2	7,0
Vegetable products	11,8	7,9	12,9	10,8	6,5	15,9
Coffee, tea, violets and spices	6,06	7,9	7,2	18,4	24,3	29,1
Cereals	79,3	76,9	33,6	31,6	8,9	12,4
Flour products	1,1	1,3	4,4	1,8	0,6	0,7
Animal or vegetable oils	1,9	1,4	4,5	14,2	14,9	15
Sugar and sugar confectionery	15,2	21,7	32,6	37,8	49,3	11,1
Pasta	3,3	3,2	6,9	33,5	35,2	32,7
Drinks, alcohol and vinegar	15,9	23,5	16,9	57,5	70,3	10,3
Fodder products	4,8	10,2	12,7	50,1	52,9	54,8
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Table 2

Mutual trade relations between Kazakhstan and Belarus, thousand US dollars [5]

Product name	Exports of Kazakhstan to Belarus			Imports of Kazakhstan from Belarus		
	2015	2016	2017	2015	2016	2017
All goods	53,4	31,9	95,5	488,1	332,6	508,5
Live animals	0	0,18	0,46	1,4	0	0,22
Meat and meat by-products	0	0	0	9,8	3,7	22,9
Fish products	0,09	1,7	1,3	9,8	4,3	3,7
Milk and cream	2,9	0	0	26,6	20,3	26,6
Cheese and cottage cheese	0	0	0	4,1	5,726	8,938
Egg products	0	0	0	0,67	0,14	0
Fruits	0,10	1,52	0,61	1,4	3,6	1,5
Vegetable products	2,9	3,8	5,13	16,8	0	0,64
Coffee, tea, violets and spices	0	0,14	0,11	0	1,34	0
Cereals	0	0	0,40	0,14	0	0,42
Flour products	0	0	0,04	0	0	0
Animal or vegetable oils	0	0	0,16	8,37	5,26	4,90
Sugar and sugar confectionery	0,24	0,81	1,66	19,063	8,28	17,303
Pasta	0	0	0,22	0,21	0,05	0,12
Drinks, alcohol and vinegar	2	0	0	1,772	3,070	4,304
Fodder products	0,04	0,30	2,17	0,81	0,88	3,5
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Table 3

Trade relations between Russia and Belarus, thousand US dollars [5]

Product name	Exports of the Russian Federation to Belarus			Imports of the Russian Federation from Belarus		
	2015	2016	2017	2015	2016	2017
1	2	3	4	5	6	7
All goods	12,428,310	14,050,697	18,424,583	7,988,799	9,406,285	11,768,319
Live animals	1,885	911	2,395	3,141	6,650	3,829
Meat and meat by-products	10,290	24,849	22,109	563,724	601,294	671,226
Fish products	46,025	49,010	54,037	93,768	103,075	117,714
Milk and cream	3,426	4,209	4,531	558,003	543,071	584,917
Cheese and cottage cheese	13,961	11,298	11,408	556,603	616,300	773,771
Egg products	834	874	2584	220,713	307,348	34,669
Fruits	3,191	3,983	5,556	85,327	140,842	175,618
Vegetable products	20,427	23,663	31,452	20,391	79,559	70,506
Coffee, tea, violets and spices	35,889	38,277	47,427	273	828	2,414
Cereals	4,764	8,017	24,121	6,011	18,603	253

Flour products	3,568	2,536	3,826	2,765	4,730	3,112
Animal or vegetable oils	75,297	86,093	120,551	8,127	9,319	9,541
Sugar and sugar confectionery	25,899	31,823	63,995	177,844	134,395	112,089
Pasta	16,447	17,293	19,894	578	808	1,128
Drinks, alcohol and vinegar	45,073	43,328	46,848	40,419	53,750	76,593
Fodder products	40,938	58,435	76,394	33,047	34,959	38,664
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Table 4

Agricultural products between the EAEU countries foreign trade relations, thousand US dollars

Product name	2017 ЖЫЛ					
	Export RK / RF	Import RF / RK	Export RK / BR	Import BR / RK	Export RF / BR	Import BR / RF
Live animals	1,334	12460	46	22	2,395	3,829
Meat and meat by-products	15,132	50050	0	22,973	22,109	671,226
Fish products	7,107	15544	129	365	54,037	117,714
Milk and cream	8454	29209	0	26645	4,531	584,917
Cheese and cottage cheese	7206	35127	0	8938	11,408	773,771
Egg products	2287	5505	0	0	2584	34,669
Fruits	19,510	7000	61	1,485	5,556	175,618
Vegetable products	12,946	15909	513	64	31,452	70,506
Coffee, tea, violets and spices	7,195	29139	11	0	47,427	2,414
Cereals	33,637	12424	40	42	24,121	253
Flour products	4390	736	4	0	3,826	3,112
Animal or vegetable oils	4,479	149127	16	490	120,551	9,541
Sugar and sugar confectionery	32,581	110845	166	17,303	63,995	112,089
Pasta	6,990	32678	22	12	19,894	1,128
Drinks, alcohol and vinegar	16,982	102631	0	4,304	46,848	76,593
Fodder products	12,695	54819	217	349	76,394	38,664

The value can range from -1.0 to +1.0. This figure is calculated by the following formula:

$$NT = \frac{E_i - I_i}{E_i + I_i} \quad (1)$$

Here NT - a net trade indicator;

E_i - export of product i ;

I_i - import of product i .

The main results of the calculation of trade in agricultural products and food among the EAEU countries in 2017 are given in Table 4 below.

Based on the formula of the above net trade index, based on the data in Tables 1, 2, 3 above, we determine the comparative advantages of partner countries in agricultural trade (Table 5).

Summarizing the above, the advantages of Kazakhstan, Belarus and Russia in the field of foreign trade in agricultural products based on the indicators of the net trade index are as follows (Table 6).

The level of competitiveness of the list of goods studied in the joint trade of Kazakhstan

Table 5

Agriculture of Kazakhstan, Belarus and Russia
identified in the field of foreign trade in products Advantages (net trade index)

Product name	Republic of Kazakhstan		Russian Federation		Republic of Belarus	
	Russian	Belarus	Kazakhstan	Belarus	Kazakhstan	Russian
	2	3	4	5	6	7
1	-0,80658	0,352941	0,80658	-0,2304	-0,352941	0,2304
Live animals	-0,5357	-1	0,5357	-0,93622	1	0,93622
Meat and meat by-products	-0,37248	-0,47773	0,37248	-0,37075	0,47773	0,37075
Fish products	-0,55107	-1	0,55107	-0,98463	1	0,98463
Milk and cream	-0,65956	-1	0,65956	-0,97094	1	0,97094
Cheese and cottage cheese	-0,41299	0	0,41299	-0,86127	0	0,86127
Egg products	0,471897	-0,92109	-0,471897	-0,93867	0,92109	0,93867
Fruits	-0,10269	0,778163	0,10269	-0,38304	-0,778163	0,38304
Vegetable products	-0,60395	1	0,60395	0,903132	-1	-0,903132
Coffee, tea, violets and spices	0,460541	-0,02439	-0,460541	0,97924	0,02439	-0,97924
Cereals	0,712837	1	-0,712837	0,102912	-1	-0,102912
Flour products	-0,94168	-0,93676	0,94168	0,853319	0,93676	-0,853319
Animal or vegetable oils	-0,54568	-0,98099	0,54568	-0,27313	0,98099	0,27313
Sugar and sugar confectionery	-0,64757	0,294118	0,64757	0,892684	-0,294118	-0,892684
Pasta	-0,71605	-1	0,71605	-0,24097	1	0,24097
Drinks, alcohol and vinegar	-0,62393	-0,23322	0,62393	0,327922	0,23322	-0,327922

with the EAEU countries varies. For example, it was found that Kazakhstan's agricultural products are highly competitive in the Russian market only with flour products (Table 7).

The following table 8 shows the level of competitiveness of agricultural products in the market of the Republic of Belarus of Kazakhstan. This analysis also divides Kazakhstan's agricultural products in the Belarusian market into three levels (high, medium and uncompetitive).

Among the most competitive Kazakhstani goods in the market of the Republic of Belarus we see flour and vegetable products. Among the agricultural products at the middle level of competition we see live animals, cereals, pasta,

fodder. We also find uncompetitive agricultural products on the market of the Republic of Belarus, including meat and food by-products, milk and cream, cheese and cottage cheese, fruits, animal or vegetable oils, fish products and sugar and sugar confectionery. This is due to the fact that the market of the Republic of Belarus produces a sufficient amount of these goods, so the demand for these goods is low. Therefore, in our analysis, these goods appear to be uncompetitive. In fact, these goods produced in Kazakhstan are not uncompetitive. A number of these products can not satisfy the domestic market.

Conclusion. Kazakhstan has fruits, cereals and flour products of the Russian Federation, which have a comparative advantage in foreign trade,

Table 6

Preferred types of goods in the trade of agricultural products of the EAEU countries
(according to the net export index)

State	Type of product
Republic of Kazakhstan	
Regarding the Russian Federation	Fruits, cereals, flour products
Regarding the Republic of Belarus	Live animals, vegetables, flour products, pasta
Russian Federation	
Regarding the Republic of Kazakhstan	Live animals, meat and food by-products, fish products, milk and cream, cheese and cottage cheese, egg products, vegetable products, animal or vegetable fats, sugar and sugar confectionery, pasta, animal products
Regarding the Republic of Belarus	Cereals, flour products, animal or vegetable fats, pasta, animal products
Republic of Belarus	
Regarding the Republic of Kazakhstan	Meat and food by-products, fish products, milk and cream, cheese and cottage cheese, fruits, cereals, animal or vegetable fats, sugar and sugar confectionery, animal products
Regarding the Russian Federation	Live animals, meat and meat by-products, fish products, milk and cream, cheese and cottage cheese, egg products, fruits, vegetables, sugar and sugar confectionery

Table 7

Agriculture of Kazakhstan in the Russian market level of competitiveness of products

Market	The product's name	Indicator
Market of the Russian Federation	Highly competitive	
	Flour products	0,712837
	Moderately competitive	
	Fruits	0,471897
	Cereals	0,460541
	Vegetable products	-0,10269
	Egg products	-0,41299
	Fish products	-0,37248
	Uncompetitive	
	Live animals	-0,80658
	Cheese and cottage cheese	-0,65956
	Animal or vegetable oils	-0,94168
	Pasta	-0,64757
	Fodder products	-0,62393
	Meat and meat by-products	-0,5357
Milk and cream	-0,55107	
Sugar and sugar confectionery	-0,54568	

In the market of the Republic of Belarus in Kazakhstan in 2017
level of competitiveness of agricultural products

Market	The product's name	Indicator
Market of the Republic of Belarus	Highly competitive	
	Flour products	1
	Vegetable products	0,778163
	Moderately competitive	
	Live animals	0,352941
	Egg products	0
	Cereals	-0,02439
	Pasta	0,294118
	Fodder products	-0,23322
	Uncompetitive	
	Meat and meat by-products	-1
	Milk and cream	-1
	Cheese and cottage cheese	-1
	Fruits	-0,92109
	Animal or vegetable oils	-0,93676
	Sugar and sugar confectionery	-0,98099
Fish products	-0,47773	

while Belarus has a comparative advantage in the following products: animal products, vegetables, flour products, pasta;

According to the net foreign trade index of the Russian Federation, the following products for Kazakhstan are live animals, meat and food by-products, fish products, milk and cream, cheese and cottage cheese, eggs, vegetables, animal or vegetable oils, sugar and sugar confectionery, pasta products, fodder products, and products related to the Republic of Belarus: cereals, flour

products, animal or vegetable fats, pasta, animal products;

While the Republic of Belarus has an advantage over Kazakhstan in terms of meat and food by-products, fish products, milk and cream, cheese and cottage cheese, fruits, cereals, animal or vegetable oils, sugar and sugar confectionery, animal feed, the Russian Federation has an advantage. : for live animals, meat and food by-products, fish products, milk and cream, cheese and cottage cheese, egg products, fruits, vegetables, sugar and sugar confectionery.

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Евразиялық экономикалық одақ жағдайында Қазақстан Республикасы ауыл шаруашылығы тауарларының бәсекеге қабілеттілігін анықтау

Аннотация. Мақалада ЕАЭО жағдайында Қазақстан Республикасы ауыл шаруашылығы тауарларының бәсекеге қабілеттілігі және оның тиімділігін анықтауға талдау жүргізілді. Еуразиялық экономикалық одаққа мүше елдердің Қазақстан Республикасы, Ресей Федерациясы, Беларусь Республикасының арасында ауыл шаруашылығы өнімдерінің бәсекеге қабілеттілігін және оның тиімділігін анықталды. Ол үшін аталған елдердің ауыл шаруашылығы тауарларының экспорты мен импортының көрсеткіштері негізге алғынған (тірі жануарлар, ет және балық өнімдері, сүт және жұмыртқа өнімдері, жемістер мен көкөніс өнімдері, дәнді дақылдар мен ұн өнімдері, жануарлар немесе өсімдік майлары, қант және қант кондитерлік өнімдері, макарон өнімдері мен сусындар, спирт және сірке суы, мал азығы өнімдері. Қазақстандық ауыл шаруашылығы тауарларының бәсекеге қабілеттілігінің жай-күйін негізге ала отырып, қазіргі уақытта қазақстандық ауыл шаруашылық өнімдері бойынша сыртқы сауда саласында анықталған артықшылықтар таза сауда индексі көрсеткіштері арқылы есептелді. Таза сауда индексі бойынша Ресей нарығында Қазақстанның ауыл шаруашылығы өнімдері ішінен жоғары бәсекеге қабілетті ұн өнімі болса, Беларусь Республикасы нарығында жоғары бәсекеге ие ұн және көкөніс өнімдері болды.

Түйін сөздер: бәсеке, бәсекеге қабілеттілік, таза сауда индексі, сыртқы сауда, экспорт, импорт.

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Определение конкурентоспособности товаров сельского хозяйства Республики Казахстан в Евразийском экономическом союзе

Аннотация. В статье анализируется определение конкурентоспособности и эффективности сельскохозяйственной продукции Республики Казахстан в условиях ЕАЭС. Выявлена конкурентоспособность сельскохозяйственной продукции и ее эффективность в рамках Республики Казахстан, Российской Федерации и Республики Беларусь. Для этого основаны показатели экспорта и импорта сельхозпродукции указанных стран (живые животные, мясные и рыбные продукты, молочные и яичные продукты, фрукты и овощи, крупы и мучные продукты, животные или растительные жиры, сахар и кондитерские изделия из сахара, макаронны и напитки, алкоголь и уксус, кормовые продукты). Исходя из состояния конкурентоспособности казахстанской сельскохозяйственной продукции, в настоящее время выявленные преимущества во внешней торговле сельскохозяйственной продукцией Казахстана рассчитываются по индексу чистой торговли. По данным индекса чистой торговли среди сельхозпродукции Казахстана на российском рынке наиболее конкурентоспособна мучная продукция, а на белорусских рынках наиболее конкурентоспособны мучные и овощные продукты.

Ключевые слова: конкуренция, конкурентоспособность, индекс чистой торговли, внешняя торговля, экспорт, импорт.

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