

## DEVELOPMENT OF AGROFOOD MARKET IN THE SOUTHERN PART OF SIBERIA BY MEANS OF REGIONAL AND FOOD RELATIONS

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**Abstract:** *The research explores the prior ways of agrofood market development by means of fostering the interregional and international food relations. The paper summarizes the theoretical foundations of the market operation carried out by means of the development of interregional food relations; the article highlights the experience of formation and development of agrofood market and suggests the methodical approach to analyzing the problems of market operation. The developed "road map" of measures on the adaptation of national agriculture specifies the impact on the development of the main types of agricultural production and the key changes related to the duties of Russia that significantly change the decisions in agricultural policy and the state support of agribusiness. The authors ground the directions of agrofood market development carried out by means of fostering the interregional and international food relations in the southern part of Siberia. They use economic-mathematical modeling, apply the gravitation theory and make the scheme of the interregional and international food relations. The article formulates new directions of the development of interregional food relations by means of defining the relative advantages of the southern part of Siberia and some regions of the bordering countries in producing some types of agricultural production.*

**Keywords:** *agrofood market, interregional relations, agriculture, export, import.*

### 1. INTRODUCTION

The authors see the efficient agrofood market as one of the most relevant directions in agribusiness development under the modern conditions of fostering the economic independence of regions and structural changes of agricultural industries.

The paper is concerned with the expansion of agrofood market by means of interregional relations, which is seen as a condition for the balanced development of regional agribusiness, reducing the dependence on the

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negative impact of the environment and complex implementation of the environment trade potential. Each region of the country is in the urgent need of the efficient interregional trade; the regional possibilities allow implementing more efficient exchange of agricultural production and food provision. This is an evident advantage of each regional agrofood market under the conditions of world trade globalization.

Taking into consideration all factors mentioned above, the authors make a case about scientific and practical grounds for agrofood market development by means of national and international food relations on the example of the southern part of Siberia, which is considered to be the most important macroregion. The southern part of the Siberian Federal District covers Novosibirsk Oblast, Omsk Oblast, and Kemerovo Oblast, the Altai Republic, the Buryat Republic, the Republic of Tyva, the Altai Kray and Zabaikalsk Kray.

The theoretical and methodological issues of agrofood market development are considered by Avarsky N.D., Altukhov A.I., Borodin K.G., R.King, Krylatykh E.N., Nazarenko V.I., M.E. Porter, Sedik D., Serkov A.F., Siptits S.O., Ushachev I.G. and others (Avarsky, 2014), (Altukhov, 2014), (Borodin, Neganov. & Berestov, 2010), (King, R., Hand, M., Clancy, K., Gomez, M., Hardesty, S., Lev, L., & McLaughlin, E., 2010). (Krylatykh & Chashcharina, 2014), (Nazarenko, 2011), (Porter & Kramer, 2011), (Sedik, Lerman & Uzun, 2013), (Serkov & Chekalin, 2013), (Siptits & Abramov, 2012), (Ushachev, 2014).

Some aspects of the development of market relations in the agrofood sector of Siberia are explored by the modern scientists as E.V. Afanasyev, V.A. Kundius, I.V. Kurtsev, A.T. Stadnik, V.F. Stukach and S.A. Shelkovnikov (Afanasyev & Grigoryev, 2013), (Kundius & Poltarykhin, 2011), (Kurtsev, 2009), (Stadnik, Shelkovnikov & Chernova, 2006), (Stukach, 2008).

At the same time it should be mentioned, that many theoretical and methodological aspects of formation and operation of regional agrofood markets are not sufficiently explored and have to be further investigated. All the problems related to the efficient operation of agrofood market and the lack of methodological approaches to the analysis of the agrofood market formation and development have contributed to the relevance of the topic, goal setting of the research.

## **2. METHOD**

The research is aimed at the development of theoretical and methodological guidance and practical recommendations on the grounds of agrofood market development by means of interregional food relations.

The object of research is concerned with economic and management relations and interregional relations that take place in marketing of agricultural raw materials and food provision.

The subject of research is the principles, factors and tendencies of agrofood market development by means of interregional food relations.

The object of observation is agrofood markets and interregional relations among the regions of Russia.

The theory and methodology of research are based on the fundamental works of national and foreign scientists and economists about evolution and peculiarities of agrofood market development, spatial differentiation of the labour in agribusiness and interregional food relations.

The information basis includes the materials of the Federal State Statistics Service, regional bodies of the Federal State Statistics Service, the information from the Ministries of Agriculture in the regions of the Siberian Federal District; scientific publications on the topic and other sources.

The authors applied abstract-logical method, statistics-economic method, balance method, monographic method, calculation-constructive method, special-purpose programme and the method of economic-and-mathematical modeling.

## **3. RESULTS**

### **3.1 Theoretical bases of agrofood market development**

The agrofood market assumes intensive and growing supply and demand on the price, volume, variety and quality of agricultural production, raw materials and provision from all the participants of agrofood market. (Fetiukhina, 2011).

New stage of regional socio-economic system and the growth of income and public demand can be reached by the market, which is formed by close interaction between the regional industrial exchange, international and interregional exchange provided by import and export relations.

The agricultural economy is concerned with integration and globalization processes at the regional and national levels. This influences the development of agrofood market, that is why the further development of agrofood market takes place on the basis of fostering the interregional and international food relations.

The authors observe the regional differences in the involvement into integration processes (The Customs Union and the Euroasian Union). They observe the significant differentiation of internal and external factors application for reproduction of the regional agribusiness food resources. The research outlines that agrofood market of the country and of some regions is not an isolated self-regulated system; it is influenced by different factors represented in Table 1.

**Table 1.**  
**The factors of agrofood market development on the basis of interregional and international food relations**

<i>Factors</i>	<i>Positive impact factors</i>	<i>Negative impact factors</i>
External	New distribution area of agricultural raw materials and food provision; Access to new technologies and agricultural machinery; Involvement of national producers into the international labour division; Fostering of competition at the national and international level; Changes in state support of agriculture according to the standards of WTO	Growth of food import; Different mechanisms of the regulation of agrofood market in Russia and other countries; Different approaches to the support of agriculture and increase of its competitiveness; Lack of state support of export of agricultural raw materials and food provision Lack of the strategy and sequence of adaptation processes of regional agribusiness to new economic environment
Internal	Increasing of agricultural producers competitiveness and food quality; Efficient placement and specialization of agricultural production; Marketing development and trading cooperation; Reducing of volatility in the prices on agricultural production; The development of the organizational structure of regional agribusiness management and efficiency of their operation	Different climate conditions; Insufficient development of market infrastructure; False information about the situation at the regional agrofood markets; High differentiation in the resource supply of agribusiness and development of agrofood markets; Different remoteness from markets

Specific factors that influence interregional and international food relations form the basic principles: economic integration organizations; interrelation and economic vectors.

Participation of Russia in the national integration projects gives opportunities for more complete interaction with the world economy and involvement into the world trade according to the rules set on the basis of compromise.

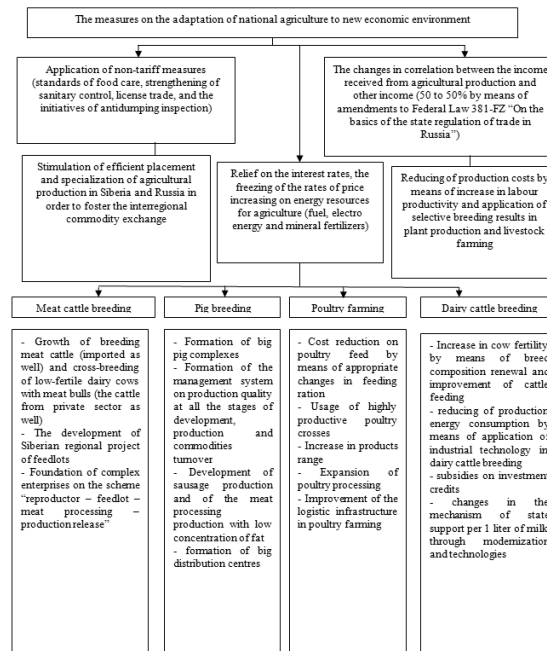
### 3.2. The measures on the adaptation of national agriculture to the modern conditions.

The adaptation to the globalization and international integration results in fostering of involvement of the foreign institutes that regulate agriculture into the national institutional system. We should note, that foundation of the Customs Union and the above-national regulation of the external trade resulted in the custom-tariff policy regulated by the Euroasian Economic Committee.

The development of agrofood market requires new approaches to the improvement of state regulation and support of national agriculture.

The research carried out has developed the “road map” of measures on adaptation of national agriculture (Figure 1)

Figure 1: “The road map” of measures on the adaptation of national agriculture



The efficiency of the measures depends on the mechanism of interaction between the state and regional institutes of economic regulation in Russian agribusiness.

The increase of production competitiveness of the national producers at the national food market can be solved by the measures divided into 2 groups: the general measures with instruments for agriculture and the specific measures that are aimed at concrete industries of agriculture.

The introduction of the measures must become the priority for authorities engaged in the regulation of agribusiness at the national and regional levels. The efficiency of state support measures in agriculture assumes the efficient combination of the state regulators and economic measures on increasing the competitiveness of agricultural production at the regional level.

The suggested measures are aimed at reducing the negative impact caused by interregional integration and at the competitiveness increase and adaptation of national agriculture to the contemporary conditions.

### **3.3 Food provision in the southern part of Siberia.**

The southern part of Siberia is the most important macroregion, which participates in the commodity exchange. The research investigates 7 regions located in the southern part of the Siberian Federal District: the Altai Kray, the Zabaikalsk Kray, the Republic of Tyva, the Buryat Republic, the Altai Republic, Omsk Oblast, Kemerovo Oblast and Novosibirsk Oblast. These regions are more self-sufficient with the main types of agricultural production than other regions of Russia (Table 2).

Calculation of the data with minimum permissible level of self-sufficiency on some types of food is fixed in the Food Security Doctrine and makes conclusion that meat and meat production self-sufficiency in Russia is 73%, meat self-sufficiency in the southern part of Siberia is 79.9% whereas the Buryat Republic and the Krasnoyarsk Kray meet people's needs in meat on 48%, Kemerovo Oblast - 43%, the Republic of Tyva - 64%, the Republic of Khakasiya - 58% and the Altai Kray - 114%.

The authors highlight more favourable situation with milk and dairy products in the country. Russia produces 81 % of the national consumption whereas the minimum is 90 %. Siberia produces 95 % of the regional consumption of milk; almost all the regions of the Siberian Federal District produce 90% of milk except Kemerovo Oblast that produces only 60% of necessary consumption and Tomsk region - 58%. The Altai Kray produces

134 % of necessary milk. Self-sufficiency on vegetables and gourds is on the sufficient level.

This level is 80.5% in total in Russia, but the situation in Siberia is worse. The regional self-sufficiency reaches 74.5 %. The Altai Kray's self-sufficiency in vegetables and gourds is 35%.; the Republic of Tyva - 30 %, the Zabaikalsk Kray - 24%. Russia is self-sufficient in eggs, egg products and potato.

Potato production in Russia is 2% higher than consumption whereas in Siberia it is 6%. The Republic of Altai is self-sufficient in eggs on 38% whereas the Buryat republic index is 34%, the Republic of Khakasiya - 65%, the Zabaikalsk Kray - 40%, Tomsk region - 63% and the Republic of Tyva index is 8% only.

Russia is self-sufficient in fruits and berries on one-third part whereas Siberia index is even less (17%). The Buryat Republic grows fruits and berries and meets the regional needs on 12%, the Republic of Tyva - 11 %, Altai Kray - 18%, Irkutsk Oblast - 7 %, Zabaikalsk Kray - 1.2% and Novosibirsk Oblast - 10%.

More than 41% of the year consumption of meat and 84% of the year consumption of fruits and berries are imported into the Siberian Federal District from other regions and from abroad (China and the countries bordering with Russia).

**Table 2.**  
**The level of self-sufficiency in the main types of agricultural production (Russia and the southern part of Siberia).**

Type of agricultural production	Self-sufficiency level, %		The share of import in the domestic consumption, %	
	Russia	the south of Siberia	Russia	the south of Siberia
Meat and meat production	73.2	79.9	28,8	41,2
Milk and dairy production	80.5	95.0	20,6	22,8
Eggs and egg production	98,3	110,0	2,2	23,0
Vegetables and gourds	80,5	74,5	19,2	29,9
Potato	75,9	106,9	4,0	2,8
Fruits and berries	27,3	17,0	74,8	85,5

Thus, we can make a conclusion that agriculture was reproductive and only some specific industries supported by the government in concern of subsidies and investment credits have shown the fostered development on the basis of innovative technologies. Many producers could not renew their production due to the low income and profit (Ushachev, 2013).

### **3.4. The priorities of the development of interregional and international food relations of the Siberian regions.**

The authors point out that low profit at the agricultural market in the beginning of reformation, high-cost agricultural industry of the Soviet times and open borders for importing food products and agricultural raw materials caused strict reducing of national agricultural production and increase of agricultural import (Altukhov, Drokin & Zhuravlev, 2015).

Although the scientists make attempts to highlight the general features in the national integration, there are no conditions observed for the general forms of national integration.

Outlining the prospective directions of interregional food relations, development is considered to be important in the current situation. The interregional food relations are based on the principles of evolution approach to the spatial development which is considered as a methodological basis of the interest alignment among the economic agents of agrofood market when developing the general directions of mutual cooperation; the programme and project mechanism of the strategic management of economic system development as a complex of instruments for planning, involvement and implementation of the interests and solutions of economic agents in frames of agreed directions of spatial development. This allows arranging, supporting and developing the sustainable regional agribusiness in order to get the synergetic effect considered as maximization of socio-economic instruments.

The intensity of regional food relations is characterized by cargo turnover, economic cooperation, supply markets and consumption markets of agricultural production and socio-economic problems in agribusiness, which are solved by all the participants together. The outlined features define the conditions and options for the development of interregional food relations.



The prior directions of the development of national and international food relations imply the concentration and specialization of agricultural production, that form the chain of interrelated structural changes aimed at increasing of regional economic efficiency in the regions with formed specialization. These regions are the Altai Kray, Novosibirsk Oblast and Omsk Oblast, which produce food grain and dairy products. These regions are rich with natural resources and developed technological resources on processing and marketing the products (grain and grain products, milk and dairy products). These regions can import the grain and livestock production outside of the area. The calculation shows that these regions can supply 3.6-3.7 million t of grain to the external markets.

The authors specify that it is important to implement the interregional exchange of final output in order to provide sustainable efficient turnover in the regions with raw materials specialization. There is a possibility to vary the nomenclature of the production. This is proved by the data on food grain production in the Altai Kray, which produced 1.5 million t of flour in 2013 (i.e. 61.5% in Siberia), pasta products – 110.2 thous. t (i.e. 70.7% in Siberia) and cereals – 239.8 thous. t (81.5%). The Altai Kray processes up to 80% of wheat production. This region has vast interregional and international relations with the regions of Russia and foreign countries.

The Altai Kray and Omsk Oblast have significant resources of milk and meat; 604 thous. t of milk and 100 thous. t of meat can be supplied to the other regions of Siberia and the Far East by means of interregional food relations. The Buryat Republic and the Republic of Tyva have huge feeding resources and they are able to increase the volume of livestock production especially lamb meat (Stasiulis, 2014).

At present, these regions produce 68% of sheep and 54% of lamb meat in Siberia that provides public demand on meat and allows importing it to the regions of Russia and abroad. This is proved by the prospective directions of interregional and international food relations in the regions of Siberia.

The dependence of meat consumption on the meat import in Siberia is about 19% whereas other regions of Siberia (Irkutsk Oblast, Kemerovo Oblast, Tyumen Oblast and the Zabaikalsk Kray) are more dependent on the meat production import from other regions of the country (45-55% of own production). The authors make a conclusion that Siberia is in close economic

integration with many regions of the country. Otherwise, the food relations are not well regulated.

### 3.5. The scheme of interregional and international turnover relations of the regions of Russia.

The authors suggest the scheme of application of gravitation theory in the interregional commodity exchange.

The gravitation model of interregional relations defines the application of relations to assess the impact of economic and political factors (global crisis, international integration blocks) on the dynamics of agrofood flows.

The article makes and solves the equation

$$U_{\text{potential}i} = Y \times m_1 m_i / r \sum U_{\text{actual}i} - \sum U_{\text{potential}i} = 0$$

on the basis of statistical data on the interregional commodity turnover ( $U/\text{actual}$ ), the main types of food commodities produced in the southern part of Siberian Federal District ( $m_1$ ) and other regions of bordering countries ( $m_i$ ), and takes into consideration the space between the trading regions ( $r$ ).

This equation can be used in defining the potential food turnover between two trading regions. The equation assumes the application of gravitation theory based on the least square method. In this case the unknown coefficient  $Yx$  is calculated by means of

$$\sum (U_{\text{actual}i} - U_{\text{potential}i})^2 > \min.$$

The prior development in the regions of Siberia assumes the development of international relations with the countries of the Asia-Pacific region. This is explained by geopolitical location of Siberia as Siberia is considered as a bridge between the West and the East. This opens the doors to the economic integration with European countries and the countries of Asian and Pacific region. Table 3 illustrates that each region produces gross regional agricultural production. For instance, Kemerovo Oblast produces agricultural production on 23 033.0 million RUR, Novosibirsk Oblast – 32295.8 million RUR and Bayan-Ulgii region produces agricultural production on 1316.8 million RUR. The turnover between Novosibirsk Oblast and Kemerovo Oblast is equivalent to 130 million RUR whereas the turnover between Altai Republic and Buryat Republic is 0.1 million RUR. The most profitable turnover (277.7 million RUR) is observed between the Altai Kray and the Zabaikalsk Kray.

**Table 3.**  
**Prospective commodity turnover of the main types of agricultural**  
**production in the southern regions with the regions of**  
**Russia and bordering countries, million RUR**

Region	Gross regional agricultural production, mln RUR	Region													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	23033,0	-	130	7	263,6	4,9	1,8	0,3	127,9	2,9	2,6	0,2	1,3	0,2	0,3
2	32295,8	--	116	497,5	9,6	1,1	0,4	149,2	6,7	7,6	1,5	5,6	0,6	0,3	
3	15962,4		--	17,6	0,8	0,3	0,2	49,5	33,4	7,6	0,2	1,1	0,07	0,09	
4	66536,8			-	61,6	1,9	1,8	277,7	8,7	20	0,9	6,4	1,0	1,5	
5	4974,4				-	0,1	0,2	15,4	0,4	0,7	0,04	0,4	0,1	0,2	
6	13637,4					-	0,1	1251	0,2	0,1	0,02	0,2	0,08	0,06	
7	4743,2						-	5,2	0,2	0,1	0,01	0,1	0,4	0,2	
8	2034,3							-	37,4	21,3	3,5	207	11,2	8,9	
9	14026,0								-	1,4	0,1	0,5	0,05	0,06	
10	6666,5									-	0,3	0,7	0,05	0,06	
11	1161,3										-	0,2	0,004	0,006	
12	23617,0											-	1,5	0,06	
13	1261,2												-	0,2	
14	1316,8													-	

1- Kemerovo Oblast, 2 –Novosibirsk Oblast, 3 –Omsk Oblast, 4 – the Altai Kray, 5 – the Altai Republic, 6 – the Buryat Republic, 7 – the Republic of Tyva, 8 – the Zabaikalsk Kray, 9 – North-Kazakhstan Oblast, 10 – Pavlodar Oblast, 11 – Eastern-Kazakhstan Oblast, 12 – Xinjiang Uygur Autonomous Region (China), 13 – Ubsunuur aimak Mongolia, 14 – Bayan-Ulgii (Mongolia)

We take 0 as min, i.e. in order to fulfill the equation

$$\sum U_{actuali} = \sum U_{potentiali}.$$

This approach is efficient as we speak about interregional food flows from the part of economic development of trading regions and their remoteness from each other. This approach assumes the redistribution of interregional food flows not interfering their volumes and structure. The  $Y_x$  coefficient must be calculated for each two regions; the coefficient should be relatively stable when changing the regions. That is why the authors introduce the additional condition

$$\sum U_{actuali} = \sum U_{potentiali}.$$

They calculate  $Y_x$  on the basis of least square method, which provides the equation  $Y_x=19,4$ .

The authors analyzed the complex interregional food relations of the southern part of the Siberian Federal District with the regions of Russia and bordering countries in order to prove the results (Table 3).

The calculation has shown that there is a specific potential in fostering the interregional cooperation of southern regions of the Siberian Federal District with North-Kazakhstan region, Pavlodar region and Xinjiang Uygur Autonomous Region (China). The actual interregional commodity exchange between the southern regions of the Siberian Federal District with the regions mentioned above does not correspond to the high level of their economic development regardless their close geographical position.

The prospective growth in trade between the regions of the southern part of Siberian Federal District and the Altai Territory is 33% of the actual turnover, Kemerovo region - 28%, the Republic of Altai - 9% and Xinjiang Uygur Autonomous Region (China) - 97%.

The calculation results contribute to the assessment of interregional food relations, outline the necessity in optimization of interregional commodity flows and specify the vectors of development.

### **3.6 The ways of interregional food relations development.**

The researchers make a case that it is necessary to consider the regional needs when instituting the long-term strategy of regional agrofood market development and regional specialization in the interregional and international labor division in agribusiness.

The regional needs in compensation of food production deficit by supply from other regions are considered as a central point in defining the development priorities and competitive advantages of regions.

The lack of information on the market situation of the bordering regions, the effective demand of population and the level of competition becomes the central reason that prevents the development of efficient interregional relations.

Favourable conditions for the regions with high relative competitive advantages in agriculture lead to industrial restructuring at the farms or agricultural enterprises and building and applying of competitive advantages at the interregional food market and international food market. The authors' idea is concerned with the measures on reducing agrofood

vulnerability in the regions with unfavourable agricultural conditions. These measures include the intensive market interregional food flows, the development of non-agricultural employment and the direct state support in food provision.

The interregional grain supplies can be provided by the Altai Kray, Omsk Oblast and Novosibirsk Oblast. The Altai Kray, Omsk Oblast and Novosibirsk Oblast can supply dairy products. Omsk Oblast, Novosibirsk Oblast, the Altai Kray and the Republic of Altai can supply meat production through the interregional food relations (Table 4).

**Table 4.**  
**Prospective interregional and international commodity exchange**  
**of the southern part of Siberia and the regions of bordering countries, 2020 th t**

<i>Region</i>	<i>Grain</i>	<i>Milk</i>	<i>Meat (carcass weight)</i>
	<i>import (+), export (-)</i>	<i>import (+), export (-)</i>	<i>import (+), export (-)</i>
the Republic of Altai	+105	-1	-7
the Buryat Republic	+238	+78	+17
the Republic of Tyva	+129	+52	-1
the Zabaikalsk Kray	+76	+48	+8
the Altai Kray	-2130	-631	-57
Kemerovo Oblast	+105	+429	+94
Novosibirsk Oblast	-989	-183	-24
Omsk Oblast	-1272	-428	-96
North-Kazakhstan Oblast	-1015,7	-56,4	-20,8
Pavlodar Oblast	-108	-	-6
Eastern-Kazakhstan Oblast	-55,3	-44	-36,2
Xinjiang Uygur Autonomous Region (China)	+67	+295	+93
Ubsunuur Aimak (Mongolia)	+24	+87	-67,8
Bayan-Ulgii (Mongolia)	+47	+69	-20

The forecast of agrofood market development on the basis of interregional and international relations of the southern part of Siberia is based on the tendencies of the world food market: the growth of production and consumption of grain, meat and milk; expansion of the share of developed countries in the world food trade and application of new agribusiness technologies. The regional disbalance can be regarded as a positive factor that defines further labour division in agribusiness,

foundation of complementary economic structures, which use the comparative advantages of different countries. Siberia has possibilities to extend the general market outlets and diversify the channels of grain supplies to the countries of Southern-Eastern Asia, which prospectively consume more than 20 million t.

#### **4. DISCUSSION**

The paper reveals that the food relations of the southern Siberian regions are very prospective for fostering the interregional cooperation. The efficient system of interregional food relations in the Siberian Federal District must be based on the developed infrastructure of agrofood market, the continuous process of commodity reproduction, free agricultural production flow, raw materials and food flow. The motivation of integration processes is different in each case as the integration processes are based on different principles specified by historical conditions of economic, financial, political, social development, agribusiness-related and economic relations. The authors forecast that Xinjiang Uygur Autonomous Region (China) would be open for the import of 67 thous. t of grain, 295 thous. t of milk, 93 thous. t of meat; Ubsunuur Aimak (Mongolia) will import 24 thous. t of grain and 87 thous. t of milk.

The food relations of Siberia show that the regions would have different possibilities for enhancing of interregional cooperation.

The development of interregional and international food relations is prospective for agricultural production. It is very urgent and relevant for the southern Siberian regions to supply vegetables, food grain, some dairy products and other production as these regions lack the conditions necessary for these types of products. The interregional commodity exchange is supposed to have a positive impact on the development of agrofood market of the southern part of Siberia.

#### **5. CONCLUSION.**

The research results in making the conclusions and guidance.

The clarification of the theoretical aspects of agrofood market development on the basis of fostering the interregional and international food relations and shifting the internal and external influencing factors contribute to the efficient solution of the modern problems. The problems are seen as difficulties in grounding the strategic purposes and achievement of socio-economic purposes at different levels of regional economic

management. The research has shown that national agrofood market and some regions of the country are influenced by various factors. The market is not a self-regulated and isolated system.

The developed “road map” is aimed at the adaptation and competitiveness of national agriculture. The national agriculture must be adapted to the modern conditions and interact with the state and market institutes of economic regulation in agribusiness.

The methodology highlights the regions in Siberia, which are able to export grain and livestock products. The relation between the regions of Siberia and commodity exchange is very strong. The authors observe the lack of strategy development of international cooperation between the regions of Siberia and bordering countries. The legislation of international cooperation is not developed sufficiently; there is a lack of specific programmes on regional export development, staff training and infrastructure development. The research results in outlining the prospective international cooperation between Siberia and other regions.

The topic of research is very prospective for further investigation as it allows the participants of agrofood market and agribusiness state authorities to increase efficiency through the complex modern managerial decisions and methodological instruments.

### *References*

- Avarsky N.D. (2014). Theoretical and practical aspects of turnover at the agrofood market. Moscow: SRI HRIAE.
- Altukhov A.I. (2014). Foodsafety in Russia under the international sanctions. *Agribusiness: economy and management*, 12 (19-29).
- Altukhov A.I. (2015). Agrofood market: new vector of development. *Regional economy*, 3 (256-266).
- Afanasyev E.V. (2013). Regional food safety in Siberian Federal District under the WTO conditions. Proceedings of the Nikonov conference (pp.228-230). Moscow: Nikonov RIAP.
- Borodin K.G. (2010). Food market: the methods of integration assessment. *Regional economy*, 1 (122-128).
- King, R., Hand, M., Clancy, K., Gomez, M., Hardesty, S., Lev, L., & McLaughlin, E. (2010). Comparing the Structure, Size and Performance of Local and Mainstream Food Supply Chains. ERR-99, U.S. Department of Agriculture: Economic Research Service.
- Krylatykh E.N. (2014). Estimation of future agricultural markets in EU and Russia until 2022. *Economy of agricultural and processing enterprises*, 7 (29-36).

- Kundius V.A., Poltorykhin A.L. (2011). Integrated Development of Beet-Sugar Sub-Complex of Agricultural Industry Complex (monograph). Germany: LAP LAMBERT Academic Publishing GmbH & Co. KG.
- Kurtsev I.V. (2009) Research methods for regional agrofood markets. Research methodology for agricultural market: Proceedings of Sci. Conf (pp. 106-119).
- Nazarenko V.I. (2011) Some theoretical aspects of agricultural production placement. *Economy of agricultural and processing enterprises*, 9 (6-9).
- Porter, M.E. and Mark R. Kramer (2011) Creating Shared Value: How to Reinvent Capitalism and Unleash a Wave of Innovation and Growth, *Harvard Business Review*, January-February, 62-77.
- Sedik D., Lerman Z., Uzun V. (2013) Agricultural Policy in Russia and WTO Accession. *Post-Soviet Affairs*, 2013.
- Serkov A.F. (2013). The development of economic mechanism of the implementation of State Programme for Agricultural Development in 2013-2020. *Economy of agricultural and processing enterprises*, 6 (7-11).
- Siptits S.O. (2012). Analytical instruments of agricultural development in Russia under globalization conditions. *Economy of agricultural and processing enterprises*, 4 (17-22).
- Stadnik A.T., Shelkovnikov S.A., Chernova S.G. (2006) State and market-indicative regulation of agriculture: monograph. Novosibirsk: NSAU Press.
- Stasiulis M.V. (2014) . The prior development of interregional and international food relations among the Siberian regions. *Bulletin of NSAU*, 3 (115 -120).
- Stukach V.F. (2008) The institutional structure of agrofood market: monograph. Omsk: "Sfera" Publ..
- Ushachev I.G. (2014). The problems of national and collective food safety in Euroasian Union. *Agribusiness: economy and management*, 10 (3-15).
- Ushachev I. (2013). Research basis for State Programme of Agricultural Development and Regulation of the Markets of Agricultural production, Raw Materials and Food in 2013-2020. *Agribusiness: economy and management*, 3 (13-26).
- Fetiukhina O. N. (2011). Theoretical aspects of agrofood market development in Russia under globalization conditions. *Economic system management*, 7.