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CONTEMPORARY TRENDS AND PRIORITIES WITHIN PROGRESS OF RUSSIAN AGRICULTURAL GEOGRAPHY

Abstract. The article reviewed one of the branches of human geography – agricultural geography, its historical progress, contemporary research subject and evolution of research methods. The most significant trends in studies of spatial aspects of agriculture are represented. Particular attention concentrates on the prospective research areas of new priority.

Keywords: geography of agriculture, rural areas, spatial features of agriculture, farm unit categories, agricultural organizations, family farm units, specialization and naturalization.

Statement of research task. The geography of agriculture (agricultural geography), that has been developing within human geography, acquires features that are typical not only for a natural science, but for a social science as well, that is subject to fundamental transformations in our country in the period when one social and economic formation gives way to the other. That is why conceptual and methodical approaches aimed at detection of specific features of spatial development of the branch as a whole change dramatically, research subject of this branch of geographical science structures in a different way, and new elements emerge, that had not been the focus of agrogeographers earlier. The first stage of development of new views sees the accumulation of new knowledge from the perspective of a new social system, and then scientists try to justify adequate approaches, phenomena research methods, indicators and indices used, frequently rejecting old ones.

Being consistent with this perspective, it is important to examine trends that appeared in Russian agricultural geography during post-Soviet development of agriculture, and to identify directions for perspective study of spatial features of agriculture.

History of research. Agriculture, that is one of crucial branches of material production providing population with food and textile industry with raw materials, involved analysis of allocation of individual branches without precise definition of development factors at the early stages of development of social systems. Nearly the entire occumene could be described, like it did Hecataeus of Miletus who characterized all regions, that were known to him, as well as agricultural activities within those regions [1],

or descriptions could be large-scale and characterize the «economy» (in the original sense of the word¹) within one Roman villa (see [8]). This descriptive character was typical for agricultural geography until late 18th – early 19th century, when studies aimed at development of theoretical basis of agricultural geography emerged in a number of European countries, including the Russian Empire. The first stage of this period saw descriptive generalization of material, that provided for analysis of natural geographic conditions, soil typology, theories of influence of natural components on a plant while it is cultivated. The geography often was an element of accumulated agricultural knowledge, like in the book by A.T. Bolotov², while spatial component was determined only when spatial organization of agriculture was a crucial part in the analysis of economic parameters, like in studies by J. von Thünen, or of natural characteristics, like in studies by V.V. Dokuchaev [6].

By the early 20th century Russian agricultural geography gradually formed lines of research targeted at explanation of reasons for natural and economic components, but what is important is that methods of agricultural regional division using physiogeographical, agrarian, social and other criteria of assignment of regions emerge [5]. Many works were executed in the beginning of the Soviet period, but they were based on statistical data collected earlier. Nearly all «forerunners» of Soviet economic regional division used agricultural criteria among the most important ones due to poor industrial development of Russia before the revolution. As a rule, agricultural criteria included both natural factors, the priority of which served as the basis of regional division by, for example, S.V. Bernstein-Kohan, and social and economic factors, on which A.N. Chelintsev insisted (he compared a number of attributes, characterizing organizational structure of agricultural production). Scientists who believed that it is necessary to combine physiogeographical and social and economic criteria in regional division were rather numerous (from V.N. Tatishchev, K.I. Arsenyev to P.P. Semenov-Tyan-Shansky, A.I. Skvortsov, B.N. Knipovich and others).

Change of social and economic formation demanded new approaches to agricultural production, but sources of accumulated data of early 20th century exhausted only by the beginning of 1930s. Studies by A.V. Chayanov, B.N. Knipovich, A.A. Rybnikov, N.D. Kondratyev and others, based on these data, were published as crucial fundamental works. By that time, researchers of spatial aspects of agricultural production gradually divided into agrarians, economists, and «naturalists».

The complexity of agriculture itself (with a large number of branches) and a significant number of interacting factors, defining development of this or that branch of agriculture, made it possible to target economic and geographical studies at proving the feasibility of using resource potential of a territory in order to develop a branch. Primarily it was related to the necessity of searching for new methods of interpretation of land use in different types of landscapes in the context of specific features of spatial organization.

One of leading scientists in Soviet agricultural geography, A.N. Rakitnikov, believed that the main task of «...agricultural geography is to give grounds for such differentiation in using different parts of agricultural area of the country with different natural and economic conditions...» that would ensure maximum economic effect of the development of the branch [15, p. 3]. Nowadays this approach is called technical and economic line of agricultural geography in many works by T.G. Nefedova.

Size of the country, transition to large socialized economy, problems related to the reclamation of virgin lands³ required research in terms of large-scale projects.

A.N. Rakitnikov assumed that this research consists of four critical elements:

 morphological and typological analysis of spatial differences of existing agriculture (analysis, classification, and mapping of land use, forms (systems) of animal husbandry, organization

¹ Economy – from ancient Greek οἶκος – house, household, household management andνόμος – nome, territory of household management and rule, law, literally, «rules of household management» (see Райзберг Б.А., Лозовский Л.Ш., Стародубцева Е.Б. Современный экономический словарь, – М.: ИНФРА-М. 2007, – 495 р.)

Стародубцева Е.Б. Современный экономический словарь. – М.: ИНФРА-М, 2007. – 495 р.) ² А.Т. Bolotov, who spent a considerable part of his life in several manors, prepared a description of agriculture of these manors, having paid attention to specific features of life in the province, being as if a forerunner of the modern direction of research of rural areas. See Болотов А.Т. Жизнь и приключения Андрея Болотова, описанные самим им для своих потомков. – М.: Современник, 1986. – 768 с., Болотов А.Т. Избранные труды / Составители: А.П. Бердышев, В.Г. Поздняков. – М.: Агропромиздат, 1988. – 416 р.)

³ Reclamation of previously undisturbed lands took place throughout the history of Russia, but the term «virgin land» is generally used only for southern parts of Western Siberian lowland, tilled in mid 1950s. We use the term «virgin lands» referring to all reclaimed land.

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of territory of agricultural organizations, types of agricultural organizations and their production relations, agricultural regional division);

- analysis of natural and economic conditions leading to spatial differences in the character of agriculture;
- historic and geographical analysis of agriculture as one of methods of detecting dependence of differences in agricultural land use (possibility of detecting the influence of new patterns in production allocation when social and economic relations change);
- critical analysis of existing spatial organization and provision of rationale of ways and means of improving it.

A.N. Rakitnikov believed that «...it is possible to evaluate, to measure the influence of these unequal conditions adequately enough only via the reaction of agricultural production on these conditions, i.e. using economic indicators of agricultural organizations» [15, p. 13-14]. He specifies in a footnote that this does not diminish the importance of various technical production indicators, but it is important to bear in mind that such indicators alone cannot be used in order to construct a rational location of agriculture. It means that each researcher may use a certain set of indicators, reflecting actual location of a branch.

By the end of the Soviet period two main approaches to studying existing reality of agriculture were considered to be basic. The approach developed by A.N. Rakitnikov, attempting to explain spatial differences in agriculture

from the perspective of natural conditions, was rather closely related to the approach on detecting specific features of agriculture within given conditions of natural environment proposed by V.G. Kryuchkov.

During the Soviet period everything was subject to studies of planned proportional development of socialized economy, support of production and employment of population, formation of different regions under different natural conditions. The main criterion was the objectiveness of economic conditions.

For this purpose indicators, that were as a rule at the disposal of a scientist, were used that determined the leading role of socialized farm units (kolkhoz (collective farm), sovkhoz (state farm), mezhkhoz (interfarm)) in receiving agricultural products (Table 1).

It should be noted that now, as in the Soviet period, the role of family farm units (a) private subsidiary farming and b) garden associations)⁴ is defined based on recalculation of a regular sample (0.01% of all family farm units). Incidentally even in agricultural census of 2006 the sample on b) was from 10 to 20%, given the fact that this phenomenon is wide-spread, which is a statistically correct value, but it presents only averaged (poorly differentiated) indices for each administrative unit. That is why the error is small for large territories, but while analyzing regional differences (administrative regions), this statistics may be not representative.

Agricultural allocation by categories of farm units may be defined quite precisely based on land use indicators. As of 1 November 1990 citizens used only 3.9 mln ha of agricultural lands

Table 1

			-					
Gross agricultural product								
in farm units of all categories			in agricultural organizations			share of products of agricul- tural organizations in products of farm units of all categories, %		
total	inclu	including		including		=	borti	animal
	horti- culture	animal husbandry	tota	horti- culture	animal husbandry	tota	culture	husbandry
88.1	35.7	52.4	66.5	28.7	37.8	75.5	80.4	72.1
92.4	36.5	55.9	70.1	29.3	40.8	75.9	80.3	73.0
103.0	39.1	63.9	79.8	32.2	47.6	77.5	82.4	74.5
	103.0	in farm ur in farm ur in farm ur in farm ur inclu horti- culture 88.1 35.7 92.4 36.5 103.0 39.1	in farm units of all categories including including horti-culture animal husbandry 88.1 35.7 52.4 92.4 36.5 55.9 103.0 39.1 63.9	in farm units of all categories including Test of all categories Test of all categories <td>in farm units of all categories in agricul organiza Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories<</td> <td>in farm unitsin agricultural organizations$\overline{\underline{re}}$including$\overline{\underline{re}}$including$\overline{\underline{re}}$including$\overline{\underline{re}}$includinghorti- cultureanimal husbandry$\overline{\underline{re}}$including88.135.752.466.528.737.892.436.555.970.129.340.8103.039.163.979.832.247.6</td> <td>$\frac{in farm units}{of all categories}$ $\frac{in cluding}{horti-culture}$ $\frac{including}{husbandry}$ $\frac{including}{husbandry}$</td> <td>in farm units of all categoriesin agricultural organizationsshare of products tural organiz in products of fa- of all categories$\overline{\underline{tg}}$including horti- culture$\overline{\underline{tg}}$including horti- culture$\overline{\underline{tg}}$$\overline{\underline{tural}}$ organizations$\overline{\underline{tural}}$ animal husbandry$\overline{\underline{tural}}$$\overline{\underline{tural}}$ horti- culture$\overline{\underline{tural}}$ animal husbandry$\overline{\underline{tural}}$</br></br></br></br></br></br></br></br></td>	in farm units of all categories in agricul organiza Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories Image: Stress of all categories<	in farm unitsin agricultural organizations $\overline{\underline{re}}$ including $\overline{\underline{re}}$ including $\overline{\underline{re}}$ including $\overline{\underline{re}}$ includinghorti- cultureanimal husbandry $\overline{\underline{re}}$ including88.135.752.466.528.737.892.436.555.970.129.340.8103.039.163.979.832.247.6	$\frac{in farm units}{of all categories}$ $\frac{in cluding}{horti-culture}$ $\frac{including}{husbandry}$	in farm units of all categoriesin agricultural organizationsshare of products tural organiz in products of fa- of all categories $\overline{\underline{tg}}$ including horti- culture $\overline{\underline{tg}}$ including horti- culture $\overline{\underline{tg}}$ $\overline{\underline{tural}}$ organizations $\overline{\underline{tural}}$ animal husbandry $\overline{\underline{tural}}$ $\overline{\underline{tural}}$ horti- culture $\overline{\underline{tural}}$ animal husbandry $\overline{\underline{tural}}$ animal husbandry $\overline{\underline{tural}}$ animal husbandry $\overline{\underline{tural}}$ animal husbandry $\overline{\underline{tural}}$ animal husbandry $\overline{\underline{tural}}$

Gross agricultural product (in comparable prices of 1983). RUB bn

Based on: [14].

⁴ Collection of annual statistics data on agricultural production, animal stock.

or 1.8% of all agricultural lands in the Russian Federation. At that, the number of «summer gardeners»dramatically increased from 1985 to 1990. During this period the number of families with garden plots increased from 4.7 mln to 8.5 mln (by factor of 1.8), and the area has grown from 302 thousands ha to 576 thousands ha (by factor of 1.9) [14]. Even this growth allows to state with a great measure of certainty that the role of this category of farm units in production and sales of agricultural products was unimportant during the Soviet period.

In many cases study of spatial aspects of allocation of family farm units was carried out within social geography –g eography of rural area and rural geography (see a detailed description in the article by M.Yu. Prisyazhnyy [12]). This trend is typical for the majority of developed countries, when 1990s saw a gradual decline in strong agricultural geography, and researches became part of geography of rural area. That is related to the vast set of topics included in geography of rural area: from rural areas and small towns, social aspects of territories to management of natural resources and land use.

Contemporary studies in agricultural geography. Currently in many countries traditional agricultural geography (technical and economic line) is focused on studies of spatial structures of various agricultural systems, on interaction between the man and the environment, and on stability and development of food systems.

Detailed knowledge on territories of developed countries leads to a more profound analysis of the state and problems of rural areas, including microstudies of individual territories up to house-to-house in-depth interviews with rural families on the specific features of their existence. Recently western researchers have paid their attention to world regions where agricultural production does not follow the path of social development, but intensely develops as a real sector of the economy. As a rule this is true for developing states. There is a large percentage of such works among English, German and French scholars. Often agrogeographers attempt to find directions of agricultural geography in a postmodern environment using new research models and trying to reflect the influence of all factors on the development of agriculture.

At the current development stage of the Russian economy, the science as a whole and agricultural geography in particular provides for the statement of the fact that the development paradigm of the branch has changed.

Main basis tasks of this line of human geography nearly have not changed for the last twenty years, as the stability of country's development and key trends have not been completely formulated yet. That is why the problem of classifying and mapping land use and agricultural development of the territory is still relevant.

This country with a vast territory cannot be proud of a significant use of lands for agriculture. Nearly two-thirds of its territory may be used for agricultural production only within very narrow bounds. Only a little more than 12% is involved in agricultural production which is similar to such countries as Japan, Jordan, Bahrein, Bhutan, the Democratic Republic of the Congo. Throughout the regions of the Russian Federation this value varies from 85% in steppe regions (combination of cultivated lands and pastures) to 1-2% in tundra. That is why different approaches in research methods are required for so different territories [3].

Works, reflecting a combination of views of geographers from different countries on evaluation of land use in Russia, are of particular interest. For example, a recently published article on the reasons for withdrawal of lands from agricultural use and possibilities of formation of forest successions on these territories. This work is written from environmental perspective, but its methods turn out to be interesting for agrogeographers as well [13].

While in the past the main focus in the analysis of land use was on technological aspects of the use of territories, now it is important that after an implemented land reform, the main focus is on reallocation of land funds not by types of lands, though it is necessary to study this aspect, but on reallocation by forms of ownership, i.e. whether lands belong to private persons or to shareholders.

Land reform determined different approaches to the allocation of lands in different regions. That is why the analysis of land ownership is a crucial direction for understanding agricultural situation in the region. As an example let us demonstrate differences and dynamics of area of lands, owned by citizens, by Russian regions (Table 2).

Dynamics of this indicator for the period of twelve years reflects institutional factor, rather than spatial factor. But the area of lands owned by citizens (their share in total area of a territory) is determined by the quality of land

			Changes in area of lands owned by citizens from 2001 to 2012						
			No lands owned by citizens in 2001	Increase in area of lands	Stable indicators (no changes)	Decrease in area of lands			
by citizens in total area of federal subject (2012)	more than 45%	Moscow		Volgograd Oblast Stavropol Krai Orenburg Oblast Rostov Oblast Saratov Oblast Samara Oblast Oryol Oblast	Voronezh Oblast Kursk Oblast Tambov Oblast Tula Oblast				
	24-45%		Pskov Oblast	Altai Krai Republic of Adygea Chuvash Republic Novosibirsk Oblast Chelyabinsk Oblast Omsk Oblast Udmurt Republic Kurgan Oblast Krasnodar Krai Ivanovo Oblast Republic of Mordovia	Belgorod Oblast Bryansk Oblast Kaluga Oblast Lipetsk Oblast Nizhny Novgorod Oblast Penza Oblast Tatarstan Ryazan Oblast Smolensk Oblast Ulyanovsk Oblast				
	10–20%		Republic of Bashkortostan Republic of Kalmykia Karachay–Cherkess Republic Astrakhan Oblast	Republic of Khakassia Mari El Republic Tumen Oblast	Kemerovo Oblast Kirov Oblast Vladimir Oblast Moscow Oblast Tver Oblast Yaroslavl Oblast				
	of lands owned	3–10%		Saint-Petersburg Altai Republic Zabaykalsky Krai Jewish Autonomous Oblast	Perm Krai Primorsky Krai Republic of Buryatia Amur Oblast Leningrad Oblast Vologda Oblast Novgorod Oblast	Kostroma Oblast Sverdlovsk Oblast			
Share of area	less than 3%	Republic of Dagestan Republic of North Ossetia-Alania Republic of Ingushetia Tyva Republic Chechen Republic	Sakha (Yakutia) Republic Nenets Autonomous Okrug Irkutsk Oblast Komi Republic Khanty–Mansi Autonomous Okrug Yamalo-Nenets	Murmansk Oblast Chukotka Autono- mous Okrug Kamchatka Krai Arkhangelsk Oblast Magadan Oblast Tomsk Oblast	Kabardino-Balkar Republic Krasnoyarsk Krai Republic of Karelia Sakhalin Oblast Khabarovsk Krai				

Dynamics of area of lands owned by citizens (2001–2012)

Based on: [2, 17].

(total of natural and economic fertility) for territories with large share of this category of land (top of the table) and by a combination of agroclimatic potential and institutional factor where the share of this category of land is small (bottom of the table).

Definitely, a more detailed examination of contemporary problems of land use is required. This aspect is frequent in works by M.A. Kazmin [7].

The following crucial, traditional, and relevant element of technical and economic line in agricultural geography, that requires participation of economic geographers in the analysis of regional changes in agriculture, is the study and classification of existing types of agricultural organizations and production relations between them and processing enterprises. Currently a new specialization is being formed in agricultural organizations in the context of economic situation in Russia and on the global agricultural market. Arrival of major players in Russian agricultural business leads to revision of issues related to specialization of territories. New local agro-industrial complexes, that are areas of influence of processing enterprises, as well as new sales markets of end products are created. Now administrative borders of subjects of Federation have become transparent for agricultural production, that is what creates possibilities for formation of new zones of attraction. Existence of lands, owned by one holding company, in different parts of the country often leads to an increase in transportation costs of intercompa-

ny products⁵, but those relations are, as a rule, stable and allowing to redistribute costs of end products within the holding company. Studying of these aspects is still difficult due to confidentiality of intercompany information.

Often a territory in general may specialize in two or three branches, but specializations in different categories of farm units may not be the same. When an agroholding appears in an area, as a rule, branch on which the agroholding specializes disappears from family farm units. That is related to veterinary and phytosanitary safety, and to the possibility of receiving production for employees'own needs from holding.

It is difficult to determine contemporary specialization because of the absence of necessary statistical data (sold products) on each agricultural producer, as the result some researchers use indirect attributes, allowing to estimate contribution of a territory into the all-Russian specialization of agriculture. Among the most interesting works we should mention identification of localization of crops by A.S. Naumov and I.N. Rubanov [9] and an attempt to create a regional division pattern for the eastern Russian regions by T.G. Nefedova [10]. Later T.G. Nefedova has changed some indicators while understanding their small importance for regional division [11].

In many cases we have to be guided by the structural indicators, that ensure understanding of process development in different categories of farm units. According to the latest data, the role of agricultural organizations in production gradually increases all over the country (fig. 1). But differences within the country are still very considerable (fig. 2).

Fig. 2 does not offer obvious groupings, except for the main data array. It is possible to distinguish only a group of 5 subjects (the bottom right part of the triangle), where the share of agricultural organizations is very high while the value of farming is very low (according to the ascending order of values of family farm units): Chukotka Autonomous Okrug, Nenets Autonomous Okrug, Belgorod Oblast, Murmansk Oblast, Leningrad Oblast. The subjects of Federation, where the share of agricultural organizations sharply decreases, attract certain interest. Ten territories have values below 20% (tab. 3). But at the same time values of two other indicators vary considerably (the top left part of the triangle on fig. 2). High values of farmer farms, as a rule, highlight specific branches of specialization of the regions.

Development of market in this country, entry into the WTO, and, to a certain extent, change of a climatic component necessitate optimization of specialization based on relevant types of natural environment, creation of precisely determined zonal types of agriculture. As a rule, production efficiency, profit maximization, is on the first place, therefore, crops of certain groups of cultures and certain groups of animals are concentrated where development conditions are optimum.



Fig. 1. Share of agricultural organizations in agricultural production, %

⁵ The enterprises that are part of a holding company, for example, grain processing enterprises, may not match areas of grain production spatially, that results in a need for transportation of raw materials to places of processing, though there may be other nearby organizational structures that could make products necessary for the holding company.



Fig. 2. Structure of agricultural production in subjects of Federation by categories of farm units, 2013 (X – share of agricultural organizations, Y – share of family farm units, Z – share of farmer farms). Based on Rosstatdata–URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/ rosstat/ru/statistics/publications/catalog/doc_1265196018516

In the Soviet period directive methods of management in agriculture often resulted in discrepancy between an optimum environment and types of agriculture. The need of providing nearly 300 million people with all possible production, and a number of strategic industries with raw materials, demanded accentuation of some branches and prioritization of their location in optimum conditions. Many Soviet positions in specialization of territories have been lost, for example, essential domination of vegetables and melons within the Astrakhan Oblast or high concentration of milk production in areas of the Central Chernozem region.

An important line, which was not significantly developed in agrogeographical researches, is the analysis of dynamics of production concentration of major products, made in different branches of agriculture and different categories of farms.

Disintegration of planned economy led to deconcentration in production of many products

Table 3

		0				
	Share in production, %					
Subjects of Federation	agricultural organizations	family farm units	farmer farms			
Republic of Ingushetia	15	70	15			
Republic of Dagestan	14	72	14			
Chechen Republic	13	81	6			
Republic of Kalmykia	12	57	31			
Zabaykalsky Krai	12	79	9			
Altai Republic	12	68	20			
Republic of Tyva	12	81	7			
Jewish Autonomous Oblast	11	63	26			
Khanty-Mansi Autonomous Okrug	8	72	20			
Astrakhan region	8	50	42			

Structure of agricultural production by categories of farm units in subjects of Federation with a low share of the agricultural organizations, %

Based on Rosstat data–URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/cata-log/doc_1265196018516.

Table 4

Concentration of production of potato in Russia								
Regions, 1990	Area, ha	Share in total area of potato crops	Regions, 2000	Area, ha	Share in total area of potato crops	Regions, 2013	Area, ha	Share in total area of potato crops
Bryansk Oblast	141.9	0.0454	Republic of Bashkortostan	107.0	0.0329	Voronezh Oblast	97.9	0.0458
Republic of Tatarstan	124.3	0.0398	Voronezh Oblast	104.6	0.0322	Republic of Bashkortostan	93.1	0.0436
Nizhny Novgorod Oblast	120.1	0.0384	Republic of Tatarstan	104.3	0.0321	Republic of Tatarstan	74.3	0.0348
Republic of Bashkor- tostan	109.7	0.0351	Moscow Oblast	103.5	0.0318	Krasnoyarsk Krai	72.5	0.0339
Moscow Oblast	109.6	0.0351	Altai Krai	97.7	0.0300	Altai Krai	63.5	0.0297
Ryazan Oblast	97.2	0.0311	Krasnodar Krai	89.7	0.0276	Kursk Oblast	61.3	0.0287
Altai Krai	77.8	0.0249	Bryansk Oblast	88.5	0.0272	Nizhny Novgorod Oblast	57.6	0.0270
Sverdlovsk Oblast	76.8	0.0246	Kursk Oblast	87.7	0.0270	Krasnodar Krai	56.2	0.0263
Kursk Oblast	74.8	0.0239	Krasnoyarsk Krai	82.2	0.0253	Bryansk Oblast	56.2	0.0263
Voronezh Oblast	72.4	0.0232	Nizhny Novgorod Oblast	80.2	0.0247	Belgorod Oblast	52.5	0.0246
Total for Russia	3123.6	0.3216*	Total for Russia	3251.9	0.2907*	Total for Russia	2137.5	0.3205*
*share of top 10 regions								

Source: Развитие агропромышленного комплекса РСФСР. – М.: Росинформцентр Госкомстата РСФСР, 1991. – 380 с. Регионы России. Социально-экономические показатели. 2002: Стат. сб. / Госкомстат России. – М., 2002. – 863 с., Посевные площади сельскохозяйственных культур Российской Федерации в 2013 году [Electronic resource] URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1265196018516 (accessed 02.07.14).

at the initial stage of market development [4]. Now this process has stopped since the majority of branches in horticulture took the optimum ecological positions. This process continues in animal husbandry due to greater influence of not natural development factors.

Potato, as one of cultures the location of which is subject to the influence of both natural component and consumer and economic factor, has had almost the same concentration of crops for the last thirteen years (tab. 4). While for the first ten years (1990–2000) the list of top manufacturing areas changed significantly, which is less noticeable by areas, than by whole yield, during the second period only Moscow Oblast disappeared from the list (having moved to the 17th place, after reducing crops more than twice), giving its place in ranking to Belgorod Oblast which reduced the areas of crops less dramatically.

Maximum share in crops and, therefore, maximum harvesting of sugar beet were typical for the Central Chernozem region and Krasnodar Krai during the Soviet period. At the beginning of the 2000s all these subjects of Federation sharply reduced production, whereas 10 other regions, which did not use to grow beet, started its cultivation generally for receiving sugar according to the tolling scheme. In most cases they were peripheral parts of the main area of cultivation, for example, Kalmykia and Volgograd Oblast, Rostov Oblast, Chuvashia, Kaluga Oblast, Kabardino-Balkaria, Northern Ossetia-Alania. Now a process of concentration of crops takes place since the branch is almost completely within holding companies [18]. Six regions out of twenty-five yield more than 2/3of all factory sugar beets.

A sharp increase in livestock of small cattle in the peripheral parts of the country that are



Fig. 3. Dynamics of livestock of groups of animals in family farm units, thousands

poorly adapted to breeding of sheep and goats at the beginning of the Post-Soviet period, currently has been replaced by a recession in these regions and fragmentary growth in areas of specialization. Stabilization of food supply even in the most remote parts of the country led to subsidiary family farms reducing production in many subjects of Federation.

Naturalization of agriculture sharply increased in the first years of the economic crisis when the price of production changed enormously within one agricultural season, and collective farms and state farms preferred to use barter relations for mutual settlements among themselves and their creditors. All this led to a wide range of branches in each farm that often were unprofitable due to small quantities of production. Naturalization process gradually stopped in agricultural organizations when the mechanism of market started operating in the branch. But a kitchen garden, in many regions in a combination with a plot outside a settlement, remains a tradition in family farms. In animal husbandry tendencies of decrease in a livestock in private farms are visible. There are a lot of reasons for this. Unwillingness to keep cattle, as a rule, is explained by great expenses, lack of motivations, availability of all necessary products in shops, while inability to keep cattle is explained by difficulties of forage conservation, old age, inability to sale part of production,

a ban on keeping animals (esthetics in large settlements, antiepizootic actions).

All these reasons resulted in the livestock of pigs and goats being decreased by more than 40%, and the livestock of cows and sheep being decreased by more than 20%. Livestocks of bovine cattle and horses were almost stable.

One more direction of possible researches in agricultural geography is studying of balance of products in a spatial perspective, possibility of ensuring «regional security» in staple foods. This is a foremost question, especially in areas with unfavourable conditions for production. Agricultural enterprises of many peripheral regions of the country reduced the production to meet optimum levels of consumption, though resources would allow to make more products, but the competitive environment limits production and consumption of local production. Agriculturally developed regions demand specific production for individual categories of citizens: organic agriculture, dietary food, etc. This too has to be taken into account in the balance of production as a primary element.

Conclusions. It was mentioned above that today researches close to agricultural geography may be studied in the context of adjacent fields of geography. Physiogeographers of almost all specialties view changes of attributes of territories due to human activity as an applied

aspect, social geographers may go deep into the analysis of activity of family farms, including such aspects of land use as garden plots. But the latest tendencies of changes in agriculture, studying those tendencies, do not render traditional directions of agrogeographical researches less important. It is still essential and necessary to classify and map certain forms of land use and forms (systems) of animal husbandry. Now it is impossible to do without studying forms of organization of the territory of agricultural organizations, moreover, large-scale researches are necessary right now, as lack of due control by regulatory bodies leads to violations of agrotechnical norms and deterioration of the environment. Agricultural regional division, as a generalization of the accumulated knowledge on the territory, should exist as well, but, because of a changing specialization of many regions of the country, it is necessary to create a monitoring system of geographic information, able to react rapidly enough on changes and to generate new databases for drawing lines between territories, main agricultural features of which are different, is required.

The final stage of all researches should be connected with the development of recommendations and practical conclusions and suggestions, concerning the perspective spatial organization of agriculture.

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