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TRAINING AND EMPLOYMENT OF YOUNG SPECIALISTS IN THE AGRO-INDUSTRIAL COMPLEX OF THE REGION

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Abstract

Agriculture moved to a higher level of development of innovative technologies. The digital transformation of production and economic relations in the agro-industrial complex involves the formation of managers and specialists of a new formation and the creation of high-tech jobs for them. The implementation of the goals and objectives of the training and employment of young agricultural specialists is carried out through personnel policy. It acts as an instrument of state regulation and is associated with the formation and use of human resources focused on solving the problems of digitalization of the agro-industrial complex economy. The article analyzes the dynamics of the number of personnel of managers and specialists of the agro-industrial complex, the training and employment of young agricultural specialists in the Penza region. In the current research the authors based on statistical, computational and constructive methods, as well as systemic, structural, abstract-logical approaches. The authors summarize the conclusions made about the unsatisfactory quantitative and qualitative composition of the specialists observed. Recommendations are given for improving the process of hiring and supporting young specialists in the agro-industrial complex and developing the staff policy of the state.

Key words**:** *personnel policy, rural areas, young professionals, digitalization of the agrarian economy*

INTRODUCTION

The efficiency of the functioning of agriculture largely depends on staffing. Under the influence of the digital transformation of the agro-industrial complex, the functions, nature and conditions of the activities of specialists, the requirements for them are changing [1]. Until now, it has not been possible to solve the problem of the reproduction of highly qualified personnel in the countryside, which is inherent both in the entire economy of the agro-industrial complex of Russia and in the regional economy of the Penza region. So, if in 1991 16,450 people (managers and specialists) were employed in the agrarian sector of the region, as of January 1, 2021, their number was 2,965 people, or 18% of the pre-reform level. Including the number of chief specialists decreased over the thirty years under study from 2,595 people up to 587 people (in 4.4 times), industry specialists - from 10,626 people. up to 1,496 people (in 7.1 times), middle-level managers from 2,779 people up to 167 people (16.6 times). The unsatisfactory quality of life in rural areas, the underdevelopment of the social infrastructure of the village contribute to the formation of migratory moods of specialists, reducing the motivational aspect of their formation and use [2].

In this context, the purpose of the scientific research is to develop evidence-based proposals for improving the system of training and employment of young specialists in the agro-industrial complex. In accordance with the purpose of the study, the following tasks were set:

- to assess the current level of provision with highly qualified specialists of the enterprises of the agro-industrial complex of the Penza region (Russia);
- to carry out a statistical analysis of the system of training and employment of young personnel in the countryside;
- substantiate recommendations for improving the reproduction of highly qualified personnel in rural areas.

MATERIALS AND METHODS

The sources of data (2016-2021) were the materials of departmental statistical monitoring for the last five years, carried out by the Federal State Statistics Service of the Russian Federation. The indicators of the quantitative and qualitative composition of the observed specialists within the agro-industrial complex were considered.

The theoretical and methodological basis of the study was the works of domestic and foreign scientists on the problems of staffing of agricultural enterprises, as well as federal and regional legislative acts on these issues [5].

In the process of research, methods of systemic, structural, abstract-logical, comparative analysis, as well as calculation-constructive and economic-statistical methods were used [6].

RESULTS AND DISCUSSIONS

The agro-industrial complex of the Penza region at the beginning of 2021 is represented by 1,093 enterprises of various organizational and legal forms.

Their number over the past 5 years has decreased by 144 units, which is associated with ongoing processes of business consolidation.

The number of employees by level of education in the context of business entities is shown in Table 1.

It should be noted that the general decrease in the number of agro-industrial organizations did not affect the reduction in the number of employees in this area. On the contrary, their number increased to 21,444 people. However, in the structure of agribusiness entities, the dynamics of the number of different vectors. Thus, the number of employees in state unitary enterprises has almost halved over the past five years, in joint-stock companies - by 20%, in cooperatives - by 33.3%. In other organizations, an increase in the number of employees is observed. In the reporting period, 58.6% of agricultural workers were employed in limited liability companies. Their share over the past five years has increased by almost 8%. The smallest number of employees in municipal unitary enterprises (26 people in 2021).

An analysis of the qualitative composition of personnel by level of education showed that 83.2% of their number have vocational education. Almost 700 people the number of people with higher education increased (3,790 people in 2021), by 912 people – secondary vocational education (9,275 people in 2021).

The number of practitioners with primary education is decreasing, their number in the reporting period amounted to 4,788 people, which is 1,274 people less than in 2016.

The highly skilled specialists are employed in state and municipal unitary enterprises, as well as K (F) X, where respectively 22.4%, 23.0% and 22.6% of persons have higher education. The smallest percentage of the share of workers with higher education is inherent in joint-stock companies (12.5%), cooperatives (10.1%) and collective farms (5.2%).

In general, the quantitative and qualitative composition of the working personnel in agricultural area has improved over the past five years in most enterprises of various organizational and legal forms of management.

Education is the background the staffing of the agricultural sector is based on. In the region, highly qualified agro-industrial specialists are trained by the Penza State Agrarian University, which celebrated its 70th anniversary in 2021. Quantitative indicators of the release of specialists with higher education are shown in Table 2.

In the observed period, the University graduated 488 specialists, 63.7% of whom were full-time students. Almost 50% of graduates studied at the expense of the federal budget. It should be noted that a small proportion of graduates studied according to the company training system, or targeted contract training, (28 people, or 5%). The basis of this model is targeted training, which is carried out in relation to persons who have entered into an agreement with customers of targeted admission - an authority or an organization, the list of which is established by federal law. An agreement on targeted training should provide for measures of social

support for the student, obligations to organize an internship, his employment, as well as the grounds for exemption from fulfilling the obligation to employment [17].
So far, this form has not become widespread. Critically small, in our opinion, is the number of people who have completed an internship abroad (8 people, or 1.6%). Interstate cultural, educational and economic bonds should be developed, which contributes to the growth of the professional development of young specialists.

Table 1. Information on the number and level of professional education of employees of agricultural organizations in the Penza region

Management and production structure	Number of organizations, units		Number of employees, people		have vocational education							
	2016	2021	2016	2021	Total		Higher		Average		Initial	
					2016	2021	2016	2021	2016	2021	2016	2021
Total in the agro-industrial complex	1,237	1,093	21,415	21,444	17,403	17,853	3,038	3,790	8,363	9,275	6,062	4,788
including state unitary enterprises	3	3	82	49	82	49	12	11	62	35	8	3
municipal unitary enterprises	1	1	14	26	12	14	5	6	5	5	2	3
joint-stock companies	36	21	6,500	5,168	6,082	3,114	1,143	649	3,385	19	1,554	1,026
limited liability companies	155	173	10,885	12,570	7,731	11,293	1,356	2,521	3,369	6,293	3,006	2,479
collective farms	3	3	249	249	249	249	13	13	208	208	28	28
cooperatives	131	65	1,855	1,239	1,621	1,229	165	126	588	476	868	627
associations of peasant (farming) households	809	735	1,224	1,517	1,114	1,398	249	355	551	653	314	390
other organizations of the agro-industrial complex (including consumer cooperatives)	99	92	606	626	512	507	95	109	195	166	222	232

Source: Departmental statistical observation. Form No. 2-k approved by order of the First Deputy Minister of Agriculture of the Russian Federation dated January 9, 2001 No. 12 (Penza region. Main indicators of development from 2005 to 2020: a comprehensive statistical compendium) [12].

An analysis of the system of training and employment of specialists in the context of areas of training led to the conclusion that a third of the graduates received an agronomic education, 18.2% - engineering, 13.1% - economics, and 25.4% categorized as other specialties (technologists, land surveyors, forestry specialists, etc.). The percentage of employment in the agro-industrial complex in various specialties has a wide range from 85% for financiers, 82.7% for accountants to 72.1% for agronomists, 70% for livestock specialists and 55% for engineers [7]. Graduates of other areas of study in one way or another related to Agro-industrial complex have a very low rate of employment in rural areas (8%). It should be noted that the share of graduates of agricultural universities employed in the agro-industrial complex in Russia as a whole reached 78% in 2021, so Penza Agrarian University has to strive and improve the process.
Not only quantitative indicators of employment are important, but also the

quality of trained specialists. Modern agricultural education, of course, should take into account current trends in the development of agriculture: the development of biotechnology, the use of breeding and genetic innovations, the development of the organic products market, the use of geopositioning systems, integrated fleet management, precision farming, digitalization of processes in order to form an export-oriented agro-industrial complex [14].

The use of an innovative approach in the development of human capital is a major national priority. According to [4], it is planned to accelerate the technological development of the country by accelerating the introduction of digital technologies in the economy and the social sphere and increasing the number of organizations that carry out technological innovations.

All these trends lead to the need to transform the education system and educational technologies. It is obvious that the transition of agricultural education and personnel training methods to new educational programs and standards, modern information platforms, technologies, information resources, allowing to manage smart agriculture in the future.

A system for recording agricultural land and tracking all goods produced in the agricultural sector is being created. The reimbursement of part of the costs for the purchase of software and equipment is being formed. Target settings for the introduction of digital technologies are associated with increasing the productivity of agricultural production and attracting young people to agribusiness.

At the same time, the pace of introduction of digital technologies in the agro-industrial complex is still quite low. The domestic agricultural sector is an outsider in terms of digital technology coverage of industries and complexes. Russia currently ranks 15th in the world in terms of digitalization in agriculture [16].

Table 2. Training and employment of agricultural specialists in the Penza region (01.01.2021)

higher education institution	Specialists trained						Employed in the organization of the agro-industrial complex of young specialists of the graduation of the reporting year					
	Total	full-time education	at the expense of the federal budget	within the company	trained abroad	part-time study	Total	within the company	trained abroad	left to work at the end of the observed year	by specialty	as a worker
Total released, people, incl. in the areas of training:	488	311	154	28	8	177	264	4	5	264	261	0
agronomic	158	72	69	7	0	86	114	2	0	114	114	0
zootechnical	15	27	26	1	1	23	35	0	0	35	33	0
engineering	89	58	58	18	5	31	49	2	5	49	49	0
veterinary	3	3	9	2	2	0	3	0	0	3	3	0
accounting, analysis and audit	29	9	0	0	0	20	24	0	0	24	24	0
finance and credit	20	11	0	0	0	9	17	0	0	17	16	0
management	15	7	0	0	0	8	11	0	0	11	1	0
jurisprudence	0	0	0	0	0	0	1	0	0	1	1	0
other	124	124	0	0	0	0	10	0	0	10	10	0

Source: Departmental statistical observation. Form No. 1-KMS approved by order of the First Deputy Minister of Agriculture of the Russian Federation dated January 9, 2001 No. 12 (Penza region. Main indicators of development from 2005 to 2020: a comprehensive statistical compendium) [12].

Negative aspects of the insufficiency of the resource base of digitalization are also characteristic of the agro-industrial complex of the Penza region [15]. So in 2020, there were 86,433 personal computers in the region in all business entities, incl. in the agro-

industrial complex 2,277 units, or 2.6%. If in the region there were 46 units of personal computers per 100 employees, then in the agro-industrial complex - only 15. 92.8% of the total number of computers in the agro-industrial complex has access to global networks. In our country, only 10% of arable land is currently processed using digital technologies. Failure to use new technologies leads to a loss of up to 40% of the crop. Given the need to overcome the technological gap from developed countries, it is assumed that the market share of digital technologies in agriculture would grow every year [13]. By 2026 the market of information and computer technologies in the industry should grow almost five times [8]. The acceleration of digital transformations in agriculture, the formation of a digital agricultural sector of the economy would largely be associated with an updated system for training young specialists in the agro-industrial complex. So far, unfortunately, the regional agricultural university does not pay due attention to the introduction of new digital specialties, improving the system of training specialists in the field of digitalization of the economy.

In addition, problems with social security, the availability of educational and medical services, the quality of roads, the improvement of settlements and the development of infrastructure have not been resolved [9]. The public opinion about health care: the main factors of increasing satisfaction of the population with medical care). This leads to the fact that people who have received specialized education in agricultural universities do not seek to realize themselves in their chosen profession [10].

Measures for the formation and implementation of personnel policy could not give the desired effect without efforts to improve the social infrastructure of rural areas, its gasification, the construction of kindergartens, schools, maintaining roads in good condition, etc. [11].

Only targeted actions in all these areas would help change the situation with the labor resources of the industry for the better.

In 2020, the state program "Integrated Development of Rural Territories" was launched until 2025 [3].

CONCLUSIONS

Analysis of the presented material shows that there is a gap between the needs of the modern labor market and the existing system of training and employment of specialists. On the one hand, the unstable geopolitical situation forces us to raise again the issue of the country's food security and the need for sustainable economic growth. The latter is impossible without the introduction of innovations, digitalization and changes in the training system. On the other hand, young promising personnel do not want to live in rural areas, so many do not consider the possibility of obtaining a specialized agricultural education and returning home. It should also be noted that an important factor hindering the solution of the problem with personnel is the decrease in the prestige of labor in general and labor on the ground in particular. Market regulators of employment, most likely, could not be able to solve the problem that has arisen. A carefully developed personnel policy of the state in the agro-industrial complex is needed.

It is a logical continuation of the federal measures for rural development, implemented since 2002, and is aimed at social and infrastructural development of the village, diversification of the rural economy, increasing employment and incomes of the rural population.

Unfortunately, it lacks sections on improving the system of training and employment of young specialists in the agro-industrial complex, and the development of these provisions is long overdue.

The following can be distinguished as the main blocks of the state personnel policy in the agro-industrial complex:

-improvement of professional training and employment of agricultural personnel. It is necessary to update the types of academic programs in agricultural universities through the development and implementation of training areas that correspond to the processes

of integration into the digital environment, rational environmental management (genetics in animal husbandry and crop production, specialists in digital agricultural technologies, microbiologists and biotechnologists, analysts for assessment laboratories quality, specialists in the economics of the agro-industrial complex, marketing, etc.);

-providing opportunities for professional retraining and advanced training of personnel of agribusiness enterprises;

improvement of social mechanisms for the professionalization of personnel in the agro-industrial complex.

In this way, the essence of the state personnel policy in the agro-industrial complex is to attract, consolidate and adequately use highly qualified specialists at the enterprises of the agro-industrial complex, to create conditions for them to realize their professional potential for the successful performance of their duties and to ensure the effective functioning of the agricultural sector of the economy on this basis.

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