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MONITORING OF INNOVATIVE ACTIVITIES EFFECTIVENESS IN AGRICULTURE

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Abstract

The necessity of monitoring and improving the management of agro-industrial sector justifies the need for the research evaluation system which is considered to be highly effective. This article describes the foreign and domestic approaches to the assessment of agricultural and agro-industrial innovations. The cost behavior analysis in case of agro-industrial technological innovations has been conducted and the efficiency of the growth in high tech production and manufacture has been evaluated. A paradoxical regularity has been revealed: with the relatively stable investments in agriculture there is a sharp reduction in the use of intellectual property. This tendency dictates the need to improve the management system of the intellectual property application. In order to solve this problem, evaluation indicators of innovation efficiency have been proposed. These indicators are based on the results of expert surveys. A methodology for monitoring the innovation efficiency in agriculture has been developed: the criteria include the level of state significance, the technical-and-economic level, the degree of availability, the cost-efficiency, the level of security. This research proposes the directions of the innovation management improvement in agricultural and agro-industrial sectors. These directions have been found on the basis of the institutional approach development and the evaluation of the systemic innovation efficiency. Improving the quality of expertise in assessing agro-industrial innovations will allow us to select the most promising innovations with high-payoff technologies. In addition, it will be taken into account when assigning subsidies according to the industry-specific and regional characteristics.

Key words**:** *research evaluation system, agro-industrial complex, innovations, management system, monitoring, expert evaluation, innovation efficiency*

INTRODUCTION

Dynamic and effective development of innovation is one of the main conditions for the stable work and development of the economy. Today, the relevance of the innovative development of Russian and international organizations is associated with economic sanctions and growing international isolation. Remember the fact that the strategic competitiveness of the state on the world arena depends on the innovative activity and innovative susceptibility of regional economies and industries. Without integrated assessment of innovation development, the effective policy in the field of innovation is impossible. Achievement of the level reached by world leaders in the field of innovative economy can only be stepped up by the process of developing and implementing the methodology, conducting on the development of objective criteria for rating the ongoing innovation activity. This is one of the main conditions for achieving leadership in the innovation sphere. The need to accelerate the pace of innovative development of the agro-industrial complex (AIC) leads to the improvement of methods of differentiated

application of measures to support regional agro-systems from the budget.

One of the main conditions of scientific-technical progress in agriculture and agribusiness in the economy is the implementation of innovations in production. No less important is the concentration of innovation management with some extras to complex manufacturing processes, system of organizational and economic development of the new national economy areas [2]; the creation of an infrastructure environment conducive to rapid innovation and technological development; increase the investment attractiveness and realization of innovative projects in the agricultural sector of the economy. It is necessary to develop a system for introducing innovations in production in connection with the need to accelerate scientific and technological progress in the economy and to create national, technological, energy, economic and food security of the country [8].

To ensure and improve the competitiveness of the agro-industrial complex on the world market important for the creation of the state of the environment, which contributes to the development of enterprise and increase of innovative activity. It is logical that such an enterprise is much more difficult to control [9].

Innovative organizational forms of innovation areas are established on the principles of efficiency and localized in the places of concentration of major research centers and universities, known for its academic tradition and modern training base in the vicinity of large agro-industrial enterprises [12].

The following directions of development of agriculture and agribusiness will be: the creation of scientific-technological parks; development of small innovative enterprises producing of innovative products and agricultural products with improved properties and characteristics; the creation of research and scientific centers of private ownership, certification of existing facilities in determining their level of technological development, the development of independent innovation and technology audit. The result of the organization's information system must be up-to-date official assessment, providing the same model of reality for all departments whose activities should be carried out on a coordinated basis [14].

However, in order to effectively manage any system, one must first analyze the dynamics of its elements and rates their current state, and outline growth zones.

The evaluation of innovation activity in foreign countries is based on the use of different methods and approaches, such as the European Innovation Board of the European Innovation Scoreboard, the Technology Innovation Index, the Innovation Capacity Index, the World Innovation Index of the Boston Consulting Group (GIIBCG), the INSEAD World Innovative Index (GIIINSEAD), the Global Innovation Factor (Global Innovation Quotient). In addition, the values of the growth of the assessment of innovation activities of the regions are pointed out, and the Innovation Index in American regions, as well as the rating of the Australian agency “2thinknow” is considered.The National Agricultural Research Systems (NARS), the Agricultural Innovation System (AIS), the Agricultural Knowledge and Information System (AKIS) are identified among the support structures for agricultural research according to the World Bank (2006). Each system is characterized by its goals, factors, results, organizational principles of construction, the role of the policy pursued, as well as the mechanism for implementing innovations. According to the rating compiled by the Organization for Economic Cooperation and Development (OECD), the agricultural innovation system consists of three groups of determinants: the knowledge system in the field of agricultural economics, R & D, education; social, as well as users [3].Also on the basis of the Agricultural Science and Technology Indicators data, ASTI examines this type of indicator as an investment in knowledge creation for agriculture based on the intensity of agricultural R & D in the public sector [19].

In the work [15] on the basis of EU Framework 7 project Impreza the dynamics of expenses on research activity, assessment of efficiency of expenses on research and final

results of production activity were studied. The article reveals the tendencies of decrease in investments in agricultural science in the European Union since 2004, despite the high degree of their payback. Directions of development of innovative and investment potential were offered which will allow to increase efficiency of investments in science.

Special importance is the problem of developing and assessing the development of innovations in agriculture, increasing the innovative appeal of consumers, and stimulating the use of advanced production technologies [13].

Only a comprehensive trip can be considered a base for the transition of the modern innovative development path, as it works in the management of the agricultural sectors, actively use the results of scientific and technological progress.

In the researches of I.G. Ushachev, I.S. Sandu the necessity of evaluating innovation activity under modern conditions is substantiated, setting forth the methodological bases of this process. In addition, they announced the main directions for increasing the effectiveness of market relations, including in the sphere of education, science and education [23].

Generally, the scheme of development and implementation of innovations in agriculture can be represented as a set of the following areas: market research, development of innovations and ensuring the entry of innovations into the market. Marketing analysis of the innovation market includes the assessment of demand, supply, and evaluation of the competitive environment, price monitoring and the formation of the optimal price of innovation [4].

At the stage of ensuring innovation on the market, effective development and commercialization of innovations become important, which becomes an indispensable condition for generating and using scientific developments in the field of agriculture to increase the pace of economic development of the agro-industrial complex [1].

At the same time, within the framework of such development institutions as RUSNANO, Skolkovo, RVK, there were attempts to develop technological platforms. However, these efforts do not meet the large-scale tasks of innovative development of the country's agro-industrial complex [25].

For example, in foreign countries in the agro-industrial complex there are institutes of innovative development: agencies for marketing research, implementation of their results and provision of consulting services under the ministries of agriculture; "Technological valleys" and innovative clusters in agrarian universities; seed-growing, tribal private corporations [16].

The EC experience is indicative for the Russian AIC sector, within the framework of which there is a system of indicators aimed at coordinating innovation policy in the agro-industrial complex and facilitating the collection, analysis, evaluation and dissemination of information on commercialization and the state of innovation. These indicators include Trend Chart on Innovation in Europe (trends in the implementation of effective innovation in Europe), European Innovation Scoreboard (European Innovative Tabloid), which represents information about innovative behavior of companies and an innovative environment, CORDIS - Electronic Information Service for R & D, and Innovation Relay Centers - a local network of centers for the dissemination of innovations. The introduction of such systems will provide prompt and reliable information on promising developments and the pathways of innovative development and analysis of agricultural development trends from Federal level to enterprise level, including regional ones.

MATERIALS AND METHODS

For the purposes of analysis and evaluation of the dynamics of innovation in agriculture, Table 1 presents the costs of technological innovation in agriculture and the results of innovation, expressed in the production of high-tech products.

The analysis of innovative activity of agro-industrial enterprises shows that it remains low, while between the individual branches of the agro-industrial complex there are

significant disproportions, despite the growth of costs for technological innovation.

The data of Table 1 shows a paradoxical regularity: with a relatively stable investment in agriculture, incl. due to state programs, there is a sharp reduction in the use of intellectual property objects in comparison with the previous year more than 2 times, and in comparison with 2005 there was a reduction of more than 50 times - from 150 used intellectual property objects in 2005 to 3 objects in 2016. It can be assumed that this trend reflects the lack of practical application of the results of intellectual property in practice. In this regard, one of the main directions of innovation process management in the agro-industrial complex is the improvement of the susceptibility of innovations and scientific achievements on the part of consumers, the formation and development of a stable demand for this product.

Table 1. Indicators of costs for technological innovation in the agro-industrial complex and the production of science-intensive products, RF, 1992-2016

Indicators	2008	2009	2010	2011	2012	2013	2014	2015	2016
Costs for technological innovation, total (million rubles)	276,262	358,861	358,861	733,816	904,561	1,112,339	1,211,897	1,203,638	1,284,590
Costs for technological innovation of agricultural enterprises, (million rubles)	12,183	10,838	8,761	12,563	16,908	29,974	25,864	25,024	23,963
The share of expenses for technological innovations in the total amount of loaded goods, work performed, services enterprises of the agro-industrial complex,%	0.46	0.52	0.37	0.44	0.58	0.57	0.55	0.53	0.54
Created varieties and hybrids of agricultural crops	258	-	-	270	315	298	293	335	356
Selective forms of animals, birds, fish and insects	24	-	-	8	5	4	9	7	5
Developed: new and improved technologies	280	-	-	310	295	301	295	273	258
vaccines, diagnostics of minds, biopreparations	69	-	-	59	61	59	47	36	32
Developed new food items	1,167	-	-	528	400	364	392	214	192
Received patents and copyright certificates	722	-	-	735	724	755	751	741	738

Source: Rosstat data.

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The departure from innovative development is associated with a sharp decline in solvent demand for innovation and scientific

achievements in the agro-industrial complex due to the unfavorable financial condition of agricultural enterprises [21].

In recent years, the share of loss-making agricultural producers has ranged from 40 to 60%, which is largely due to the disparity of prices for agricultural products. Also in the agro-industrial complex there are no established mechanisms for the implementation of innovations, as well as structures dealing with the study of the demand for innovation.

The methodological approaches used in the Russian practice to distribute budget funds among agricultural producers need to be improved. Basically, in order to identify the subjects of the agro-industrial complex - the potential grant recipients of state regulation, a contest is held to include them in the state program. The criteria for making decisions are the performance of such indicators as: the number of jobs created; cost of production assets; livestock of farm animals; the area of land; absence of tax arrears; payback period of the investment project. However, this selection does not take into account the indicators that characterize the susceptibility of innovation. In opinion of A.N. Chekavinsky such criteria can act as resource criteria [5].

Specific weight of specialists with higher education, in general besides specialists, the cost of fixed assets per 100 hectares of arable land; electricity consumption is 100 hectares of arable land; The volume of mineral fertilizers applied per 1 ha of sowing area, Consumption of fodder for the production of 1 ts of products, ts feed. units; Specific weight of breeding animals in their total number of livestock, Number of heads of cattle per 1 operator; Specific weight of areas sown with elites of agricultural crops, Specific gravity of acidic soils, average indicator of humus.

As an effective criterion it is possible to note:

(i)Labor costs for the production of 1 ton of products, man-hours;

(ii)The cost of agricultural products per unit of material production costs, rubles. / rub.;

(iii)Gross yield of agricultural crops from 1 hectare, %;

(iv)Growth of productivity of 1 head of cattle, %;

(v)Reduction of losses during cultivation and harvesting of crops and livestock, %;

6. Improving the quality of the product (for example, milk fat content), %.

In the work [17] the researchers note the fact that, on the whole, the system of rating and accounting for innovations in the agrarian lecture school of modern Russia is imperfect. This is connected with the fact that innovations in the field of agriculture are practically uncovered by official statistics, and therefore information on them in the statistical compendium is included in a separate section. In addition, special methodological tools are lacking, which make it possible to combine the process of collecting statistical data into a single complex and the application of the state process' regulation of innovative activity in the countryside. The authors proposed methodological recommendations aimed at completing the existing systems for recording and evaluating the innovation process in agriculture. To do this, they are invited to introduce systematic detailed accounting, for which the specified appropriate evaluation and accounting criteria, a methodology is created that allows using the indicators of efficiency, intensity and effectiveness to assess the state of affairs in the field of innovation in agriculture. Universal system indicator on the basis of which one can estimate the level of innovative activity in agriculture is not developed at the moment. Foreign experience regulates the effectiveness of innovation in the production activities of enterprises and accordingly is reflected in statistical forms. In Russia, however, innovation statistics are tracked in industry and high-tech industries. In agriculture and the agro-industrial complex, it is extremely limited and in many industries is not sufficient for constructing estimates and forecast models. The development of a universal system of indicators for assessing the contribution of innovation to innovative regional development will, in practice, improve the targeting of financing in conditions of limited resources. Thus, despite the allocated effective and resource criteria, it

is problematic to build effective models for assessing the effectiveness of innovation implementation in the context of Russian regions due to insufficient consideration of the results of innovation activities in the context of enterprises and regions.

The attempt proposed in work is about to construct a universal methodology for monitoring the effectiveness of innovations for the agricultural sectors on the basis of qualitative characteristics based on the results of the focus groups. Analysis of scientific papers has shown that modern approaches to assessing the effectiveness of an innovative product in the agricultural sector to address this problem, based on the following: from the producer's point of view, which mainly deals with effective planning and product range development, from the perspective of consumer behavior analysis.

To determine the degree of importance of the organizational and economic foundations of the management system of innovative processes in the development of agricultural technology at the federal, regional and enterprise levels, a sociological research method was used among producers, consumers and governments in the development and promotion of innovative products.

Respondents were asked to rate on a 10-point scale the degree to which each of these elements of the system's mechanisms affect the efficiency of its functioning, as well as to offer its most important elements and actions that improve the closeness of the connection between science and from the point of view of the producer of products, and from the point of view of the customer, since the high efficiency of the system is achieved due to the complex interaction of its subjects on the basis of the principles of cooperation and complementarity (Fig. 1.).

Based on the statistical data on the federal level, we found that the greatest value for the effective functioning of the system is the state support of science by financing grants for the implementation of scientific achievements - 7.09, improving the legislative and regulatory framework - up to 6.43; improvement of the tax policy through the partial or complete release of research organizations from taxes - 5.70; insurance risks in the development of scientific development and improvement of the management system for the development of scientific achievements - 5.09; The element that influences least on the effectiveness of the promotion system, according to respondents, is to improve the pricing mechanism for scientific products - 4.82 (Fig.1.1).

At the regional level, the most important element is the element - the scientific infrastructure - X and other units of realization - 7.89; development of scientific and personnel potential - 7.52; the creation of a data bank is ready for the application of scientific developments - 6.91; analysis of the regional market for research and growth of development strategies for related segments 6.71; development of regional normative legal acts regulating the elaboration of scientific achievements up to 6.43; the improvement of the management system is estimated at 6.2 (Fig. 1.2).

At the enterprise level, according to respondents, the most valuable are indicators such as training and qualification of scientific and personnel potential - 7.96; development of scientific infrastructure - 6.69; marketing for the study of scientific developments - 6.65, customer access to the Bank's data - 6.48, expansion of the scope of application of scientific developments in the field and activities - 6.13; the lowest estimated value is elemental cooperation with other consumers of scientific developments - 5.9 (Fig. 1.3).

The third group of criteria determines the degree of scientific readiness and technical developments, the degree of completion of the stages of development of scientific and technological achievements, the suitability for use in production, and consists of five stages. The fourth group takes into account the cost in the ranking system, depending on which stage of the algorithm the promotion system is a scientific achievement, and determine the five steps presented in the model. All these steps in the groups of relevance and efficiency criteria, the development of completeness are ranked in an increasing order of step numbering. A consistent number of steps can

be taken for the value of the algebraic progression or geometric progression, or the expert in decision can be assigned a certain number of points. The last group of criteria (cost of realization) has a negative value and reduces the effectiveness of innovation.

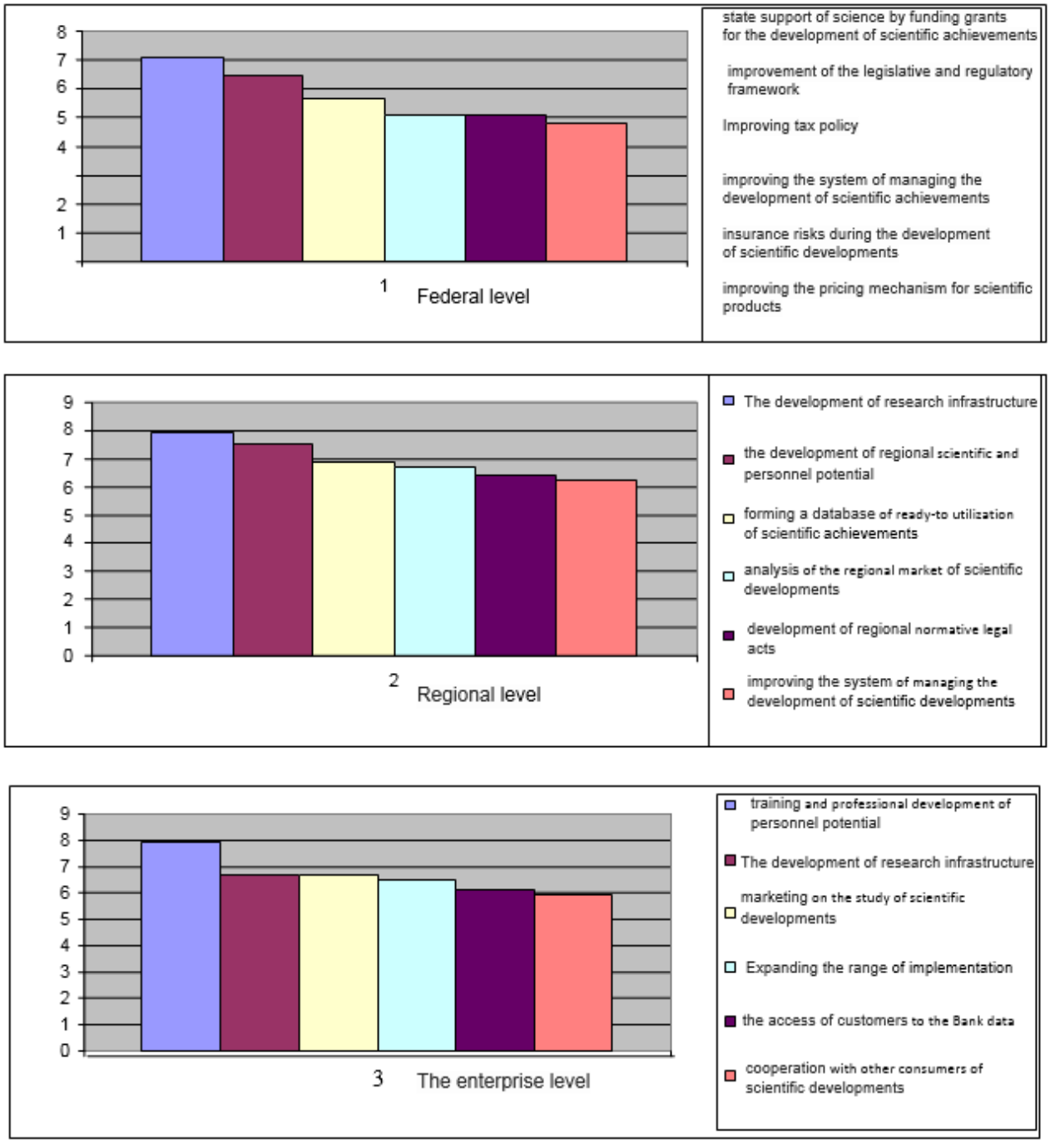

Fig. 1. The assessment of the importance degree of factors affecting the advancement of innovative products in the agricultural sector
Source: Own determination.

RESULTS AND DISCUSSIONS

Based on the results of our researches, we will build an economic and mathematical model that allows us to assess the level of innovative efficiency activities in the agro-industrial sector from the calculation of the rating each specific scientific development, formed using five groups of criteria.

We can name the following sections of the agro-industrial complex, classified according to this methodology:
(a)Issues of economics, management, personnel and social security.
(b)Seed breeding, breeding activities and activities in the field of plant protection, general farming issues.
(c)Livestock issues: veterinary, hygiene and sanitation.
(d)Mechanization of the agro-industrial sector.
(e)Activities in the sphere of forestry, melioration, fish farming and fishing.
(f)Innovations in the field of storage of agricultural products, as well as its processing.
The work in the field of search, analysis, evaluation or selection of promising innovations is proposed to be carried out taking into account the following groups of criteria:
(i)Importance for state policy in the field of scientific and technical development, improvement of innovative developments (scientific and technical level);
(ii)Identification of the level of efficiency or technical and economic level;
(iii)Indicators of readiness of innovative development for implementation;
(iv)The costs needed to absorb and realize the innovation.
As for the first group of criteria, the significance of innovation for public interests is devoted to, and it consists of ten stages:
1 stage - parameters that characterize the level of development of commodity producers, working in agriculture;
2 stage - regional and sectoral priorities;
3 stage - activities to solve the tasks set by the Federal Target program of the Russian Federation;
4 stage - new scientific and technical developments, ideas and proposals, aimed at improving those areas of scientific activity that should contribute to increasing the efficiency of the functioning of the AIC;
5 stage - the location of agrarian economics at the level of development, corresponding to the modern international;
6 stage - activities in the sphere of domestic invention and innovation;
7 stage - algorithms for solving problems included in the list of critical technologies;
8 stage - the amount of contribution to priority areas of domestic science;
9 stage - the commission of scientific discoveries;
10 stage - the solution of national and state problems.
The second group includes such criteria as efficiency and technical and economic level. It consists of 10 steps:
1 stage - increasing the effectiveness of the existing tax policy for the calculation of the release of organizations engaged in scientific and technical activities from taxes, fully or partially;
2nd stage - insurance of economic risks at the stage of development of new scientific and technical developments.
3rd stage is the reorganization of the mechanism of pricing for scientific products, in order to improve it, taking into account the solvency of the customer of the demand that has been formed on the market.
4th stage - the development of a system aimed at effective management of the processes of mastering scientific achievements.
5th stage - the formation of a database of discoveries and inventions ready for development and implementation.
6th stage - formation of strategy of promotion of scientific and technical developments on the basis of analysis of the regional market.
7th stage - the development of scientific and near-scientific infrastructure, for example, innovative organizations.
8th stage - a form of state support for scientific activity through the provision of its financing in the form of grants directed to the development of scientific achievements.
9th stage - the improvement of the existing legislative and regulatory framework in the field of innovation in the field of agro-industrial complex.
10th stage - the development of personnel, training and retraining them as a priority, while raising the level of human resources must be conducted at all managerial and production levels.
The third group of criteria contains indicators that indicate the degree of completion of a

stage in the development of scientific and technical achievements, as well as qualifications indicating their readiness to use them in the production process. It includes 5 stages:

1st stage - recommendations, concept, suggestions:

2nd stage - the economic-mathematical model;

3rd stage - applied methods;

4th stage - the project of innovative activity;

5th stage - replication of scientific achievements.

The fourth group of criteria includes such areas as production development and financing of the implementation of scientific development.

1st stage - completion of work in the field of R & D.

2nd stage - direct the process of creating scientific and technical products.

3rd stage - release of the results of innovation activities.

4th stage is the pilot experiment.

5th stage - creation of information and consulting service.

All levels placed in the groups of criteria are assessed by increasing their numbering, depending on the significance, effectiveness and completeness of scientific development. Each such step must take a number taken as the value of an algebraic or geometric progression. In addition, an expert can assign to any number a fixed number of points. Here it is worth noting that with the negative cost of implementation costs, which are included in the fourth group of criteria, you can consider the possibility of reducing the rate of filing for NTD [6].

In this case, the rating (R) is defined as the geometric sum of the degrees of the criteria of the three-axis rectangular coordinate system.

$$R = \sqrt{y_n^2 + (x_э - x_з)^2 + z_p^2} \quad \text{.....(1)}$$

where: y – is the level of group significance tests; $x_э$ – group performance criteria; $x_з$– stage group criteria development costs; z_p – group criteria of the development completion's degree. The total aggregate significance and efficiency are determined by the evaluation of assessment of the effectiveness of scientific developments R, calculated as the product of the K-security criterion and the geometric sum of the squares of the above criteria[6]:

$$R = K \times \sqrt{Y^2 + (X_e - X_z)^2 + Z^2}, \quad \text{.....(2)}$$

where: K –safety criteria value from 0 to 1; Y – criteria of national importance, the level of technical perfection, points; Xe – performance indicators; Xz – is an indicator of the cost of realization points; Z– is an indicator of the development completion's degree points.

Based on the developed methods of assessment, the technology assessment will be taken into account for five of the above criteria: a criterion of national importance - solving the problems of national priorities - 10 levels; in accordance with the criterion of effectiveness - improving the organization of the management process - the application of scientific developments - phase 4; in accordance with the criterion of implementation cost - stage 4; stage of completion of development - economic-mathematical model of the 2nd degree; and by safety criterion - 1 point.

$$R = K_{без} \times \sqrt{Y^2 + (X_э - X_з)^2 + Z^2}, \quad \text{.....(3)}$$

$$R = 1 \times \sqrt{100 + (16 - 16) + 4} = 10.2 \text{ points.}$$

The analysis of the scientific evaluation effectiveness and technological development was carried out by constructing a regression model in which the dependent variable is the estimated value of research and development, and independent variables - project cost, development cost, annual economic effect and development period.

The purpose of constructing this model is to determine the degree factors influence on the methodology for assessing the reliability of scientific research, developed sets of criteria and interdependence, increasing the scoring of scientific and technological developments taking into account economic indicators.

CONCLUSIONS

The developed technique using the method of correlation-regression analysis of the constructed model was based on scoring developments from the main economic indicators of innovative projects in agro-industrial complex which has the formula:

$$Y = -2.22 + 0.07X_1 + 0.23X_3 \qquad (R^2 = 0.9),$$

where: X_1 –the cost of the project development, thousand rubles; X_3 – profit from the development, thousand rubles; R^2 – the coefficient of determination.

Estimation of the regression parameters equation show that by increasing the amount of profit per 1 thousand rubles assess the importance of development increases by 0.23 points, increasing development costs 1 thousand rubles assessment of its significance is increased by 0.07 points. The linear coefficient of multiple correlation (determination) (R2 = 0.9) indicates a close relationship of factor characteristics with effective. In the future this technique can be widely used in assessing the efficiency of scientific research for selecting the most promising innovative products for agriculture with rapid return on investment.

While selecting innovative projects, their economic expertise and the study of performance indicators are recommended, and the realization schemes for agro-industrial production should be improved. Currently, agricultural science is able to provide agricultural producers with the latest developments, to guarantee the results of their realization. To this end, close interaction is necessary between agricultural science and agricultural producers in order to ensure the transfer of effective proven innovations to production. In addition, it is necessary to develop effective mechanisms for accepting completed innovations and their selection for implementation. To achieve this goal, it is necessary to improve the regulatory and legal framework for innovative development of the agro-industrial complex in order to form an institute of intellectual property in the agro-industrial complex. M. Porter noted that "prosperity, especially in advanced economies, stems from the ability of national companies to create and then globally to commercialize new products and processes, while mastering the frontier of innovation the faster the closer the competitors» [18].

The evaluation of innovative developments at all stages of the innovation process will make it possible to identify the most promising and priority ones and will allow to concentrate the limited resources on the most effective ones.

In the work [10] positive experience is shown presented in the work of innovation development in accordance with the application of the triple helix concept. In the article the application of the triple helix concept is offered which integrates science, business, and government in order to accelerate the production of promising innovations and their approbation in practice on the example of seven horticultural subjects of the Netherlands. The necessity of ensuring close communication links within the elements of the triple helix in order to stimulate innovation is substantiated.

To activate innovative activity Golubev A.V. offers an integrated approach that allows stimulating both demand and supply for innovative products, services and technologies [11]. Institutes of innovative agro-economics should be the infrastructure facilities of the agro-industrial complex-scientific and production partnerships, branch laboratories, educational organizations, training and experimental farms, small innovative enterprises, breeding and seed breeding and breeding and genetic centers and other organizations created in different institutional forms by the customer and participants complex scientific and technical projects for the purpose of finalizing and transferring the results of research and development, legal protection and management of the rights to such results for pilot production [22]. Infrastructure institutions should ensure the completion of innovations until the completed innovations with approbation or with direct transfer to a certain circle of producers for large-scale distribution. Sandu I considers the assessment of innovation activity of the regions [20].

Thus, the development of mechanisms to stimulate demand and institutional innovation infrastructure in the agro-industrial complex of the regions will increase their innovative activity aimed at increasing the competitiveness of the Russian agro-industrial complex and ensuring Russia's food safety [7].

Main research results: domestic and foreign approaches to the evaluation of innovative activities in the agro-industrial complex are systematized; The system of indicators of an innovative estimation potential of agriculture is offered; the possibility of applying the author's methodology for assessing the impact of stimulating demand on the level of innovative development of the Russian regions for the implementation system of innovations and scientific achievements in the agro-industrial complex is substantiated; perfection directions of realization management of innovations in agrarian and industrial complex on the basis of the institutional approach development in view of an efficiency estimation of system's innovations realizations are offered. This approach will ensure the implementation of innovations in production with approbation or with direct transfer to a certain range of consumers for the purpose of large-scale distribution and replication in agro-industrial production. Increasing the effectiveness of innovation in the agro-industrial complex of Russian regions on the basis of improving the quality of expertise of scientific developments at all links of the institutional chain will allow introducing promising innovations with high returns to the production process and can be taken into account when subsidizing the agro-industrial complex regions.

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