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FEATURES OF INNOVATIONS IN AGRICULTURE OF RK

Abstract. The standard of living of the population largely depends on the sustainable functioning of the agrarian sector. In addition, the agricultural sector is the largest national economic complex of the country and includes three spheres of interconnected industries: a set of industries that provide agriculture, food and meat and dairy industry, procurement system means of production; agricultural production itself; a set of industries and industries that provide for the procurement, transportation, storage and processing of agricultural raw materials. Over the years of independence, the agricultural sector of Kazakhstan has undergone significant changes, as was the reform of land relations; the main regulations governing the complex of legal issues in the countryside have been adopted; there was a transition from the collective farm economic system to the laying of market relations; legal and organizational conditions have been created for the functioning of agricultural enterprises of various forms of ownership.

Keywords: features, innovations, agriculture, products, economy, competition.

INTRODUCTION

Innovative processes in agriculture have their own specifics. They are distinguished by a variety of regional, sectoral, functional, technological and organizational features, one of which is that in agriculture, living organisms — animals and plants — take the most active part in the production process. Enhanced reproduction takes place in the interaction of economic and natural-biological processes. Therefore, when managing innovations, it is necessary to take into account the requirements of not only economic laws, but also the laws of nature: equivalence, indispensability, and the totality of life factors, laws of minimum, optimum and maximum. The law of the indispensability of production factors is manifested in the fact that, for example, selection does not compensate for fertilizers, the variety cannot compensate for the gaps of agricultural technology, breeding does not replace feed [1].

In agriculture, there are four main areas of innovation:

Table 1 - Classification of types of innovations in agriculture

Breeding-genetic	Industrial-technological	Organizational-managerial	Economic-Socio-Ecological
New varieties and hybrids of agricultural plants. New breeds, types of animals and bird crosses. Creating plants and animals that are resistant to diseases and pests, adverse environmental factors	Use of new technology. New technologies of cultivation of agricultural crops. New industrial technologies in animal husbandry. Science-based farming and animal husbandry systems. New fertilizers and their systems. New plant protection products. Biologization and greening of agriculture. New resource-saving technologies for the production and storage of food products aimed at increasing the consumer value of food products	Development of cooperation and the formation of integrated structures. New forms of maintenance and provision of resources. New forms of organization and motivation. New forms of organization and management. Marketing Innovation. Creation of innovation and advisory systems in the field of science, technology and innovation. Concepts, decision making methods. Forms and mechanisms of innovative development	Formation of personnel system of scientific and technical support. Improving working conditions, solving problems of health, education and culture of village workers. Improving and improving the quality of the environment. Ensuring favorable environmental conditions for the life, work and leisure of the population

Modernization is a complex process, which is an improvement of the facility, in accordance with the new economic conditions, new requirements and standards, quality indicators. Here, scientific developments, innovations, as an economic force, and their introduction into the production process in order to optimize it and increase efficiency, come to the fore.

In relation to the conditions of the domestic economy, the directions of modernization development proposed in the works of modern domestic economists can be divided into the following in the most general form.

The first is related to borrowing foreign innovations that have already been worked out and transferring them to Kazakhstan's economic conditions, taking into account national peculiarities. This is one of the common points of view, according to which the modernization of the domestic economy should be based on the already proven and analyzed Western experience. This area is called modernization without innovation.

Another direction, which is called modernization, carried out jointly with innovations, is that there are certain areas of development in which the domestic economy implements innovative solutions that have no analogues in the world. At the same time, those solutions already borrowed abroad are borrowed, taking into account domestic specifics.

The third direction, which is the least common, the direction that has received the name of innovation without modernization, is associated with a special, radically different from other countries, through the development on the basis of its own developments and its own innovative experience.

It seems that to the conditions of development of agriculture in Kazakhstan, the second way is the most preferable, implemented on the basis of an integrated approach to the introduction of modernization solutions that have been tested in foreign countries, together with absolutely innovative developments. The implementation of this direction guarantees food security, increasing the competitiveness of the industry, reducing dependence on the external food market [2].

The complexity of agricultural production and its specificity determine the originality of the approaches and methods of managing innovation activity, the combination of various types of innovations, the strengthening of the role of the state in stimulating innovations. It should be emphasized that the peculiarities of agricultural production are characterized by a high level of risks in innovative processes. The risk of financing research and production results, the risk of a temporary gap between costs and results, the uncertainty of the demand for innovative products do not interest private investors to invest in agricultural development.

MAIN PART

The provision of agricultural machinery per 100 hectares of crops of grain, leguminous and industrial crops in the Republic of Kazakhstan is about 10–12 times lower [4] than in farms of Western European countries, which is a significant brake on the use of innovative technologies in crop production. Scientists estimate that only 10–15% of agricultural producers use highly efficient resource-saving technologies. The reason for the low level of efficiency of new technologies is often due to the lack of a system that ensures innovative progress. A constraining factor in the technological modernization of agriculture is its low technical level. The lack of competitive domestic agricultural engineering has led to the fact that the market is filled with imported equipment, the deliveries of which in recent years for certain types of machines have increased 1.8-2 times.

The limited resources allocated to innovation creates a problem of choosing priorities, both in areas and by subjects of innovation activity. Over the past three years, the share of unprofitable agricultural producers ranged from 40 to 60%, the majority of other organizations had a low level of profitability, which was largely determined by the disparity of prices for agricultural products. In addition, the industry has no proven mechanisms for introductory activities, a system of scientific and technical information corresponding to a market economy, and there is no proven effective scheme for the interaction of scientific institutions with promotional structures. Research and development is not in all cases a product that is ready for effective implementation. There are no structures that study the demand for innovation. When selecting innovative projects, their economic expertise is not carried out, performance indicators for

development are not considered, and schemes for promoting the results obtained into production are not practiced.

Thus, the main factors hindering the development of innovative processes are:

–Disparity of prices for agricultural products;

- increased monopolization and criminalization of trade markets;

–Deficiency of skilled workers, managers and specialists;

— weak management of NTP, lack of close interaction between the state and private business.

–Sharp reduction in the cost of agricultural science, lack of personnel, low marketing work, low level of effective demand for innovative products;

- a sharp decline in funding for the development of scientific and technological advances in production and related innovative programs;

–Lack of a system for stimulating the development of the innovation process in agriculture, etc.

Food security in the country can be ensured by stable work of the domestic agricultural producer, which is real only with the development of the entire multi-structured agricultural economy.

State support of innovation in agriculture can and should be carried out both by indirect methods in the form of creating favorable conditions for its development, and with the direct participation of the state by targeted financing. One of the priorities of science and technology and innovation policy should be state support of fundamental and applied science with a focus on the introduction of scientific research in agricultural production.

Agrarian science today is designed to provide agricultural producers with the latest developments, to guarantee the results of their implementation, subject to the author's support. In this regard, close contacts are needed between agrarian science and agricultural producers in order to ensure the transfer of adapted scientific and technical developments and their effective implementation in production. Effective mechanisms for the acceptance of completed scientific, technical and technological developments and their selection are already at the level of innovative projects required for agricultural production.

Technological and technical re-equipment of agriculture in modern conditions is a key problem of ensuring the country's food security. Only the creation of favorable institutional conditions for the intensification of the innovation process and the revitalization of the economic activities of agricultural enterprises, private businesses and rural families will improve the quality and competitiveness of domestic agricultural products, bring the “life-long” subsidized agricultural sector of the economy to the path of sustainable and effective development.

In this context, it seems necessary in the near future to create an effective mechanism for promoting innovation. This can be a solution to several interrelated tasks:

a) expansion of the number of innovative proposals from the agricultural science,

b) susceptibility to agricultural innovation and the formation of an effective “innovation-conducting” network from science to production.

To increase the innovation activity and investment attractiveness of agricultural production, consolidated efforts are also needed from the side of the authorities and the agrarian business aimed at the formation of the innovation infrastructure. This involves the implementation of the following activities:

1. Implementation by the state and business of significant capital investments in enterprises that determine the scientific, technical and innovation policy in agriculture.

2. Stimulation of the implementation of research and development results through the provision of funds for their purchase, lease or leasing.

As possible options for budget financing, the following are appropriate:

providing target amounts with the condition of their return after a certain time;

crediting on concessional, long-term basis of public-private partnership subjects on a parity basis;

state participation in various investment projects, etc.

3. Reorganization of the management system of the agro-industrial complex, its services and departments in order to rebuild the command and administrative type of state administration of the agro-industrial sphere into a consulting and informational one, providing business entities of all forms of

ownership with timely information on the current situation on the agrarian market, rendering consulting and engineering and marketing services to agricultural producers, which will increase the efficiency of organizations and significantly reduce innovation and the Investment risks.

4. Improving the regulatory framework of innovation to ensure the sustainable development of agriculture.

5. Attracting unions and associations of commodity producers to the formation of institutions for the development and implementation of state innovation policy in the agricultural sector.

6. Training of specialists in the field of innovation management. Development of measures to attract and consolidate them in rural areas.

Thus, the main thing in the activity of the state at the present stage of development of the agrarian sector is the formation of development institutions that facilitate the transition to innovation-oriented socio-economic development [6].

In crop production, innovation processes should focus on:

• Increasing the volume of crop production on the basis of increasing soil fertility, increasing crop yields and improving product quality;

• overcoming the processes of degradation of environmental destruction and ecologization of production;

• reducing energy consumption and reducing the dependence of crop productivity on natural factors;

• improving the efficiency of irrigated and drained land use;

• saving labor and material costs;

• preservation and improvement of the ecology of the environment.

In this regard, the innovation policy in the field of crop production should be based on the improvement of breeding methods - the creation of new crop varieties with high productive potential, the development of scientifically based farming systems and seed production [7].

Government authorities should systematically address the challenges of technological modernization of agriculture in order to bring its potential to the level of competitiveness and efficiency of developed countries. At present, the following tasks can be considered as such tasks [8]:

1. Formation of a long-term agro-industrial policy, which should be based on the joint efforts of government agencies, business structures, the scientific community. This should take into account the fact that Kazakhstan is a large country, with a variety of natural, climatic, economic and social conditions of management. Accordingly, the policy should be based on these features. In some regions that are favorable from the point of view of the realization of agrarian potential, it is necessary to support and stimulate the development of agricultural production with economic measures. In other regions, which are unfavorable for a number of agro-climatic factors, the population of rural areas needs support. Thus, the ongoing agro-industrial policy should be meaningful, based on the experience of the regions. An integral part of this policy should be technological modernization.

2. Preparation of qualified engineering and mechanization personnel of the new generation. It is impossible to carry out technological modernization without a sufficient number of the appropriate level of specialists who are able to design and manage complex high-tech processes. Innovative projects implemented today create high demand for engineers and technologists of various specialties. At all levels, programs of targeted training and retraining of engineering and technical personnel should be implemented to meet the needs of modernized production facilities, as well as advanced training programs for teaching staff of higher educational institutions who prepare specialists of the corresponding profile.

3. Activation of the innovation component of the modernization process. In modern conditions, the innovative path of agricultural development has three directions: innovation in the human factor; innovation in the biological factor; technological innovations that ensure the improvement of the technical and technological potential of the industry through the use of energy- and resource-saving equipment, high-tech technologies. As noted above, for the formation of a competitive agro-industrial complex, it is necessary to carry out not just the renewal of the old fleet of machinery and technological processes, but also the introduction of completely new solutions, developments and innovations. This can be done by

integrating the efforts of science and production. There should be work on the development of market institutions that would ensure the creation, dissemination and maintenance of innovations. The government should play an important role here, since the process of introducing innovations and obtaining a real practical result in the form of increasing labor productivity, optimality and efficiency of using the resource base, environmentally friendly production, and increasing the competitiveness of enterprises is a long-term one. The solution is seen in the creation of small and medium-sized innovative enterprises, in enhancing the participation of large business in innovative projects, in the formation of research and production alliances, and clusters.

4. An important component of the modernization process is its investment support. The state should conduct a stimulating innovation investment policy. In particular, it can be carried out by introducing a system of compensation for the cost of developing projects for modernizing agro-industrial enterprises, providing tax incentives to companies introducing resource-saving, environmentally friendly technologies, subsidizing the cost-saving equipment at the expense of budget funds.

CONCLUSION

The solution of the above mentioned tasks should contribute to the implementation of an effective technical modernization of the country's agriculture, and, as a result, increase the competitiveness of domestic agricultural products in the domestic and foreign markets.

The key factors affecting the technological development of agriculture are production efficiency and technical re-equipment, the speed of mastering the production of new types of products and the attraction of the latest agro-technologies. The special influence of these factors on the technological development of agriculture is due to the structure, current state and trends of growth of the Kazakhstani economy, the current situation in the scientific and technical sphere of the country.

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ҚР АУЫЛ ШАРУАШЫЛЫҒЫНДАҒЫ ИННОВАЦИЯЛАРДЫҢ ЕРЕКШЕЛІКТЕРІ

Аннотация. Халықтың өмір сүру деңгейі аграрлық сектордың тұрақты жұмыс істеуіне тәуелді. Сонымен қатар, аграрлық сектор елдің ірі халықшаруашылық кешені және өзара байланысты үш саласын қамтитын сала болып табылады: ауыл шаруашылығы, тамақ және ет-сүт өнеркәсібі жүйесін қамтамасыз ететін салалар жиынтығы, өндіріс құралдарын сатып алу, ауыл шаруашылығы өндірісінің өзі; ауыл шаруашылығы шикізатын қайта өңдеуді, сақтауды, тасымалдауды және дайындауды қамтамасыз ететін салалар жиынтығы .

Тәуелсіздік жылдары Қазақстанның аграрлық секторы айтарлықтай өзгерістерге ұшырады және жер қатынастары реформа; ауылдық жерлерде құқықтық мәселелерді кешенді реттейтін негізгі ережелер қабылданды; нарықтық қатынастарда колхозды жүйеден экономикалық жүйеге көшті; түрлі меншік нысандары ауыл шаруашылығы кәсіпорындары жұмыс істеуі үшін құқықтық және ұйымдастырушылық шарттары жасалған.

Түйін сөздер: ерекшеліктері, инновация, ауыл шаруашылығы, өнім, экономика, бәсекелестік.

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ОСОБЕННОСТИ ИННОВАЦИЙ В СЕЛЬСКОМ ХОЗЯЙСТВЕ РК

Аннотация. Уровень жизни населения во многом зависит от устойчивого функционирования аграрного сектора. Кроме того, аграрный сектор является крупнейшим народнохозяйственным комплексом страны и включает в себя три сферы взаимосвязанных отраслей: совокупность отраслей, обеспечивающих сельское хозяйство, пищевую и мясомолочную промышленность, систему закупок средств производства; само сельскохозяйственное производство; совокупность отраслей и отраслей, обеспечивающих заготовку, транспортировку, хранение и переработку сельскохозяйственного сырья. За годы независимости аграрный сектор Казахстана претерпел значительные изменения, как и реформа земельных отношений; приняты основные положения, регулирующие комплекс правовых вопросов на селе; произошел переход от колхозной экономической системы к установлению рыночных отношений; Созданы правовые и организационные условия для функционирования сельскохозяйственных предприятий различных форм собственности.

Ключевые слова: особенности, инновации, сельское хозяйство, продукция, экономика, конкуренция.

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