

## **Integračný proces v inovatívnom rozvoji poľnohospodárstva**

Integration processes in the innovative development of agriculture

**Anna Ivolga, Marina Leshcheva**

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### **Summary**

*In this article substantiated the role and importance of the integration processes in the innovative development of the agrarian sector of the economy. The factors that provide the benefits of integrated business structures in the modernization of equipment and technology of agriculture. It is concluded that, depending on the nature of the innovations suitable different directions and organizational forms of coordination involved in the innovation businesses. Horizontal integration can increase the effect of the introduction of new technology by accelerating their distribution between organizations similar specialization, vertical - provides an effective system of feedback between technological improvement of production and market results.*

### **Keywords**

*innovation, technology improvement, integration processes, agriculture, business structures.*

### **Abstrakt**

V tomto článku je zdôvodnená úloha a význam integračného procesu v inovatívnom rozvoji agrárneho sektora v rámci ekonomiky. Faktory, ktoré poskytujú výhody pre integrované podnikateľské štruktúry v rámci modernizácie vybavenia a technológií poľnohospodárstva. Záverom je, že závislosť na povahe inovácií vhodná pre rôzne oblasti a organizačné formy koordinácie zapojené do inovatívneho podnikania. Horizontálna integrácia môže zvyšovať vplyv zavedenia novej technológie prostredníctvom akcelerácie je rozmiestnením medzi organizácie podobného zamerania, vertikálna – poskytnutie efektívneho systému spätnej väzby medzi technologickým pokrokom produkcie a trhovými výstupmi.

### **Kľúčové slová**

inovácia, technologický pokrok, integračný proces, poľnohospodárstvo, podnikateľské štruktúry

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### **Introduction**

Transition to innovative development of agriculture is characterized by the increasing influence of integration on economic growth and development prospects. Relevant in this regard is the scientific justification of organizational forms and directions of development of agricultural integration.

### **Material and methods**

The problems of building effective relationships entities for innovative agricultural development studied in AA Anfinogentovoy, SB Avdasheva, DC Belokrylova, AG No-till, IN Buzdalova, VA Klyukacha, EN Cruise, VV Kuznetsova, VV Miloserdova, VI Nechaev, VN Ovchinnikov, VI Trukhacheva, IG Ushacheva, IF Hitskova, AA Shutkova.

Development of agricultural holdings, as a new institutional form of agrarian business in Russia is analyzed in the works Anisimova, VP Arashukova, GA Baklazhenko, OA Rodionova, AM Yugaya, VJ Uzun, J. Temple, A. Shastiko.

Issues of state regulation of the integration processes in agriculture are reflected in the EA study Barbashina, EF Zlobin, A. Kirilenko, EK Kuznetsova, VA Kundius, PD Polovinkina, IV Shchetinina.

## **Results and discussion**

Generalization of international experience shows that the strengthening of integration processes is one of the most characteristic features of the modern economy. Integration has significant distribution in the agricultural sector in developed countries. For example, in the U.S. as part of vertical integration and long-term contracting by about 94% of total sales of pigs, 80% of the total production of broilers produced broiler top 20 companies, 20% of all sales of cattle's vertically integrated companies that combine agricultural and processing enterprises, 25% of potatoes grown in large agro-industrial associations representing agribusiness trade and finance companies. The world's largest food manufacturers are an Italian company «Ferruzzi» and the French company «Dreyfus». Seed production is largely concentrated in the hands of large multinational firms that can finance the costs of research and development [1].

Lack of scientific justification as integrated units in the innovation development of agribusiness makes theoretical and practical significance of the study in this field. The theoretical and methodological basis of his results became fundamental and applied research of contemporary domestic and foreign scholars, devoted to theoretical and applied aspects of diffusion of innovation in agriculture. Methodological base for the study were the economic analysis, synthesis, critical thinking and other scientific methods.

Competitiveness of the agricultural sector in the developed countries do not currently provide small and large corporate farms, mastering achieve STP twenty-first century. They receive 75% of the total effective state support given to the agrarian sector as a whole.

Domestic agricultural science behind the developed countries in the quality of research, the level of scientific results and, most importantly, for the transfer of innovations in the real economy and their development. According to the Institute of Agrarian Problems RAS innovative potential agricultural country is used by 15-35%. The actual structure of capital investments and the creation of agricultural innovation capacity consists of the federal budget - 3.2% of the budget of the Russian Federation - about 3% of the enterprises themselves - 95% [2]. Thus, the state does not take part in the financing of innovative projects APC. The majority of Russian agricultural organizations have limited capacity for self-introduction to the latest achievements of scientific and technological progress, as they have limited resources and are not well informed.

In these circumstances, an important role in solving the problems of innovative development of agricultural sector to play an integrated form. That is the underlying integration concentration and centralization of capital can provide a breakthrough in economic development, large-scale introduction of scientific and technical progress and to accelerate growth. Integration creates real conditions for upgrading the technological basis of agriculture. In terms of the adoption and use of innovative, integrated form, based on the union under a single ownership or improve linkages have tremendous advantages over stand-alone agricultural organizations.

There are many reasons. First of all, the fact that along with the concentration and centralization of resources, integration provides better coordination of action.

For efficient use of a particular commercial innovation often requires pooling of assets and the efforts of various organizations. The more companies involved in the process, the greater the effect on its results of coherence parterres and the more difficult market contracts to provide it. Coordination with the price mechanism, which is characteristic for the traditional market contracts in these cases is not sufficient. In addition, new techniques and

technologies often arise as a result of cooperation between several parts of the technological chain and are complex. They are adapted to the specific conditions of the product passing on certain stages of the production cycle and can not provide the desired effect in a fragmented use. The integration allows us to overcome the obstacles associated with a deficit of working capital in the individual chains of the technological chain. Typically, such a deficit experienced agricultural organizations and if not overcome it by joining forces, it could be a reason for stopping the chain.

Integration is important in determining the directions of innovative development, methods and members of their decision. In cases where this was not an episodic innovation and the innovation mode of functioning, particularly important to a system for information exchange. Many innovative products and processes are the result of a long series of adjustments to the results of the different stages of the innovation process. Users often push manufacturers to innovations and improvements. Integration provides the shortest link between them. Data on consumer response to new products, design issues, complexity of the manufacturing process are rapidly becoming available to all participants in an integrated form, involved in the innovation process. Through the interaction between them is provided prompt and consistent adaptation to the new information that becomes the driving force of business. This improves the quality of new products and technologies to reduce the risk of innovation. [3]

The advantage of the integrated structures is the fact that they are able to form a relatively massive and sustained demand for new products in the critical period of its development, when the reduction of costs to an acceptable level depends primarily on the volume of production and sales. Integrated structures to a greater extent than the autonomous organizations are able to achieve these volumes.

The rate of introduction of innovative technologies and production capacity is largely dependent on how the company's ability to attract investment beyond the self. Creating integrated agricultural structures involving credit institutions in this area gives significant advantages. In addition, the integrated form have more options for borrowing, massive use allows for greater concentration of resources on priority areas of production than is possible only by reinvesting profits.

Depending on the nature of the innovations suitable different organizational forms of security coordination involved in innovation businesses. Today's economic conditions in agriculture can create different models of integrated units.

Vertically integrated companies have an important role in building a feedback system between the market and the results of the process of technological improvement of production. Vertical integration provides the most rapid assessment of commercial viability of new technologies, the effectiveness of investing their introduction into production.

Horizontally integrated companies are allowed to increase the effect resulting from the development of new technologies due to their rapid spread between organizations with similar specialization. The faster the process of technological diffusion within an integrated framework, the higher the total economic effect, greater opportunity to integrate the company's compensation costs associated with the implementation of the results of research and training of highly qualified personnel, as well as to compensate for the inevitable losses associated with failures to implement certain technologies [4].

Agroinnovatsionnyh promising is the creation of clusters, which are a group of related research centers, companies producing, processing and sale of agricultural products and food related infrastructure companies operating in a particular area, and complement each other.

Leading role in agroinnovatsionnyh clusters can play powerful modern agricultural holdings. They have acquired in the late 90's agricultural and processing organizations are already equipped with the most advanced technology and the use of new technologies to

ensure their competitiveness in the macro-regional markets. However, their shareholders are actively looking for the newest and more efficient technology and are willing to buy them on favorable terms. Primarily purchase foreign equipment and technology, which in itself is Russia's traditional way of innovation growth. However, in many cases, the fragmentation of acquisition, the purchase of individual parts of the technological cycle, which can not function without the interaction with other parts of the circuit and associated infrastructure provision, is the cause of failure of foreign agricultural technology and simultaneously serves as a compelling reason for the deepening of the integration process. The main motives for integration into a cluster of autonomous agricultural organizations is to participate in innovative programs and projects, the ability to use the infrastructure for small and medium businesses. [5]

It is promising to create scientific production associations holding type of a public-private partnership. The experience of leading European countries demonstrates the effectiveness of specialized public and closely related, entrepreneurs to commercialize and promote innovation in the business environment. With state organizations take on the implementation of fundamental research related to high capital ratio, investment risk and the remoteness of business results from the introduction of new technology solutions in the practice of business. Business organizations private or mixed ownership forms you will create the infrastructure necessary for innovation in manufacturing, their rapid propagation [6]. Similar models should be used in the Russian agricultural sector.

## **Summary**

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**Address:**

**Ivolga Anna G.**

Stavropol State Agrarian University

355000

Botanichesky 16 kv 34

Stavropol Russia

☎: +79280053542, [annya\\_iv@mail.ru](mailto:annya_iv@mail.ru)

**Oponent: doc.Ing. Eleonóra Marišová, PhD.**