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### ЕКОНОМІЧНИЙ АСПЕКТ ІННОВАЦІЙНОЇ ДІЯЛЬНОСТІ В АГРАРНОМУ СЕКТОРІ УКРАЇНИ: ПРОБЛЕМИ ТА ПЕРСПЕКТИВИ

У статті розглянуто економічний аспект інноваційної діяльності та інноваційного розвитку в аграрному секторі України.

Досліджено різні аспекти інноваційних процесів в аграрній сфері України. Проведено аналіз даної проблеми в АПК.

Розкрито методологічні засади та розглянуто економічні аспекти інноваційної діяльності агропромислових підприємств.

Визначено чинники, що стримують інноваційну діяльність в аграрній сфері. Розглянуто основні проблеми інноваційного розвитку аграрного сектору.

Встановлено необхідність регулярного проведення досліджень для оцінки перспектив і напрямів подальшого інноваційного розвитку агропромислового комплексу України.

Наведено статистичні дані про чинники, які перешкоджають інноваційній діяльності в аграрній сфері.

Запропоновано кроки, які можуть бути застосовані в інноваційній політиці аграрної сфери України та визначено основні необхідні заходи реалізації інноваційного розвитку економіки країни з урахуванням нагальних проблем та їхнього подальшого усунення.

Визначено шляхи покращення інноваційної діяльності в АПК України.

**Ключові слова:** агропромисловий комплекс, інноваційна діяльність, економіка, стратегія, фінансове забезпечення, інвестиції, прибуток, виробництво.

Табл. 2, Літ. 10

## В.Е. Болгов, И.И. Галицкий ЭКОНОМИЧЕСКИЙ АСПЕКТ ИННОВАЦИОННОЙ ДЕЯТЕЛЬНОСТИ В АГРАРНОМ СЕКТОРЕ УКРАИНЫ: ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ

В статье рассмотрены особенности инновационной деятельности и иновационного развития в аграрном секторе Украины, их экономический аспект.

Исследованы различные аспекты инновационных процессов в аграрной сфере Украины. Проведен анализ данной проблемы в АПК.

Раскрыты методологические основы и рассмотрены экономические аспекты инновационной деятельности агропромышленных предприятий.

Определены факторы, сдерживающие инновационную деятельность в аграрной сфере.

Рассмотрены основные проблемы инновационного развития аграрного сектора.

Установлена необходимость регулярного проведения исследований для оценки перспектив и направлений дальнейшего инновационного развития агропромышленного комплекса Украины.

Приведены статистические данные о факторах препятствование инновационной деятельности в аграрной сфере.

Предложены шаги, которые могут быть применены в инновационной политике аграрной сферы Украины и определены основные необходимые меры реализации инновационного развития экономики страны с учетом существующих проблем и их последующего устранения.

Определены пути улучшения инновационной деятельности в АПК Украины.

**Ключевые слова:** агропромышленный комплекс, инновационная деятельность, экономика, стратегия, финансовое обеспечение, инвестиции, прибыль, производство.

# V. Bolgov, I. Galytskyi ECONOMIC ASPECT OF INNOVATIVE ACTIVITY IN THE AGRICULTURAL SECTOR OF UKRAINE: PROBLEMS AND PERSPECTIVES

The article deals with the features of innovative activity and innovative development in the agricultural sector of Ukraine, economic aspects.

Various aspects of innovative processes in the agricultural sector of Ukraine are investigated. The analysis of this problem in agroindustrial complex is carried out.

Methodological principles and the economic innovative aspects of agroindustrial enterprises are discussed. Factors that suppress innovations in agroindustrial complex are viewed.

The main problems of innovative development of the agricultural sector are examined.

The need for regular researches of prospective assessment and directions of further innovative agricultural development of Ukraine are established.

Statistics about factors, that restrain innovations in agroindustrial complex are listed in the table.

Propositions that can be used in innovative politics of agricultural area of Ukraine are examined and basic required degree of implementation in state economy innovative development which takes into account consecutive solving of the urgent problems is estimated.

Ways of innovative activity improvement in agroindustrial complex of Ukraine are determined.

**Key words:** agroindustrial complex, innovative activity, economy, strategy, financial provision, investments, profit, production.

**Problem statement.** Analysis of innovation activities is caused by increased competition in the market of agricultural products and integration of Ukraine into the international economic and commercial market, which necessitates the formation of innovation-investment model of agricultural development.

Constant economic transformation of the agricultural sector in changing market environment necessitate the adaptation of agricultural enterprises towards providing a high level of competitiveness both on the national and international levels.

Globalisation and European integration necessitate the strengthening of investment and innovation activity of business systems.

Therefore, there is urgent need for radical changes in the formation of domestic agricultural enterprises and the implementation of measures to improve their competitiveness.

Innovative transformations play an important role in rising of the competitiveness of these enterprises.

Ensuring of economic security and development of the country requires transition to innovative type of economy, based on the support of high-tech agriculture.

**Analysis of recent research and publications**. Extensive studies of various economic aspects of innovation processes in agriculture are made by leading domestic and foreign scientists such as V.M.Zhuk, Y.V. Buhvostov, A.V.Chupis, V.P.Gudz, S.F.Golov, N.O. Dolhosheya, M.L.Pyatov, H.H.Kireytsev, O.V.Kot, O.V. Popova, M.A.Sadykov, G.V. Cherevko, V.Ya.Sokolov, O.M. Shestopal, V.V. Yurchushun and others.

Despite the value of the research, peculiarities of innovation management in agriculture is currently the least studied.

**Setting objectives.** The aim of the article is to study the problems of implementation the innovations into the agricultural sector, to identify ways of improving of innovation activities in agriculture of Ukraine.

**The main material research.** Agroindustrial complex of Ukraine is one of the leading inter-sectoral territorial and industrial structures of the national economy of Ukraine, producing 2/5 of GDP and concentrating 1/3 of all employees in the economy. This is a complete, integrated, large-scale system, complicated in structure and territorial organization.

The role of agroindustrial complex in the economy is difficult to overestimate, because the provision of population needs, welfare depends on the level of development in its areas and its balanced functioning. However, the level of economic development of agriculture is insufficient because it does not solve important social, economic, and social needs [1, p. 95].

An effective innovation policy should be implemented for successfull agroindustrial complex operation, because innovation activity is a necessary condition to ensure a successfull, long-term and sustainable business operation, one of the fundamental components of an effective strategy and an important tool for competitive advantage.

Agrarian innovation (agroinnovation) is a kind of innovation that is implemented in the agricultural sector in order to improve its effectiveness and provide sustainable agricultural expanded reproduction [2, p. 55].

In the broadest meaning agroinnovation is an implemented innovation in agriculture.

Scientists propose different approaches to the definition of this concept.

For example, O.V. Kot describes agroinnovation as the constant implementation of scientific researches in agricultural area, that lead to positive qualitative and quantitative characterization of changes in the relationships between the biosphere and the technosphere and improve the environment [3, p. 32];

According to O.V. Popova agroinnovation is an innovation, which directly (or indirectly) affects processes, members of which are people, machines (equipment, tools, etc.) and the component of environment (animal, plant, etc.) whose existence in the natural environment (without people) is impossible or possible with loss of basic functional characteristics [4].

Y.V. Buhvostov determines agroinnovation as a result of work obtained through the use of new scientific knowledge, that increase efficiency of functioning, sustainable development of agroindustrial complex[5, p. 7].

Regarding the agricultural sector of economy as the main object of research, innovation is the implementation in economic practice the results of research and development in the form of new varieties of plants and breeds of animals and birds, new technologies in crop, livestock and processing industries, new fertilizers and plant protection plants and animals, new methods of prevention and treatment of animals and poultry, new and improved food products, materials and new forms of organization and management of various sectors of economy, new approaches to social services that improve the efficiency of manufacturing [6, p.19].

To provide the innovative development of the agricultural sector there should be two components - institutional and resource.

The resource component includes financial, personnel, scientific-technical and information support.

The institutional component includes regulatory, organizational, economic, infrastructure and scientific support (Table. 1).

Undoubtedly, innovation activity of agricultural enterprises in Ukraine are not in the best condition. Many experts believe that the main reason for deceleration of innovative development is the lack of financial resources. In fact, there are several other important reasons, such as the recession in effective demand for domestic products from the state and the business sector, unattractiveness of domestic enterprises to foreign investors due to the inability of the state to direct financial cash flows properly and other economic, political and legal problems.

Table 1

Components of the innovative development of the agricultural sector

Innovative development of the agricultural sector			
Resource support	Institutional support		
- financial	- regulatory		
-personnel	<ul> <li>organizational-economic</li> </ul>		
<ul> <li>scientific-technical</li> </ul>	<ul><li>infrastructure</li></ul>		
<ul><li>information</li></ul>	- scientific		

In addition, there are other problems of innovative development in the agricultural sector:

- 1. Lack of an effective innovation policy.
- 2. Lack of systematic management of innovation processes by the state.
- 3. Inadequate legal framework regulating innovation.
- 4. Lack of financial mechanism of innovation activities.

A special role in rising of innovation activity in agriculture belongs to the state. The state stimulates the development of economic, scientific-technical and social policy, defines basic innovation priorities at the federal and regional levels, creates a market mechanism for its implementation.

So it is needed to adjust the traditional one-sided focus in the direction to the most capital-intensive chemical-technological way of intensifying agricultural production on industrial basis.

This requires greater use of all the achievements of scientific and technological revolution, its agronomic, technological, organizational, economic and other innovative areas.

In addition, the innovative development of the agricultural sector is not possible without sufficient financial support. Several authors argue that financial support is a formation of sufficient amounts of special-purpose funds and their effective use [6, p. 19].

Total financing of agroindustrial complex in 2014 is as follows:

- the general fund of the state budget amounting 3,4286 million UAH. As on August 2014 State Treasury Service of Ukraine directed 2,318 million UAH to budgetary programs.
- the special fund of the state budget provided expenditures in the amount of 2,524 million UAH, including in support of agricultural enterprises UAH 2,424 million UAH. As on August 2014 State Treasury Service of Ukraine allocated UAH 531.7 million. [7]

Today the key problem is attracting investment resources into the innovative development and their management. The possibilities for further economic development of agricultural production depend on solution of this problem.

Investment resources - all kinds of financial and other assets involved for the investment purpose[1, p.93].

It should be noted, that the investment policy is one of the most important preconditions for effective management during the implementation of an innovative model of economic development.

During the introduction of intensive investments, the active development of technical progress, increase of productivity and reduce of capital-production is traced [8, p.138].

Agroindustrial complex of Ukraine sharply needs investment in the manufacturing sector, both internal and external. Investing in agricultural businesses tend to be long-term (at least 3-5 years), because only in this case a positive effect will be provided, and the structure of production will enter resistant forms.

In some areas of agriculture, such as livestock, sustainable outputs can be obtained no earlier than in 4-5 years to meet the requirements of the natural process.

Attracting of foreign investment is perspective in increasing of scientific and technological level and efficiency of the agricultural production.

World practice shows that attracting of foreign investment allows many countries to deal with their economic problems and provide forward movement of society.

In recent years, agroindustrial complex of Ukraine launched the following basic forms of foreign investment:

- lending to Ukrainian government by governments of foreign states for purchases of food and technical assistance;
- opening credit lines by international banks on favorable terms for the implementation of specific projects in the agricultural sector;
- investment lending in various forms by foreign companies to Ukrainian commodity manufacturers as for logistics;

The first form is a concessional financing of those countries, that are in difficult socioeconomic conditions.

US Government decided to provide for Ukraine a concessional loan for purchase soybean meal in America and to sale it on commercial livestock farms. Returning of the loan should have been finished in 2015.

More promising compared with this type of loan is attracting investment from international banking institutions such as the European and International Bank for Reconstruction and Development. European Bank for Reconstruction and Development provides loans, guarantees on loans, invests in the share capital, promotes private and entrepreneurial activity.

In Central and Eastern Europe priorities are provided for private sector development programs, small and medium enterprises, privatization of public enterprises, promotion of foreign direct investment, establishment and strengthening of financial institutions, reorganization of the industrial sector, the creation of modern infrastructure for private sector development and the transition to market economy, improving the environment.

Cooperation of the World Bank with Agroindustrial complex of Ukraine involves the Project of seed funding that includes registration of varieties and seed testing, organization of production of high quality elite seed corn, sugar beets and sunflowers in the Odessa and Zaporizhya regions.

Investments are allocated for the construction of three seminal plants, replacement of outdated laboratory and field equipment, machinery, and technical assistance of the international community.

Another form of long-term investment loans is the supply of technological equipment for processing of agricultural products with the following payment for products manufactured on this equipment.

The advantages of this investment form is that it enables:

- to create a complex company with modern western technology if there is no starter currency capital from Ukrainian side;
  - to produce competitive products that meet the highest quality standards;
- to use the long-term loan of the foreign investors in the form of supply of equipment on favorable terms and at the same time experience in production on modern technology;
  - to settle accounts with the lending company on the basis of currency-free products.

In addition, an important factor in improving the efficiency of innovative activity is crediting agricultural production. Currently, bank loans are not available for agricultural producers due to high interest rates. Ukraine does not have a specialized bank for financing and crediting agricultural producers.

The need for such an institution is obvious. Regional level monitoring system must be developed to increase innovation potential in administrative areas and finding ways to ensure a supportive environment for innovative processes.

The agricultural sector of Ukraine remains very attractive for investors due to the following reasons: unformed market food products, lack of opportunities to expand crop areas in other agricultural countries and the availability of territory in Ukraine, the high fertility of black soil, low cost of finished products due to cheap labor, growing demand for biofuels and more.

Foreign investment in agriculture of Ukraine with limited internal resources is the most attractive source of logistical and financial support. However, their amount and efficiency levels are extremely scarce because of a number of inhibiting factors [2, p. 106].

Table 2
The most significant factors that restrain the implementation of innovations

Group of factors	Separate factors	Innovative companies, %	Non-innovative companies, %
Price factors	Lack of funds within the enterprise or group of enterprises	7,8	16,3
	Lack of funding outside the enterprise	4,6	8,7
	Too high costs of innovation activity	6,2	12
Information factors	The lack of qualified staff	1,5	3,4
	Lack of information about technologies	1,0	2,1
	Lack of information about markets	0,8	1,9
	The difficulties in finding partners for innovation activity	2,4	5,3
Market factors	The market is dominated by certain enterprises	3,9	7,1
	A small demand for innovative goods or services	1,9	4,2
The reasons for innovation passivity	No need because of previous innovation activities in the enterprise	1,1	2,0
	Is not needed due to uncertain demand or no demand for innovation	1,8	5,7

Also among the significant barriers are instability, lack of transparency of the legislative framework, judicial insecurity of entrepreneurship, macroeconomic deficit in agricultural management, low level of professional education, particularly in the field of macroeconomic management, a low level of state support for agriculture, insufficient development of agricultural market infrastructure and so on. So, clear and consistent internal policy is a determining factor in the development of agriculture and attracting foreign investment.

It is necessary to provide differentiated and balanced approach to the choice of foreign investment forms, the implementation of its restructuring and the formation of an attractive safe mode primarily through joint ventures.

It is also urgent to keep the links of agricultural mechanism to ensure effective foreign economic activity, filling it with new content.

Analysis of world experience in investment promotion showed the feasibility of using two stimulating tools of innovative development: preferential financing and co-financing of projects with public funds of financial institutions and guarantees for investors.

Constant monitoring of innovative processes and rapid state response on agricultural activities should assist essential innovative development of the economy.

**Conclusion.** Despite all the challenges facing innovation policy in the agroindustrial complex of Ukraine, it remains the priority sector to be developed. Therefore, following approaches must be implemented:

- to concentrate the funds in priority areas of development, including education, science, advanced technologies, business activity in the market of high technology products;
- to ensure the competitiveness of agro-food products, that is possible due to concentration of investments in priority areas, including investment in human capital, which is the basis for developing and implementing new organizational, technological, economic, ecological knowledge;
- to refocus investments on agricultural sectors with relatively high production intensity, which today require a speedy revival on the new technical and technological basis, provide the creation of new jobs in rural areas and production of import-substituting products;
- to implement investment and innovation projects of construction of industrial facilities for processing energy products and the manufacturing of biofuels, which will facilitate production of alternative types of eco-friendly fuel, utilization of surplus of agricultural products and intermediate products of industrial production, job creation, increase of rural incomes and revenues to the budget.

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