

IMPROVING THE MECHANISM OF INNOVATIVE DEVELOPMENT OF AGRICULTURAL PRODUCERS IN UKRAINE

The article is devoted to the evaluation of the current state of functioning of livestock enterprises in Ukraine and to the substantiation of strategic directions of renovation development. It was identified that the instability of the socio-economic situation in Ukraine, the low level of concentration of the capital in the agrarian sector, the disparity in prices between agricultural products and the products of industry and its consequences have led to chronic problems in the field of livestock farming. The necessity of forming a strategy of renovation of production and economic activity of livestock enterprises based on the model of innovation development is substantiated. The necessity of creating new food technologies, which should maximally use plant and animal raw materials on the basis of membrane and extrusion technology, high frequency and vacuum currents, sublimation and other new methods, has been determined. It is noted that the development of innovative technologies is namely a specific way of transition from cost to resource-saving type of reproduction.

Keywords: *livestock enterprises, agrarian production, innovation development, mechanism, renovation.*

Лівінський А. І. Удосконалення механізму інноваційного розвитку суб'єктів аграрного виробництва в Україні.

Стаття присвячена оцінці сучасного стану функціонування підприємств тваринництва в Україні та обґрунтуванню стратегічних напрямів реноваційного розвитку. Ідентифіковано, що нестабільність соціально-економічної ситуації в Україні, низький рівень концентрації капіталу в аграрній сфері, диспаритет цін між сільськогосподарською продукцією і продукцією промисловості та його наслідки зумовили хронічні проблеми у сфері тваринництва. Обґрунтована необхідність формування стратегії реновацій виробничо-господарської діяльності підприємств тваринництва на основі моделі інноваційного розвитку. Визначена необхідність створення нових харчових технологій, які повинні максимально повно використовувати рослинну й тваринну сировину на основі мембранної й екструзійної

техніки, струмів високої частоти й вакууму, сублимації й інших нових методів. Зазначено, що саме освоєння інноваційних технологій – конкретний шлях переходу від витратного до ресурсозберігаючого типу відтворення.

Ключові слова: підприємства тваринництва, аграрне виробництво, інноваційний розвиток, механізм, реновації.

Ливинский А. И. Совершенствование механизма инновационного развития субъектов аграрного производства в Украине.

Статья посвящена оценке современного состояния функционирования предприятий животноводства в Украине и обоснованию стратегических направлений реновационной развития. Идентифицировано, что нестабильность социально-экономической ситуации в Украине, низкий уровень концентрации капитала в аграрной сфере, диспаритет цен между сельскохозяйственной продукцией и продукцией промышленности и его последствия обусловили хронические проблемы в сфере животноводства. Обоснована необходимость формирования стратегии реноваций производственно-хозяйственной деятельности предприятий животноводства на основе модели инновационного развития. Определена необходимость создания новых пищевых технологий, которые должны максимально полно использовать растительное и животное сырье на основе мембранной и экструзионной техники, токов высокой частоты и вакуума, сублимации и других новых методов. Отмечено, что именно освоение инновационных технологий – конкретный путь перехода от затратного к ресурсосберегающему типу воспроизводства.

Ключевые слова: предприятия животноводства, аграрное производство, инновационное развитие, механизм, реновации.

Formulation of the problem. The current crisis not only in agricultural production, but also in the economy as a whole can not be overcome only by the system of management of agrarian production. Livestock is one of the most complicated complexes among other branches of the agrosphere, whose development largely depends on food security of the country. Therefore, the livestock system, which integrates the solution of the entire complex of problems of increasing the volume of production of livestock products, their preservation and improvement of quality in the market conditions, should represent scientifically grounded models of organization of rational construction of agricultural production of livestock products and other related industries. Solving the problems of the development of livestock enterprises requires an integrated approach, the formation of a unified strategy and mechanism based on cross-sectoral integration and activation of innovative processes.

Analysis of recent research. The scientific research of the domestic scientists is dedicated to the research of the problems of the development and functioning of the livestock industry in Ukraine S.P. Azizova, V.I. Arancii, V.I. Boyko, O.V. Mazurenko, V.Ya. Mesel-Veselyak, P.T. Sabluka, I.S. Tronchuk and others. The first to analyze the peculiarities of livestock development in Ukraine, were O. Borodina, S. Mastro, O. Mogilny, G. Mostovy, M. Latinin, M. Koretsky, O. Salamin, G. Cherevko and others. The significant contribution to the substantiation of the conceptual foundations for improving the mechanism of management of innovative development of the agrarian production. Was made by I.Yu. Grishova, L.E. Dovgan, M.I. Malik, O.B. Naumov, T.L. Shestakovska and others. However, repeated attempts of transformation in the agrarian sector and agricultural production, as you know, did not justify themselves. Among the many reasons for this – the implementation of very cautious and very limited in essence and forms of improvements on their basis, mainly through organizational and structural transformations, which are the easiest to implement.

Setting the objectives. The purpose of the article is to analyze the current state of livestock functioning in Ukraine and develop methodological approaches to the formation of an effective mechanism of its innovatory development.

Presenting the main material. The current mechanism of development of production and economic activity of livestock enterprises is costly, it does not stimulate structural transformation and productivity growth, does not interest producers in the development of livestock, and processing enterprises – in non-waste, integrated processing of raw materials [1]. The reasons for this situation

are: the lack of common economic interests from the partners in the production and bringing the final product to the consumer; the inequality of the inter-industry exchange, the absence of civilized competition, ignoring the basic law of the market economy in accordance with demand and supply, the imperfection of the mechanism of economic stimulation, financial and credit system, pricing.

The interrelationships between enterprises are established to compensate organizationally torn intercommunication links. They are due to the deepening of specialization and increased concentration of production, acting as a regulator of activity of enterprises, providing for the conformity of production programs between technologically related enterprises, the maneuvering of productive resources, redistribution of final results of activities.

The problem of economic relations embraces a system of different forms of interconnections, which are aimed at implementing economic methods and provide each enterprise with economic interest in more efficient production of the final product. Therefore, the economic relationships between agricultural and processing enterprises should lead to a high final result based on the balanced development of a particular product subcomplex. As before, there are no rational economic relations, inter-balancing economic interests between agricultural and processing enterprises [2].

Given the unique properties and the leading place in the structure of agrarian production, it is important to carry out a comprehensive study on livestock development, to create favorable investment conditions and to prevent the loss of production. Ukraine has great potential for the development of the livestock industry. Southern and central areas have large pastures and labor resources for the development of livestock.

In 2016 the level of profitability of production by agrarian enterprises in general was 37.3 % (in 2015 – 45.6 %), including livestock production – 7.7 % (in 2015 – 22.1 %) (Table 1) [3].

Table 1

The cost and profitability of production by livestock enterprises

	Cost of production 1 ts of livestock products, UAH		The level of profitability (loss-making) of livestock production, %	
	2016	in% until 2015	2016	2015
Crop and livestock production	X	x	37,3	45,6
Livestock products	X	x	7,7	22,1
Cattle for meat	3231,1	111,1	-24,9	-17,9
Pigs for meat	2246,8	112,3	-4,6	12,7
Sheep and goats for meat	3793,5	121,9	-35,3	-29,6
Bird for meat	1319,5	112,1	4,9	-6,1
Milk	432,8	122,6	18,4	12,6
Chicken eggs, 1000 pcs	1077,5	138,2	0,6	60,9
Wool	3170,7	89,7	-31,8	-61,9
Other livestock products	X	x	70,2	67,3

* Source: [3]

According to the State Statistics Service of Ukraine, the average profitability of livestock products (except for small enterprises) in Ukraine (excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the zone of the anti-terrorist operation) in 2016 amounted to 7,7 % [3].

Cost-effective in 2016 for livestock owners was the production of chicken eggs (0.6%), milk (18.4 %) and poultry (4.9 %). At the same time, agricultural enterprises engaged in raising cattle, pigs and sheep for meat have received significant losses. As a whole, the enterprises of the industry received 32 billion UAH income for the sold products (Table 2).

Livestock production, mln. UAH

Years	Facilities of all categories		Including			
			agricultural enterprises		households	
	agricultural products	from it livestock products	agricultural products	from it livestock products	agricultural products	from it livestock products
2010	187526,1	66934,7	90792,0	25931,4	96734,1	41003,3
2011	225381,8	67819,9	117110,9	27538,0	108270,9	40281,9
2012	216589,8	70746,2	110071,7	29609,1	106518,1	41137,1
2013	246109,4	73978,2	133683,1	32386,1	112426,3	41592,1
2014	251427,2	73719,3	139058,4	33528,9	112368,8	40190,4
2015	239467,3	71028,3	131918,6	32333,9	107548,7	38694,4
2016	254640,5	69588,4	145119,0	31726,4	109521,5	37862,0

* Source: [3]

To move to intensive livestock farming practices on an industrial basis, a scientifically grounded system of measures is needed to implement this trend in the industry, based on advanced domestic and foreign experience. In many enterprises livestock breeding develops without the use of innovative techniques for intensifying the industry [4]. In the field of livestock breeding today there are a lot of intensive technologies, but they are often not followed: partly because of the lack of conditions, and sometimes because of the unpreparedness of managers and specialists of enterprises. In other words, there is not a shortage of technologies, but people who know and implement these technologies – in order to lead the industry on a scientific basis. After all, the complex tasks of the renovation of production require special knowledge.

Beef is one of the main sources of satisfying the needs of the population in meat. On average, its country's share in the meat balance varies between 44–46 % over the years. In Ukraine, the average annual production of beef must be increased to 60 % of the total meat production in the country [3].

The breed composition of cattle convinces that, first and foremost, the increase in beef production should be achieved by the intensive growing of fattening young racemated breeds and the rational use of livestock capable of producing good growth energy and giving high quality meat. When breeding mainly the livestock, of the lactation direction, expecting 1 head of cattle is 72 kg. With a general consumption of about 70 kg of meat, per capita, the proportion of beef does not exceed 30 kg, which is 1.5 times less than normal.

The main reasons for the low level of beef production are the extensive methods of conducting the industry, resulting in the potential of cattle in Ukraine used for growth energy by half, and by weight – by 70–75 %. The proportion of cows in the string is only 33 %, whereas in developed livestock countries this figure is brought to 43–45 %. The average daily gain of weight of young cattle, counting on 1 head is in 1.8-2 times below the potential of breeds. The live weight of the livestock when sold on meat is on average below 400 kg. Moreover, 15 % of it is below average fecundity and thin [3].

It is possible to overcome these and other problems only on the basis of an integrated approach, by putting and solving a large set of issues:

1. The transition to the development of APV on scientific concepts. It is generally accepted that a comprehensive scientific concept should be based on large-scale, long-term prospects and a great socio-economic result of transformations. However, there was no effective concept of the development of agrarian production and what is more agricultural production in our country. The conceptual provisions of market transformations in the countryside have been developed, in fact, only once – in relation to their first stage. They were based on the laws of market self-regulation and due to an objective assessment of the development of agrarian production, were oriented not on the interests of the peasantry and therefore did not use its support. Socio-economic implications of the implementation of such approaches have affected rapidly and negatively.

2. The priority of alternative approaches to management organization. The whole history of the management by agrarian production is an example of such an irresistible commitment to monotony, which has excluded for many years any initiative in finding more acceptable organizational forms of governance and management. Until the last years, they were conceived and processed at the upper levels and embodied in the legislative acts related to the reform of the Republican Armed Forces. The opinion and interests of enterprises and organizations were not taken into account properly.

3. Overcoming the massive transition to new organizational forms of management without extensive production verification. Viable are those forms of governance that have been formed from the bottom and are finally formed according to the level of readiness for their development. In this regard, in the management case, one should carefully approach the distribution of new organizational forms. Experience has shown that the positive opinion about a foreign experience is very often disseminated, and immediately its replication begins, without proper evaluation of its admissibility in specific conditions, without analyzing the business and psychological readiness of the personnel for its effective development. But so far no organizational form of governance alone has led any enterprise into market leaders. If something has changed for the better, then mainly for other reasons, primarily because the leadership was achieved competently. It should be noted that in any type of economic formations, leaders remain leaders, the backwards either remain the same, or overcome the lag very slowly. But in production efficiency, the essence of the control apparatus has practically changed.

4. Avoiding the fetishization of the organizational-structural factor in management. It is impossible not to underestimate the organizational and structural factor, as well as it is unlawfully considered normal, when the organizational structures and their respective governing bodies are constantly changing. The priority of the form (organizational structure) in relation to the essence (functions) of the control system has deeply rooted. Practice prevails when a management body is first created, and only then its functions are determined. This is the principle of an inverted pyramid. The formation of any system and management body must be preceded by a comprehensive substantiation of their functions. So it has basically happened during the transition to modern organizational forms of management [6].

5. Guaranteeing enterprises the real right to the membership in the territorial economic formation. Economic practice, including the organization of management, clearly indicates that any integration is only vital if its participants are interested in it, deliberately and voluntarily. The violation of this principle sooner or later ends with the economic ineffectiveness of integrated formations and leads to a radical review of business practices. This happened at a certain time with numerous, mostly compulsory, inter-farm enterprises. Non-compliance with volunteering is one of the reasons for the low efficiency of a number of current formations and their management bodies.

6. Overcoming the stereotype of thinking about the purpose of the organs and apparatus of regulation. Converting for the better the system of regulation and management of AIP can only be achieved by a profound transformation of the practice of subordination in the management process. The first place should be given to the fact that the regulatory and management bodies and what is more, their apparatus from the position «above» should clearly move to the «sub» position. Unconventional to our reality conclusion: the bodies of economic self-government should not just depend, but be completely subordinate to the members of production and economic formations. It is not surprising here that, with all the previous transformations of control systems, each higher authority, its staff and employees considered subordinate units as dependent on them.

7. Optimal correlation of rights, duties and responsibilities of controlling subsystems. Any economic and managerial structure normally functions, if it clearly correlates the responsibility, duties and rights. Whatever the hierarchical position is, these elements of functional purpose should be in an equal correlation. The situation does not change from the fact that at different levels there are their scales and boundaries of managerial influences, the specific nature and method of their implementation [7].

The innovative way opens up new opportunities for the further growth of livestock production based on the integration concentration of livestock, the creation of livestock complexes and poultry farms. The volume and structure of agricultural products depend on the level of development of productive forces, the availability and use of labor, land and means of production. Currently, labor and land resources of the society are limited. Therefore, an increase in the production of agricultural products to meet the needs of the population in them is possible only with the constant increase and improvement of means of production, that is, when implementing the intensification of production on the basis of innovative developments.

Intensification equally applies to all the branches of agrarian production, including plant growing, and animal husbandry. At the same time, its implementation in these areas has its own characteristics, due to different degrees of influence of biological and economic factors on the reproduction process.

In crop production, the object of additional investments is directly the land. With the limited resources of agricultural lands, further increase in the production of agricultural products is possible only on the basis of improving the use of the land, increasing its fertility.

The intensification of animal husbandry means additional investments of material resources, and sometimes labor in the same livestock, which ensures the increase of its productivity, and consequently, the increase of production of livestock products. In the livestock production the volumes of production can also increase by increasing the number of livestock while preserving the existing forms of its maintenance and feeding, that is extensively [5]. The intensive and extensive ways of development of livestock are usually mutually interwoven, in some periods of development prevailing intensive, and in others – extensive factors. Often, the extensive form of expanded reproduction is the basis for the development of livestock in an intensive way. It depends on the level of development of productive forces and the specific tasks of the development of agrarian production at this stage.

There are also differences in the methods and means of implementing intensification. In the past, at a low level of industrial development, the process of intensification of livestock farming was carried out mainly by changing the ways of keeping and feeding livestock on the basis of increased costs [6]. Thus, the transfer of cattle-breeding from grazing to pasture-stylos, and then pas stellate-pastoral, required an increase in harvesting of feed and, consequently, of costs.

The intensive livestock farming is achieved through the improvement of existing and the emergence of new, more productive breeds of animals, the introduction of the newest ways of keeping and feeding livestock, the application of scientific achievements, which help accelerate the reproduction of herds. A characteristic feature of livestock intensification at the present stage is the transition to industrial production methods.

In animal husbandry, as in all the other branches of the agrarian production, the increase in the efficiency of production is based on the use of innovative developments. At the same time, the innovative development of livestock has the features depending on its specificity. In agriculture, the production processes take place during a certain period of time. In this regard, the receipt and sale of products are pronounced seasonal in nature. In animal husbandry, the production processes, production and sales of products are more evenly distributed throughout the year. In fact, there are no seasonal breaks, the process of production is carried out on a small territory, and mostly in enclosed spaces [7]. Due to this livestock production is closer to the manufacturing industry.

The introduction of new technology in its turn causes radical changes in technology and organization of production, requires the use of entirely other constructive and bulk-planning solutions in the construction of livestock buildings. In connection with this, there is a need to use new livestock feeds and various materials that meet modern production methods.

However, in animal husbandry, the animals themselves, with their biological characteristics and physiological needs, are the determining factor in the efficiency of the used machinery, new material and technical means and industrial production technology. Hence, now created material and technical basis of livestock is, based on the achievements of the science, it must correspond to the biological characteristics of each species and groups of animals. At the same time, the innovation process involves more and more adaptation of the biological nature of animals to the machine technology of production.

The renovation of animal husbandry, along with the change in technology and production technology, involves improving the use of available resources: labor, equipment, premises, forages, and others. This can only be achieved if additional investments are related to technical development, to using the innovative means of production.

The main areas of livestock development are:

- the technical re-equipment of farms, the transition to complex mechanization and automation of production processes;
- the Complex construction of specialized main and additional premises and structures on the basis of fundamentally new volume-planning decisions, which create conditions for the rational organization of production processes;
- the transition to the latest industrial technologies on the basis of streaming and rhythmicity of the production of homogeneous products in creating the necessary living conditions for animals for the manifestation of their potential productivity;
- the creation of a stable forage base with a wide application of mixed fodders and full-range feed mixtures on the basis of their industrial production;
- the improvement of existing and creation of new breeds of animals, characterized by high productivity and reproductive ability, increased endurance and vitality against the negative influences of the environment;
- advanced training and professional training, of personnel providing a sharp increase in labor productivity;
- the achievement of a high level of concentration of means of production and labor on the basis of intensification of specialization and wide co-operation of production.

In the field of livestock production, the research on the whole complex of problems of genetic improvement of farm animals, especially meat, trend, remains the priority. The research should be continued on the creation of a new generation of large-scale selection systems, especially aimed at maximizing protein production.

It is necessary to search for breeding methods aimed at creating animal populations adapted to modern production technologies. The problem of optimizing the interaction of organisms and mechanisms continues to be very relevant. Until now, the breeding problems have not been solved for the stability of animals to diseases, these studies need to be intensified [8]. As soon as possible, the transition to the use in the selection of new information technologies should be implemented. The main task of the research is a significant acceleration of the pace of genetic improvement of animal breeds – the biological basis for the intensification of livestock.

The problems of breeding closely adhere to the task of optimizing the reproduction of animals. Here there are a number of new directions related to the development of methods of hormonal regulation of reproduction processes and the whole complex of problems of embryo transplantation, the use of which provides the acceleration of the genetic process. Another major task is to optimize the process of feeding of animals, aimed at maximizing the use of genetic potential of farm animal productivity, rational consumption of feed, and a significant improvement in product quality.

The primary task is to create feeding systems aimed at saving the cost of cereal feed, to make the full use of feed potential in relation to the main regions of the country, to increase the degree of transformation of feed protein into the protein of livestock products. The theoretical basis of this complex of developments is the study of physiology and biochemistry, as well as the microbiology of animal nutrition. These studies should be financed from the state budget [9].

A significant place in the work of scientific institutions is now occupied by the development of the latest technologies of livestock production. Previously, the research has been focused on the

creation of industrial technology within the high animal concentration. Today, it is necessary to create modern production technologies for the farms of different sizes and to quickly implement them in practice, because in the small forms of farming in the countryside physical labor still prevails. It is necessary to expand the research aimed at the creation of milk substitutes using plant and microbiological components. Of particular importance is the development of organizational and economic mechanisms of the integration of milk production and processing [10].

Researches and developments in the meat processing industry include the development of a model of meat quality that meets the high requirements of modern processing technology, the development of an economic mechanism and forms of integration of the entire meat complex of the country. Actually, various diseases cause great damage to animal husbandry. And although the protection of animals from many diseases is successfully solved, researchers face complex problems. In the area of animal protection against infectious diseases there should be a transition to the next generation of more reliable means of diagnostics, prevention and treatment of animals. Many new problems are caused by the high concentration of animals in large enterprises. The research on the problem of leukemia in animals requires a sharp increase. Certain results have been achieved here, but a radical solution to the problem is still far away [11–12].

The greatest damage to the industry is infectious diseases associated with metabolic disorders under the influence of adverse environmental factors. However, this trend in veterinary research is still the least developed. The needs of practice urgently require intensification of work in this direction. In the field of veterinary medicine, it is necessary to significantly expand the development of hybrid technology. A characteristic feature of the future period is the intensification of research in the field of biotechnology. The development of research in the world shows that more and more forces and resources are concentrated in this field of science. The research is deployed in two main areas: cellular and genetic engineering. In the field of cellular engineering, it is necessary to sharpen the research on the whole range of the problems of embryogenetics and embryo transplantation. Another major area of biotechnology is genetic engineering. Significant advances in microbiology have been made here, genetically engineered producers of a number of substances necessary for animal husbandry (essential amino acids, growth hormones, genetically engineered vaccines) have been created. This direction is developing successfully.

However, there are problems that are not being developed enough. This is primarily the task of genetic improvement, including the methods of genetic engineering of microorganisms, symbionts of farm animals, which play an extremely important role in the processes of assimilation of feed. Scientists' researches show that all objective conditions are met for the production of transgenic agricultural animals. However, many complex problems have appeared, so more important forces and resources should be concentrated in this direction. They should be concentrated in the directions of creating transgenic animals whose genomes are based on the gene constructs that determine the acceleration of growth, the activation of protein synthesis and the creation of a line of animals that are genetically resistant to a number of viral diseases causing huge damage to livestock.

The actual problem is the receipt of transgenic animals – original fermenters of a number of biologically active substances for medicine, which will significantly expand the range of livestock products. At present, the problems of biotechnology and especially genetic engineering are actively discussed by the studies in the field of animal husbandry. Now it's difficult to predict the outcome of certain results in practice. It is obvious that in this area Ukraine can not keep up with the world level, because in the future it is inevitably threatening by the inevitability of import of the whole spectrum of expanding biotechnology products.

Now, when the scientific intensity of production increases, scientific production becomes a commodity, the responsibility of researchers for its quality increases sharply. Therefore, the most important task, along side with the optimization of research topics, its actualization is the creation of the whole set of conditions that ensure the high quality of the scientific product. The factors of both moral and material incentives must be directed to this.

It is scientific and technical thought that should be directed to the development of innovative technological principles. Unlike current technology, to some extent empirical, which has absorbed the production experience of many generations, the new technology can not be anything other than

a result of deep scientific research. It should absorb in itself the latest achievements of the world and domestic agricultural science.

The development and implementation of waste-free and low-waste technologies is essential for deepening the intensification of agricultural production. However, in this direction of innovation development first of all, it is necessary to clearly define its content. Today, waste-free technology is interpreted as a technology for the processing of natural materials, which do not give waste at all [13–15]. In general, such technology in nature does not exist and can not exist. Nature does not give the humans material goods that, by their physical forms and chemical structure, would be ready for the direct consumption. With the development of productive forces, the volume of waste will increase.

The development of economics, science and technology can and should contribute to reducing waste, minimizing it and increasing the yield of a useful product from each unit of recycled material. The content of non-waste technology consists in the fact that all the components of natural material are consistently processed into various types of products useful to the humans, including those that were previously considered waste. Thus, the achievements of science open up opportunities to advance this direction of innovation development and to seek for a fuller use of all the components of the natural material that corresponds to the essence of the process of intensification. Of course, the more complete use of all the components of the source material increases the efficiency of the agricultural production.

Conclusions. As the introduction of new technology, innovative technologies, the complex mechanization of production processes, the productive forces of the agrarian production are changing, they achieve a new qualitative level, in their development with the increase of which organizational and economic level of production management must undergo changes in order to meet the new qualitative level of productive forces. Otherwise, the scientific and technical potential will not be fully realized. In achieving this compliance there are hidden organizational and economic reserves of the intensification of the agrarian production, as well as increasing its efficiency. The organizational and economic reserves, in essence, are an under-utilized or unrealized part of the effect of the achieved level of the productive forces. These are the ones that the society is lacking from the introduction of a new technology and innovative technologies, from the breeding of new varieties of plants and animal breeds. To use the organizational and economic reserves of intensification of production the bodies of sectoral regulation should be in the process of transition from one qualitative level of productive forces to another, higher, to improve the organizational and economic mechanism of management to bring it in the correspondence with the requirements of the level of the productive forces, in introducing scientific achievements and realizing their potential effect.

With the improvement of the technical policy it is necessary to proceed from the fact that the re-equipment of the agrarian production at the present stage of development is the most progressive form of reproduction of fixed assets, because it is able to provide the comprehensive upgrade of production and on this basis, to accelerate the process of innovation development. It is extremely important to implement such areas of technical development and apply such types of techniques that can actively implement the basic principles of technical policy. From a lot of directions of innovation development, the objectives of intensifying production are the most consistent with automation and complex mechanization, chemistry, land reclamation based on new agricultural machinery. Of course, these directions do not exhaust all the achievements of the science, but by the level of development, in terms of the breadth of the scope of possible use in the agricultural production, they are most consistent with its intensification.

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