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INTEGRATED STRUCTURES  
IN AGRICULTURE**

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Theoretical, methodological and applied aspects of the development of integration processes in agriculture through the prism of organizational, economic and social factors have been studied from the standpoint of a systemic approach. The organizational, management and resource toolkit of integrated structures as elements of building an effective model of further development of the agro-industrial complex on an innovative basis is highlighted. A comprehensive study of the effectiveness of the use of resource potential and socio-economic factors of the development of integration processes in the economy was conducted.

It is intended for specialists in the field of economics of agro-industrial production, employees of state authorities, scientists, graduate students and students.

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## INTRODUCTION

Agrarian transformations created conditions for the formation of integrated structures, which is a fundamentally new approach in the organization of agricultural production. Interpretation of the conceptual foundations of the development of integration processes requires a systematic analysis of institutional factors and substantiation of the theoretical and methodological foundations of their formation and development.

A specific feature of integrated structures is the ability, based on synergistic effects, to ensure the generation of profit, to introduce new systems into production, to cover the entire cycle of production, processing and sale of products and to purposefully reproduce the industry on a new technological, organizational and economic basis.

In the activity of integrated structures, priority is given to economic indicators - profit and profitability. The analysis of their structure, production processes and economic and financial interrelationships shows that modern integrated formations have gone far beyond the boundaries of ordinary organizations and their influence on the development of the national economy is not local. The active development of integrated structures and the strengthening of their financial stability are facilitated by significant volumes of investments attracted by them.

The main motives for the creation of integrated structures are: formation of raw material zones for own processing capacities, strengthening of competitiveness by building a closed cycle of production and regulation of inter-industry relationships, diversification of financial risks and the possibility of legalizing capital, creating an own brand.

The objective technical and economic advantages of large-scale production are a high level of labor productivity, savings in capital and operating costs per unit area, greater opportunities for rational organization of production, use of technology, achievements of science

and progressive practice, storage and sale of products in better terms and of higher quality .

The current state of economic development of the agro-industrial complex places special demands on integrated structures. Along with the restoration of resource potential, ensuring the coordinated activity of structural units, development of investments, introduction of innovations, they should focus on the formation of mutually beneficial relations between the subjects of integration processes, avoidance of social tension and promote the establishment of partnership relations between commodity producers and the territories within which they lead production. The development of the agricultural economy should be closely related to the development of rural areas.

The activities of integrated structures are a step forward in the development of the agricultural economy, the restoration of social infrastructure, and the creation of new jobs. The principles underlying the ideology of the formation and functioning of integrated structures can become an effective tool in building a model for the further development of the agro-industrial complex of Ukraine, which will lead it to a qualitatively new trajectory of stable, highly efficient and competitive functioning.

# CHAPTER 1

## THEORETICAL AND METHODOLOGICAL ASPECTS OF THE FORMATION OF INTEGRATED STRUCTURES IN AGRICULTURE

### 1.1. The essence of integration processes in agriculture

In the scientific literature, there are different approaches to the interpretation of integration processes. In the general sense, integration means the unification of previously isolated parts into a single whole. According to some authors, integration should be understood as "the process of combining various subsystems for organization or bringing some individual parts into a single whole" [164].

The concept of "integration" in economic theory is interpreted in a rather broad sense and comes from the Latin *integratio* - restoration, filling and *integrum* - whole. Different types of integration are distinguished - economic, political, social, systemic, etc. Economic integration is an objective process caused by the development of productive forces, one of the directions of increasing the size of enterprises, expanding their connections with industries and enterprises that complete technological processes in the production of final products [29].

The term "integration" combines economic phenomena and processes consisting in interaction, rapprochement, combination, coordination of activities, and sometimes - unification of various business structures aimed at increasing the economic efficiency of their management.

In the context of modern agrarian transformations, an important place belongs to agro-industrial integration.

Yes, V.G. Andriichuk interprets agro-industrial integration as "an organizational combination of agricultural and technologically related industrial production with the aim of obtaining final products from agricultural raw materials and achieving greater economic benefits due to the mutual material interest and responsibility of all participants in agro-industrial production for the final results of management" [11, C .402]. A similar approach to the definition of agro-

industrial integration takes place in V.M. Yatsenko, who considers it as "a process of combining the interests of agricultural and industrial enterprises aimed at obtaining high final results of their joint activities" [343]. I.M. Burobkin and E.A. Popov believe that "agro-industrial integration is a process of economic, organizational and social interaction, convergence... of structural links of social production linked by a single production cycle" [34]. Other researchers interpret agro-industrial integration as "a complex process of direct combination of interrelated stages of production, division and cooperation of labor" [337, p.109].

In the works of M.D. Babenka, "agro-industrial integration" is considered as a convergence and combination of the branches of agriculture and industry, which ensures an organic synthesis of the specified spheres of material production and their unity. It envisages the development of production and economic ties between branches and enterprises of the agro-industrial complex, which are technologically connected and oriented to the production of final products from agricultural raw materials [17].

According to the definition of A.V. Burkovskaya, agro-industrial integration should be understood as "a form of organization of production and management that accelerates the delivery of agricultural products to the final consumer, promotes the establishment of long-term and stable relations between agro-industrial complex enterprises and increases the efficiency of their functioning" [33, p.22].

Yu.O. Nesterchuk notes that "agro-industrial integration allows participants to compensate for existing market shortcomings by creating internal capital, common infrastructure, improving the quality of the group of information used by participants, reducing transaction costs, improving the quality of management, and lobbying for common interests [195, p.19].

According to M.L. Ushvytskyi, the methodological foundations of the formation and functioning of agro-industrial integration are reduced to three key theses: it is a form of association or a systemic state of certain participants in agro-industrial production; the process of strengthening production ties and economic relations, unification of individual production participants, including agro-industrial as a

whole; these are mechanisms or methods by means of which participants of agro-industrial production are united into a single production and economic mechanism [305].

The basis of the development of agro-industrial integration is the objective regularity of the combination of industrial and agricultural production. Its necessity is determined by the development of productive forces, the acceleration of scientific and technical progress, and the deepening of cooperation between enterprises in various fields of activity. Integration is aimed at combining the economic interests of its participants, maximizing the use of raw materials and production capacities, and increasing the production of finished products. The effectiveness of integration processes is characterized by the closeness and perfection of economic and organizational-technological connections between individual enterprises and branches of various spheres of labor application. The need for the functioning of integrated structures is due to the need to ensure long-term, sustainable development of all spheres of the agro-industrial complex [59].

In our opinion, agro-industrial integration is an evolutionary mechanism for the development of economic forms, the basis of which is the maximization of profit due to the use of synergistic effect when combining separate parts of a single production process.

The concept of the development of agro-industrial integration is based on new principles, the leading place among which is given to the marketing orientation of the company's development, coordination of investment programs, timely adjustment of management mechanisms and economic relations [17, 360].

Effective is the union of agricultural and processing enterprises and trade organizations, which creates a closed cycle and includes the production of agricultural products, their processing and sale. It is on such principles of integration that the functioning of the agricultural holding is based [201].

According to the studies of domestic and foreign authors, agro-industrial integration makes it possible to increase efficiency and maneuverability in the use of financial, production-technical, personnel, management resources, to simplify the process of coordinating the directions of interaction of agricultural producers,

processors and trading enterprises, to strengthen the competitiveness of production, to combine the interests of its participants, to work out their economic relations in order to obtain appropriate benefits, to ensure due responsibility for the results of joint activities, to create conditions for expanded reproduction of production, to increase the material well-being of employees, to solve socio-economic issues [17, 59, 264, 182].

The advantages of integration for agricultural enterprises are the possibility of: purposeful development focused on the final result - profit; growth of business activity; development and implementation of promising programs based on diversification of production; timely settlement with creditors, suppliers, contractors, employees; centralized provision of material and technical resources; improvement of the existing material and technical base; favorable conditions for the sale of products; expansion of sales markets or creation of own sales network.

According to P.T. Sabluka, "cooperation and integration will contribute to increasing the profitability of all participants in the process of production, processing and sale of agricultural products, as well as involved investments in the agrarian sphere and restoring the potential of the agricultural sector" [255, p.10].

This definition follows from the fact that the terms "integration" and "cooperation" are similar in meaning, as they represent the process of combining or bringing together various elements into a single whole. At the same time, under cooperation, production connections of enterprises of related industries for joint production of the final product are considered. Depending on the principles of organization and functioning, it is customary to distinguish the following types of cooperation: industry (intra-industry, inter-industry and multi-industry) and territorial (intra-regional, inter-regional, intra-state and inter-state) [270, p.7].

However, the usual cooperative ties are not able to ensure long-term relationships between the branches of production and the spheres of the economy. This is due to the fact that such connections are not always aimed at increasing profitability and interest in achieving the final result, they only affect the convergence of industries and spheres in solving general production and intra-economic problems. In this connection, among the reasons that indicate the lack of mutually



beneficial and equal economic relations in the agro-industrial complex, the lack of connections that would contribute to the development of economic interest are highlighted in the economic literature [270, p.9].

Integration, in contrast to cooperation, is intended not only to ensure the convergence of economic entities in order to solve urgent socio-economic issues, but also to ensure the creation of an economically dependent association with mutually beneficial, stable connections between all its participants. It should be noted that integration structures satisfy the interests of all members of such an association and are a guarantor of their protection in the formation of external relations.

The main problem in the formation and functioning of integration structures, at this stage of development, is the lack of an appropriate legal framework and legislative definition of their organizational and legal forms, which complicates the implementation of management processes at various integration levels and causes certain difficulties in the performance of financial and settlement operations.

The development of integration processes in the conditions of a market economy is conditioned by the need to increase the level of competitiveness and reduce production costs. Modern integration processes taking place in agriculture develop in the conditions of the formation of market relations, the functioning of various forms of ownership of land and property, and the relative independence of economic entities from the state. When creating integrated formations, preference is given to the economic component, which is reflected in such indicators as profit, profitability, etc.

Depending on the nature of the association, three types of integration processes are distinguished - horizontal, vertical and diversification [201]. Depending on the orientation of integration processes, three types of integration associations are possible - horizontal, vertical and conglomerate. Production, financial and credit, educational and advisory and social horizontal integrations are distinguished [17].

Some foreign researchers distinguish between property integration, contractual, quasi-vertical and circular [305].

Integration of ownership means the extension of ownership rights to two or more stages of production and sale of food products. It consists in the fact that the integrator firm takes ownership of part of the assets of the integrated agents [305].

Contractual integration implies that the integrator company enters into long-term contracts with producers or primary dealers who purchase agricultural products directly from the producer. Contracts are concluded before the beginning of the production cycle, they strictly fix the parameters of the contracted products, their production technology, delivery terms and prices. Contractual integration is most common in the production of fresh and canned vegetables, sugar beets, livestock and poultry [306, 20].

In the economic literature, such a type of integration as quasi-vertical is also distinguished. With it, integrated production and sales of products are carried out by independent enterprises and a sales network, but under the control of a leading company [305].

Circular integration has developed in foreign countries. This especially applies to the grain industry, where elevators are combined with flour mills and feed mills, are engaged in the production of cereals, various types of food products and various types of premixes (additives to feed mixtures) [20].

Horizontal integration involves the unification of enterprises and organizations based on common business interests, taking into account production specialization for the production of the same type of products based on the similarity of technology and the implementation of a common sales strategy [117]. Horizontal integration is the interaction of farms of the same industry or agricultural sector with the aim of deepening the division of labor, specialization of production on a narrower range of products, which makes it possible to reduce costs per unit of production due to the expansion of cultivated areas and the use of advanced technologies. This is inherent in the production of fodder and their supply to livestock farms (complexes); growing seed material and providing it to commercial farms; cultivation of certain vegetable crops on large areas, where more favorable conditions are created for this,

Vertical integration aims at uniting enterprises of interrelated and related industries, with centralized management of the main processes of production and circulation of products and formation of a closed production cycle on this basis. At the same time, they distinguish "downward" integration, which occurs when an enterprise engaged in the production of main or final products acquires control over the raw material base, and "upward" integration, which is carried out in order to acquire control over the following technological cycles. Vertical integration by direction can be production, marketing, complex, etc. In general, such integration involves the coordinated interaction of enterprises of various branches of the agro-industrial complex: production of raw materials (grain, sugar beets, sunflower, vegetables, fruits, berries, livestock products), processing, storage, trade organizations, service provision structures, etc. [164].

Vertical integration also includes regional and economic agro-industrial formations (associations), which have acquired an organizational structure in the form of agro-firms, agro-combinations, associations, corporations, research and production systems, and other contractual associations. The advantages of this organizational form include the fact that they operate in a single economic space, according to a single business plan, concentrating all cash receipts in a single financial and settlement center of the enterprise. This makes it possible to timely finance those subdivisions of the association that need urgent investments in working capital. In addition, there is an opportunity to establish mutually beneficial intra-economic relations regarding purchase and sale, which are based on an equivalent exchange between economic formations at settlement prices. This is mainly achieved by redistributing revenues from high-profit divisions to unprofitable divisions. The end result is that the profit is not distributed among the integration partners, but remains in the integrated association.

Conglomerate integration is formed on the basis of the union of enterprises that are not related to each other by industry characteristics, as a rule, this happens in cases of the appearance of temporarily free financial resources.

Conglomerate integration significantly contributes to the diversification of production, is characterized by increased sensitivity and the ability to respond in a timely manner to changes in the market

environment. At the same time, it is characterized by a complex financial and control system of accounting for production costs for the production and sale of products. Conglomerate integration makes it possible to reduce financial risks in the future through the acquisition of liquid assets. The weak point of such integration is the control of business processes, which is caused mainly by the lack of necessary experience in this field.

Conglomerate integration is characterized by a wide variety of forms and methods of production organization and can be divided into three classes: a) productive association of the conglomerate type – if it is a question of association of producers of various products; b) conglomerate-type market unification, when companies producing the same products, but operating in distant markets, are involved in the integration process; c) conglomerate-type merger, when companies that have nothing in common in production are merged [325].

Each of these forms of integration has both advantages and disadvantages. In particular, the advantages of vertical integration are the establishment of production and technological connections, the sale of products through regional channels, the neutralization of the negative impact of market factors (demand, supply, price of raw materials, etc.). Disadvantages include territorial dispersion. Vertical integration ensures better implementation of management decisions due to the use of highly specialized assets. At the same time, horizontal integration allows you to achieve savings by reducing costs and using the scale of production. The advantages of horizontal integrated structures are the ability to apply the effect of scale, which allows you to significantly reduce production costs, improve the management mechanism, and modernize production. However, usually integrated structures of this type are created for a short period of time. Unconditional advantages of horizontal and vertical integration are the synergistic effect that conglomerate integration does not provide. Instead, the main goal of conglomerate integration is to increase the financial performance of the association.

There are various organizational and economic forms of integrated structures, which are determined by their economic and legal status. Most researchers legitimately distinguish the following forms of integration: full, contractual, joint-stock, cooperative, partnership and

public. Full is based on the concentration of ownership of the means of production in the same hands. Contractual is based on the property of legal entities, the main mechanism of relations between partners is a contract (agreement). Joint-stock formation carries out integrative relationships between participants in accordance with their capital, which is determined by the number of shares. Cooperative integration is based on the creation of cooperatives of the appropriate direction: production, processing, service provision, trade, etc. In partner integration, the basis is a verbal agreement or concluded contractual agreement,

Different forms of agro-industrial integration differ from each other in terms of the nature of economic relations between their participants, the degree of independence of enterprises, the combination of centralization and decentralization of management, etc. In this connection, the classification of agro-industrial formations by:

- the form of organization: cooperatives, associations, corporations;
  - the principle of production organization: territorial, sectoral, territorial-sectoral;
  - the method of creating a management apparatus: on the basis of the management of the main company, on the basis of specially created structures;
  - the degree of unification of the activities of the enterprises included in the integrated structure;
  - type and totality of activities;
  - territorial placement: district, inter-district, regional, regional, national, transnational;
  - by the degree of legal independence: legally independent, with limited independence;
  - by nature of activity: production, production and sales [34].
- In order to develop agro-industrial integration and form integrated holding-type structures on its basis, it is necessary to ensure:
- the development of a sociological research methodology, the results of which are required for local conditions in the formation of an agricultural holding, including for determining the correct system of motivational factors for the entry of peasants into newly created structures;

- implementation of an information company on stimulating the creation of agricultural holdings and carrying out explanatory work among the masses of the population in order to popularize this organizational and legal form of management;
- formation of state support mechanisms for agricultural production;
- improvement of mechanisms of consolidation of companies;
- creation of a typical organizational structure of farms and a management company;
- preparation of typical business plans for the development of farms;
- working out the interaction of agricultural holdings with financial institutions;
- development of a system of support by agricultural holdings for the development of rural areas [279].

The further development of productive forces in the country, ensuring the food security of the state, and the further socio-economic development of the Ukrainian countryside depend on the final solution to the problem of forming optimal organizational and legal forms of management. This is recognized by both supporters of the creation of integrated holding-type structures and their opponents. Since only history can give an objective assessment, without researching the historical past regarding the transformation of organizational and legal forms of business, we cannot hope for a balanced decision. Moreover, in the past of our society, this problem was repeatedly raised and resolved ambiguously.

At the current stage, one of the main tasks for Ukraine in the implementation of agrarian transformations is the use of scientific, practical, management assets and historical experience of previous periods to avoid mistakes in the implementation of modern radical changes.

Over the centuries, the process of society's development took place through the improvement of social formations thanks to the improvement of tools, the development of productive forces, and changes in forms of ownership. Thus, the development of productive forces contributed to the transformation of the slave system into a feudal system, which was replaced by a capitalist one, which ensured a

better social status of a person, the development of entrepreneurial activity, and an improvement in the standard of living of society. At the same time, the division of society into rich and poor contributed to the birth of socialist ideology based on the socialization of property, the establishment of equality for all in the production and distribution of material goods [227].

Among the first agrarian transformations in Ukrainian agriculture is the reform of Sigismund-Augustus (1552–1557), which provided for the replacement of rent by manor. As a result, feudal lords received land, organized farm farms, and peasants received allotments (carts). Thus, the economy of landlords and peasants was divided territorially and organizationally. A large landowner could supply a significant amount of additional products for export to the European market.

The next agrarian reform took place in 1861, when serfdom was abolished. As a result of its implementation, the large landlord economy was finally separated from the peasant economy. Peasants were given the opportunity to develop their own economy, but, in general, the results of the reform for agriculture were unfavorable - a lot of land remained with the landowners. For twenty years after the reform, the period of "stagnation" continued. Noticeable progress was made with the organization of the Land Bank in 1882, through which loans were made to peasants in the case of their purchase of landlord lands [284].

Agro-industrial cooperation and integration of production and processing in agriculture, as an effective means of production, was implemented even during the command-administrative system. The formation of agrarian associations in Ukraine began in the 20s of the 20th century, which took place in the form of the creation of agrarian-industrial combines, which provided for the unification of the production cycle on the basis of automation and mechanization of production processes. Such associations included peasant farms, cooperative enterprises, industrial and financial and credit institutions, produced and processed their products, provided themselves with equipment and were engaged in the sale of products. By 1930, more than 300 such formations were created, which included sugar, flax and

cotton factories. The total land area of the mentioned associations was from 100 to 300 thousand hectares.

In the 1960s, after the adoption of programs for the accelerated development of agriculture, powerful inter-farm enterprises and associations were created, which functioned on the basis of agro-industrial cooperation and integration, using the advantages of concentration and specialization of production. Thus, in 1978, 258 agro-industrial enterprises and 45 associations operated in Ukraine, the basis of the economic mechanism of which was the specialization and concentration of production on the basis of inter-farm cooperation and agro-industrial integration [34]. Agricultural enterprises included those economic formations in which at least 25% of the products of one of the branches of their specialization were processed.

The high economic efficiency of integrated systems during this period was due to the intensification and industrialization of agricultural industries based on the complex mechanization of production, chemical treatment and land reclamation, the introduction of the latest technologies, the deepening of specialization and concentration of production, which made it possible to reduce costs per unit of production and increase the economic efficiency of management, since the growth of their gross output was 20–22%, compared to other enterprises.

The processes of cooperation and integration took place on technological grounds. Agrochemical centers serving cooperatives and state farms were created. According to the calculation, one agrochemical center accounted for 30–35 thousand hectares of agricultural land. Reclamation stations for maintenance of irrigated and drained lands were formed within the region. There were fodder manufacturing plants, enterprises for processing and storage of agricultural products for the same region [343].

These measures gave a significant impetus to the creation of large specialized enterprises and their associations for the industrial high-tech production of agricultural products. In specialized enterprises, labor costs were 2 times lower, the cost of production - by 20–30%, and feed costs per unit of production were one and a half times lower [47], crop yields increased, and socio-economic conditions of



farms were equalized. If in 1975 (before the creation of the named associations) the yield of winter wheat was 30.4 tons/ha, in 1976 it was 33.2 tons/ha, and in 1977 on a much larger area it was 39.2 tons /Ha. This made it possible to accelerate the processes of concentration of animal fattening at large industrial-type enterprises and, due to this, to increase its economic efficiency [56].

In the 1980s, most agro-industrial enterprises were transformed into agro-firms and agro-combinations, the production of which was based on zero waste and bringing products to the final consumer, covering the entire cycle: production, storage, processing and sale of products, which distinguished them from agro-industrial enterprises and strengthened competitiveness . However, the basis of the relationship between such enterprises was not the basic value indicators for raw materials or the mechanisms of distribution of results for final products, but the volumes of production, delivery times and product quality. As a result, the production of gross agricultural products in agro-firms exceeded the average level of collective farms of Ukraine based on a unit of agricultural land by 67.9%, per average annual worker employed in agriculture - by 24.9%, gross income - by 32.4%, profit - by 54.8%. At the same time, the share of workers of industrial units in agricultural firms was 18.1%, in collective farms - 6.6% [245].

At the beginning of the 1990s, agricultural combines cultivated more than 2.1 million hectares of land, while the production of gross products per 100 hectares of agricultural land exceeded the weighted average of collective farms by 6.6 thousand rubles. The management of their activities became a symbiosis of the combination of the principles of production and economic independence of structural units of both owners and centralized management within the framework of agreements (statutes) [245].

In terms of organization and structure, the associations were independent legal units that carried out their relations with farms based on the principles of cooperation and economic settlement. These associations provided complex mechanization of production processes according to scientifically based technological maps and work schedules. Their responsibilities included the development of measures for the rational use of machines, the application of industrial

technologies, progressive methods of labor organization (at that time, these were mechanized squads that were formed according to technological post-operational principles of work performance), improving the qualifications of mechanics and specialists. They were entrusted with the responsibility for increasing production and increasing its economic efficiency.

In the 90s of the 20th century, with the transition to market relations, the lands of agricultural enterprises were unsoldered, property was divided between their employees and pensioners from among them, the processes of breaking up inter-industry ties, breaking up large collective farms and forming new ones based on them intensified agricultural formations, with their subsequent integration into holding-type associations.

At the first stages of denationalization and restructuring of enterprises, important importance was attached to the development of farms and cooperatives. The cooperative form of agro-industrial integration, through the creation of processing enterprises by farms, has become widespread in many countries of the world. In particular, in Japan - 80%, EU countries - 60%, USA - 30% of agricultural products are processed and sold through cooperatives. This allows for a fair distribution of profits between commodity producers and processing enterprises (in proportion to the volume of products delivered) and to expand the range of services and innovations aimed at satisfying the interests and needs of farms (consulting, conducting breeding business, providing material and technical resources of industrial origin).

However, the idea of cooperative agro-industrial integration in the conditions of Ukraine did not spread significantly, since the newly created cooperatives did not differ in any way from collective agricultural enterprises. In the absence of proper logistical and financial support from the state, farms could not become a dominant producer of products and concentrated production on a limited range of products. By 2000, the processing industry was largely privatized by industrial and banking capital, which, under the conditions of the initial accumulation of capital, was not interested in redistributing profits in favor of agriculture.

The development of auxiliary processing industries in agricultural enterprises, which could not withstand the competitive struggle with processing enterprises, did not justify itself, and their work to ensure their own internal needs due to small volumes did not cover costs.

Property reform without the simultaneous creation of a favorable external environment for commodity producers in providing them with production resources equivalent to the exchange between branches of the national economy, in the state regulation of the tax and financial and credit systems, which would ensure the possibility of economic self-sufficiency, was not resolved during the implementation of the reforms. As a result, the volume of production of raw materials decreased sharply, which led to a significant decline in the production of processing industries, and the existing integration ties with these industries were broken. Under such conditions, the manufacturer was unable to reimburse even the production costs [225].

The reorganization of collective enterprises led to the division of large economic formations into smaller ones in terms of land and property sizes, which inhibited the use of the mechanisms of economic laws: the advantages of specialization and concentration of production; compliance of industrial relations with the level and character of productive forces; growth of labor productivity; socialization of labor and production, etc. In turn, smaller enterprises, as a result of limited inflows of funds, became unable to buy high-performance machinery, fertilizers, plant protection products, fuel and other production resources, which led to a decrease in the efficiency of management and their unprofitability.

The priority privatization of the enterprises of the "A" group and the banking sector caused a situation when these two sectors began to work according to market principles, and the protracted nature of reforms in agriculture actually left the sector within the framework of the "command-administrative" system. The result of this was the laundering of agricultural funds in favor of these areas through the mechanism of "price scissors", high bank interest rates, lobbying of the interests of foreign capital to import into the territory of Ukraine such strategic products as meat, sugar, potatoes, hops, which until then Ukraine exported. As a result, by the beginning of 1999, most of the

enterprises went bankrupt, the volume of production of raw materials for the processing industry decreased significantly, and strategic industries such as hops, flax growing, potato growing, and animal husbandry declined. At the same time, the debts of agricultural producers to banking structures increased, which, in turn, could not repay the borrowed foreign loans. Therefore, the majority of domestic banks were absorbed by foreign financial structures.

All over the world there were trends towards an increase in demand for food products, the undervalued property and land in agriculture became investment-attractive for potential investors who, under the conditions of a growing market, tried to profitably invest funds in an asset that guaranteed significant capital growth in the future. To a large extent, this was facilitated by the reform of forms of ownership, an information campaign to lift the moratorium on the purchase and sale of agricultural land, and the formation of share capital.

Agricultural production turns from unprofitable to profitable. Thus, if in the period 1996–1999 agricultural enterprises received losses in the amount of 12.3 billion UAH, then in 2000–2003 they received an average of 0.5 billion UAH in profit per year [279].

Agrarian potential, the genesis of property and organizational and legal forms during 1994–2000 contributed to the creation of new viable formations that were more in line with a certain development of social relations and humanity as a whole [201]. Thus, the transformation of state and collective ownership into private and joint ownership, under modern conditions, became one of the main motives for the formation of agro-industrial associations in agriculture [225].

However, along with this, the external environment for establishing mutually beneficial economic relations between producers of raw materials, processing, trade, and resource sectors of the agricultural industry has also become more difficult. Previously, during the time of the command-administrative system of management, the equivalent exchange between these spheres was not established according to the market principles of buying and selling at prices that were formed on the market in accordance with the mechanism of the law of value, but was established by state bodies on a so-called planned basis. In particular, dynamic prices for fruit and vegetable products

during the season were usually set weekly by regional executive committees.

However, property reform without the simultaneous creation of a favorable economic environment for commodity producers and equivalent exchange between branches of the national economy is one of the reasons that led to the crisis state of the economy of agricultural enterprises of various forms of ownership and contributed to the formation of large commodity enterprises.

It should be noted that integration within the boundaries of one farm is most often carried out on the basis of a large enterprise, in which divisions specializing in the manufacture of one or another type of finished product or the provision of services may function. It is in this case that there is a possibility of establishing economic relations between intra-economic structures that would correspond to the interests of each of them to a certain extent. As a rule, this type of integration is beneficial for agricultural enterprises, because it contributes to the growth of production volumes and increasing its efficiency. However, it should be recognized that the organization of intra-farm processing of agricultural raw materials also has disadvantages: insufficient depth of processing, quite significant losses of valuable components of raw materials, relatively low quality and a narrow range of final products [17].

Therefore, the only source for creating effective mechanisms for the integration of production and processing of agricultural products on the basis of equivalent exchange is the regulation of technological cost indicators of integration on a regulatory basis and the redistribution of income between them from the sale of final products. But methodological approaches and methodological solutions of researchers to solving this problem are different. V.G. Andriichuk suggests that farms create cooperatives for the processing of agricultural raw materials, organizing a processing enterprise on partnership terms as a non-profit formation, and distributing the proceeds after reimbursement of processing costs in proportion to the invested capital and the volume of supplies, taking into account the quality of products.

V.G. Andriichuk recommends making a distribution between the participants of the integration of production and processing of

agricultural products on the basis of cash proceeds from the sale of products, in accordance with the predetermined ratio of the share participation of each of the participants of agro-industrial production in the creation of these products. In our opinion, this is unlikely in terms of practical implementation, due to the difficulty in determining the share of each partner's participation. It is not always possible to ensure the supply of products in regulated volumes and set deadlines, to control the costs of the processing enterprise, income from the sale of products.

Some scientists believe that the basis of distribution should be production (marketing, sales) costs per unit of final products [48]. At the same time, it is practically impossible to control the reliability of all costs of the processing enterprise by the participants of the integration. It is rather difficult to establish the expediency of one or another technological (organizational) technique and the amount of expenses in accounting accounts of expenses (if they are kept in processing enterprises). In addition, a processing company will always find ways to increase production costs. This is beneficial for the processing enterprise, as the payment to raw material suppliers will be reduced. In this case, it is almost impossible to settle equivalent relations.

The system of achieving equivalent exchange, which is carried out on the basis of establishing the specific weight (share) of raw materials in the final product and on this basis, determining the price of the goods manufacturer's products, has turned out to be the most effective, but on the condition that this share of the costs of raw materials is not determined based on the actual cost price that has developed from the producer, and according to the normative, calculated, increased by the average profitability ratio of the processing enterprise. The cost price and production price (the cost price is increased by the average rate of return) of the processing enterprise is formed according to the same method of regulatory costs.

After agreeing on the level of costs, the partners enter into an agreement based on the purchase price of raw materials. With such a methodological approach, each participant of the integrated system seeks to reduce their costs against those determined in their favor and can have a higher income per unit of production. Both the raw material producer and the processing enterprise have a lot of reserves for cost

reduction - due to the improvement of technological and organizational factors, which makes it possible to reduce the labor intensity of production, the energy intensity of processing products and thus increase their incomes.

The second way of regulating the equivalent exchange between the production and processing spheres of the agricultural industry is a combination of horizontal and vertical integration through the creation of associations: agricultural firms, agricultural combines, scientific and production systems, joint-stock companies (open and closed), corporations, associations and other structures; private rental enterprises, business associations, cooperative associations.

The advantages of such an integrated system operating in a single economic space, according to a single business plan and a completed technological cycle of production, service provision, processing and sale of products are well known.

First of all, there is no redistribution of income from production, processing, and sale of products between partners, individual legal entities, and all funds are concentrated in the general economic financial and settlement center, which allows them to be used promptly where there is a need for it.

Secondly, the concentration of income makes it possible to build industrial, social and household objects in a short period of time, to purchase high-performance equipment, elite seeds, breeding animals and other strategic innovative means, which are important factors of motivation for high-performance work.

Thirdly, the deepening of specialization and concentration of production helps to use the mechanisms of economic laws to increase labor productivity and economic efficiency of economic activity.

However, the mentioned advantages of integrated associations can be realized only under the conditions that the integrator (the main enterprise) has certain production and economic means for organizing effective activities, and the qualifications of specialists and the skills of managers make it possible to use market mechanisms to the fullest extent and organize the interaction of economic structures based on the principles of operational independence, to strive for highly productive work and a high final result, on which their material reward depends.

So, the above gives reasons to claim that there is no single methodological and organizational approach to the construction of effective methods of integration. Everything depends on the external environment, the achieved technical and technological level of production, the industrial relations that have developed in collectives, and the desire of collective members to create one or another organizational structure of production. However, the only criterion of any integrated system is that the establishment of an equivalent exchange (price parity) between integration partners must be carried out through internal price regulation, which ensures equal incomes for all participants of integrated systems.

The history of the development of economic forms confirms the thesis that large-scale production, thanks to its efficiency, existed at all historical stages of the development of society and with all social formations. Over the centuries, it was transformed into other forms under the influence of a change in the social order, or a change in the form of ownership. However, the typical features of integrated structures, such as: specialization, automation, concentration, diversification and a closed cycle of production adapted to dynamic changes in the external environment and were reborn in a new quality. This process continues, starting from the lord's filvarks and thrifts of the times of Tsarist Russia and ending with agricultural combines and agro-firms of the former Soviet Union and agroholdings in the conditions of independent Ukraine. Usually,

Under modern market conditions of management, the principles of economic relations of integration of production and processing of agricultural products have fundamentally changed. They are based on the principle of creating such integration mechanisms that ensure an equivalent exchange between integrated structures, which is achieved by establishing price parity by regulating the structure of costs for the production of final products, which would make it possible to reimburse the normative costs of the producer of raw materials, increased by an equivalent coefficient of profitability of the processing enterprise .

The main reasons for the formation of agroholdings in agriculture were the completion of the process of privatization of the basic industries: oil and gas, electric power, industrial enterprises of



group "A" and the need to invest the capital earned there in promising areas of business, thanks to the growth of the population and the increase in demand for food products.

Among the factors that form mutually beneficial economic relations of product manufacturers with processing, service industries, trade and other structures, the leading place belongs to integration processes. In the field of economic science, the theoretical foundations of this or that phenomenon are the result of a scientific generalization of the mechanisms of action of the economic laws of economic practice and its perception [225].

## **1.2. Methodological approaches to the classification of integrated structures**

The search for effectively organized forms of associations is one of the main problems of world economic development. In foreign practice, various types of integration structures have developed, which differ depending on the goals of cooperation, the nature of economic relations between participants, and the degree of independence. These are associations, concerns, consortia, syndicates, corporations, holdings, free zones, industrial and financial groups, pools, etc. The most common forms of integrated agro-industrial structures are associations, corporations, agrarian financial and industrial groups, holding companies and cooperatives.

In a general sense, integrated structures are defined as "an association of business entities based on an organizational structure that fully or partially combined tangible and intangible assets for the purpose of technological or economic integration for the implementation of investment or other projects based on effective interaction" [270 , p. 7].

In general, integration structures can be classified: according to the form of ownership - state, collective, private; by form of business – open and closed joint-stock companies, concerns, consortia, associations, financial and industrial groups; by industry composition – industrial, financial-industrial, agro-industrial, financial-agro-industrial; according to the closedness of the technological cycle - all

stages of production of the final product, individual stages of the production process; by market volume – transnational, national, regional, local; according to the degree of production diversification – diversified, non-diversified [109].

The legislation of Ukraine defines four types of economic integration associations: associations, corporations, consortia and concerns [17]. Development of integration processes under current conditions requires expansion of this list and legislative regulation of new agro-industrial associations, such as: agricultural holdings, agro-industrial financial groups, previously unknown in the practice of domestic enterprises.

**Association**– a voluntary association of legal entities and individuals on a non-profit basis with the aim of legal protection of the interests of its members, their representation in state and legislative bodies, development and coordination of a general strategy of behavior on the market. Unlike a concern and a corporation, it differs by a low degree of centralization, and from a consortium by the breadth of spheres of activity of the enterprises and organizations that are part of it. Management in the association can be carried out both by a specially created body and by the main legal entity in agreement with its members. At the same time, the established governing body of the association mostly becomes an informative and coordinating center. Members of the association retain their legal independence and may combine their activities in it with participation in other associations and business associations [271].

M.M. Ermoshenko, M.N. Skvortsov, N.T. Nazimov, the main functions of the association include the coordination of the economic activities of its members without the right to interfere in their economic and commercial activities [113].

The association is not responsible for the obligations of its members, and the members of the association bear subsidiary responsibility for its obligations. Associations are the predominant form of agro-industrial integration in most countries of Western Europe. The commercial interest in joining the association is based on the income that is additionally obtained here from the expansion of the assortment, improvement of quality and profitable sales of finished products. The main requirement for the mechanism of regulation of

production and economic relations between the members of the association is that it should be formed according to the principle of equal profitability for all its members [17].

The given formulations in the definition of the association show that the researchers comprehensively characterize this agrarian organizational structure and its formation, which makes it possible to find in the practical activities of the association's partners exactly those levers that satisfy their needs to the greatest extent.

L.M. Hryshchenko, Y.S. Zavadsky among the defining functions of the association single out a form of business cooperation aimed at finding potential partners among domestic and foreign firms for direct contacts between them with the aim of developing new forms of foreign economic relations, developing relevant projects, providing practical assistance in matters of management, currency financial, contractual and legal, as well as advertising and product sales [116].

Members of the association have the right to be members of any other associations. Associations and unions can acquire the status of a self-regulatory organization. The composition of the association apparatus is based on the membership fees of the participants. The rights and obligations of the members of the associations are established by the founding documents, in which it may be stipulated that the relevant association provides services to its members on the basis of free contracts, since the participation of various members of the association in its activities and the need of individual members for management and other services can be different. The order of provision, volume, frequency and other parameters of consumer services may also be different for different participants. Association members have the right to use association services free of charge (to receive consulting, marketing, management, legal and other services,

Associations belong to one of the mildest forms of associations that minimally restrict the actions of its members. The advantage of associations is that the legislation gives its founders the freedom to choose the organizational structure of the association, to regulate the mutual rights and obligations of participants.

The creation of common financial funds or pooling of capital is not envisaged. There is an opportunity for voluntary pooling of

financial resources to achieve common goals of an economic, industrial and social nature.

Associations have the right to lobby for common interests in the government and legislative bodies, to hold congresses, symposiums, conferences, advertising companies, product exhibitions (collective stands) at large industry exhibitions, including international ones, and possible support of educational institutions.

The entry of enterprises into the association makes it possible to:

- expand sales markets, improve the company's image, increase competitiveness;
- participate in the implementation of joint programs, projects for training personnel in new management methods;
- optimize costs (by using best practices and new technologies, using methodical recommendations for cost calculation, saving on consulting and information costs);
- receive financial assistance from members of the association.

Concerns are less common compared to associations. An agro-industrial concern is created on the basis of the voluntary centralization of the functions of production and scientific and technical development, as well as their financial and foreign economic activities, which includes enterprises of agriculture, industry, transport, trade, scientific and other organizations [17].

**Concerns** is a statutory association of sectoral and more often cross-sectoral enterprises on the basis of complete financial dependence on a single center and implementation of a single policy in common interests by all its participants. It is characterized by a centralized organizational structure with tight connections among its members, who coordinately carry out the main activities. Therefore, the concern can prohibit its members from participating in the work of other concerns, with the exception of associations, by founding documents. A rigid system of connections allows the members of the concern to agree on additional property responsibility for the obligations of the association as a whole [314, 29].

The concern is a single industrial and economic complex, the members of which are closely connected technologically and

cooperatively. This is a strict form of integration of companies. In its majority, the concern is an association of a production nature, within which production and financial decisions are centralized. The main company of the concern is most often organized in the form of a holding company or based on the interaction of dominant and dependent companies. In a concern, enterprises nominally remain independent legal entities in the form of joint-stock or other economic companies, but in fact they are subordinate to a single economic manager.

A vertical concern is distinguished, which unites enterprises of various industries connected by the sequence of the technological process of production of the finished product (for example, mining, metallurgical, machine-building). A horizontal concern combines enterprises of the same industry that produce the same products or carry out similar production operations.

The activities of the concern may extend to one sub-sector or branch of the economy. At the same time, it may include enterprises of one or more industries. From the point of view of the system of participation in capital, two types of concerns can be distinguished: concern of subordination and concern of coordination.

A subsidiary concern is created in the form of parent and subsidiary companies. The coordination concern consists of subsidiaries, when the companies included in it carry out a mutual exchange of shares. Therefore, all members of the concern influence the policy introduced by the concern and at the same time remain under a single management. A concern of subordination is created to unify production according to the technological chain, a concern of coordination - for the purpose of integrating such activities as the implementation of a single financial or scientific policy, coordinated development of the company's production, personnel policy, etc. A coordination concern, including sometimes loosely connected technological enterprises, in its essence becomes close to such a form of integration as a conglomerate.

Most researchers define a concern as a form of association of enterprises and organizations of various industries based on common interests. However, the concern provides for the delegation of certain functions of its members to a collegial management body, requires the

implementation of a unified economic policy, centralization of part of the finances used for the general needs of its development [271].

M.M. Ermoshenko, N.T. Skvortsov consider the concern as one of the forms of monopolies, the union of several industrial, financial and trade enterprises, which formally retain legal independence, but in fact its members are subject to the financial control and leadership of the dominant group of entrepreneurs in the union [113].

L.M. Hryshchenko, Y.S. The Zavadsky concern refers to the association of enterprises that carry out joint activities on the basis of a voluntary centralized function of scientific and technical and industrial development, investment, financial, environmental protection, foreign economic and other activities.

This form of association allows you to use the possibilities of large-scale production, combination, cooperation, thanks to the presence of production and technological connections in the production sphere. The advantages in the field of supply include the reliability of the supply of raw materials, semi-finished products, and component products at reasonable prices.

Advantages in the field of production: the distribution of costs between several enterprises that are part of the concern can contribute to significant cost savings due to specialization and the appearance on this basis of the effect of consolidation of production.

Advantages in the financial sphere: favorable conditions are created for the concentration of financial resources on the strategic directions of the concern's development.

Advantages in the sales sphere: there is an opportunity to share sales channels, implement a unified advertising policy, limit competition, and increase market share. In comparison of the concern with completely merged enterprises, its advantages lie in the fact that the implementation of a single economic policy is combined with the preservation of operational and economic independence of the management of subsidiary enterprises, and therefore with their greater interest in commercial results.

Consortia belong to the same organizational form as concerns. However, the consortium is created to implement certain large target scientific and technical, construction, nature protection and other programs [271].

**Consortia-** these are temporary statutory associations of industrial and banking capital, without a high degree of centralization and coordination of management for the implementation of large projects, after the implementation of which they are liquidated or transformed into other types of associations. Consortia, like associations, are more characterized by coordination than subsidiary relations of participants. The peculiarities of the consortium are that the enterprises of the consortium fully retain their economic and legal independence with the exception of that part of their activity that is related to the achievement of the goals of the consortium; the consortium may be legally registered as a joint-stock or other type of business partnership; as a rule, consortium members do not form any organizational structures, there may be a small apparatus (for example, the board of directors of the consortium). There are closed and open types of consortia. In the closed type, the customer company negotiates the contract separately with each participant. When creating an open consortium, all its participants within the scope of the goals of the consortium are subordinate to a common leader and are jointly and severally liable for the obligations of the consortium within the limits of their equity participation.

The consortium is created for the high-quality execution of urgent and expensive orders and projects that require the consolidation of efforts and resources of scientific and technical, production, service and financial companies capable of jointly solving the task.

In general, a consortium is a potentially effective organizational and structural method of temporary integration of personnel, capacities, material and financial resources. This form of integration is able to work effectively in the market environment and attract significant amounts of investment for the implementation of capital-intensive projects.

Companies can be part of several consortia at the same time, as they can participate in the implementation of several projects. Among the advantages of consortia, the following should be highlighted: increasing technical and commercial competitiveness, including achieving an optimal combination of competitive advantages of small and large businesses; expanding the scale of entrepreneurship; expansion of sales markets.

Associations that function as an independent legal entity with property divided into separate parts (units, shares) include a corporation [116].

M.M. Ermoshenko, N.T. Skvortsov define a corporation as a contractual association created on the basis of a combination of industrial, scientific and commercial interests with the delegation of separate powers of centralized regulation of the activities of each of the participants [113].

**Corporation**– a contractual association with the delegation of certain powers of centralized regulation of the activities of each of its participants for the consolidation of the production and economic activities of enterprises, coordination of efforts in solving complex technical, financial, socio-economic problems, ensuring the protection of common interests, cooperation in the production of products, etc. . The members of the corporation retain the rights of a legal entity, full financial independence and industrial and economic independence, and have the right to return delegated powers in accordance with the founding documents. The activities of the corporation are based on the principles of voluntary entry and unhindered exit from it, equality of its members, self-financing, transparency and completeness of information. Goals and areas of activity, as well as the powers of the corporation as a whole and its center are determined by the founding agreement. At the same time, dual functions are defined: production and commercial activity and management of the affairs of the corporation within the limits of the powers granted to it. Participants are not responsible for the obligations of corporations, and the corporation is not responsible for the obligations of its participants, unless otherwise provided by the founding documents [314, 112].

The most rigid form of enterprise integration are trusts, which are integration formations in which the enterprises that are part of them are united into a single production complex and lose their legal, production and commercial independence, and the management of their activities is carried out from a single center . The profit of the trust is distributed according to the equity participation of individual enterprises. The trust unites all areas of economic activity of enterprises. At the same time, enterprises begin to specialize in one or



more homogeneous types of products or services and lose their legal, economic, production and commercial independence and are subordinated to one main company that manages the production and distribution of products [314].

The trust form is convenient for the organization of combined production. That is, the unification in one company of enterprises of various industries, which are either successive levels of raw material processing, or play an auxiliary role in relation to each other.

Among the integration formations, there are syndicates, which are an association of homogeneous industrial enterprises and are created for the purpose of selling products through a general distribution network that has the form of a trading company (joint-stock company, limited liability company, etc.), with which each participant the syndicate concludes a contract for the sale of products. The syndicate form is most common in industries with mass homogeneous products.

The advantages of syndicates include:

- preservation of legal and industrial independence by syndicate participants;
- elimination of internal competition among its participants;
- reduction of supply and sales costs;
- centralization of product sales;
- organization of sales of products of its participants through a single sales body;
- it is possible for the members of the syndicate to maintain their own sales network, which is closely connected with the syndicated sales company;
- procurement of raw materials for members of the syndicate through a marketing company.

In order to ensure the financial stability of enterprises, pools are created. A pool should be understood as a voluntary contractual form of association of entrepreneurs, most common in the field of services: trade, exchange, patent, insurance, transport, etc.

**Pool**(eng. pool common cauldron) – a form of association of companies, which is distinguished by the fact that the profit of all pool participants goes to the common fund and is then distributed among

them according to a predetermined proportion. Pools belong to business associations established by contracts of a simple partnership.

The combination of companies in the form of pools is usually quite temporary in nature. Within the framework of the pool, the rules for the distribution of total costs and profits are established. In the contract of a simple partnership on the organization of the pool, the rules for the distribution of general expenses and profit between its participants must be established.

The following types of pools are found in global practice:

*A specific pool* – association of investors directing their investments to a specific object.

*Patent pool* - mutual agreement between more than two companies not using the patent. Participants of the patent pool receive income in the amount of the quota assigned upon joining the pool.

*Trade pool*- an association in which participants agree on the accumulation and delay in warehouses of any product until the moment most profitable for its sale at increased prices as a result of an artificially created shortage.

An important importance in the development of agricultural production should belong to financial and agro-industrial groups (FAPG), which allow establishing relationships between enterprises, banks, insurance companies and other participants of FAPG.

**Financial and agro-industrial groups** is a set of legal entities acting as the main and subsidiary companies or companies that have fully or partially combined their tangible and intangible assets (participation system) on the basis of an agreement on the creation of a financial and industrial group for the purpose of technological or economic integration for the implementation of investment and other projects and programs aimed at increasing competitiveness and expansion of sales markets for goods and services, increasing production efficiency, and creating new jobs. The main principles of FAPG formation: voluntary participation of agro-industrial organizations in the group; compliance with antimonopoly legislation; Mandatory accounting of individuals included in the union of structures.

The central role in the functioning of FAPG belongs to the management company, which performs the following functions:

- develops a development program for the entire FAPG and its individual enterprises;
- together with commercial and agro-industrial enterprises determines the investment policy of FAPG aimed at the further development of both individual enterprises and FAPG as a whole;
- together with banks, insurance companies, investment funds, develops the FAPG credit policy aimed at issuing promissory notes, providing loans, etc.;
- supervises the implementation of financial and investment plans.
- The main advantages of financial and agro-industrial groups:
  - increasing the efficiency of the functioning of the financial and agro-industrial group due to the fact that all participants have common interests;
  - technological or economic integration for the implementation of investment and other projects and programs;
  - reduction of price surcharges on products that pass through the technological chain between FAPG participating enterprises;
  - increasing competitiveness and expansion of sales markets for goods and services;
  - increasing production efficiency, creating new jobs;
  - accumulation of temporarily free funds with the help of investment and other projects and programs.

**Strategic alliance** -it is an agreement on the cooperation of two or more independent firms in order to implement strategic tasks, thanks to the synergy of the combined and complementary strategic resources of the companies. These are cooperation agreements between firms that go beyond ordinary trade operations, but do not lead to a merger of companies.

The main advantages of alliances:

- the fastest and cheapest way to implement a global strategy;
- ensuring the preservation of the identity of each of the participants;
- companies can be participants in many strategic alliances;
- are created for a certain period and disintegrate when the need for unification ceases.

**Franchise** –this is an association, according to which a large corporation undertook to provide a small company with its goods, advertising services, technologies, to provide management and marketing services, taking into account local conditions or the characteristics of the serviced firm.

At the current stage of market transformations, holding companies, which are a type of joint-stock companies or corporations, have become very widespread. The essence of this entrepreneurial entity is the ownership by one (parent) company of a share of the securities of subsidiary enterprises that are part of the holding. The entry of companies into holdings is not related to contracts or agreements between its members. This is the main difference between holdings and concerns. In the USA, similar forms of entrepreneurial activity are currently common in the banking sector. Large banks, through the acquisition of shares and other securities of smaller banks, as well as industrial enterprises, get the opportunity to control the activities of their subsidiaries.

**Holding** is a vertically integrated association of legal entities linked by relations of economic subordination (as a rule, implemented through ownership relations). Due to such subordination, the entire structure is managed as a whole, but at the same time it is possible to ensure the relative independence of its individual elements, which is necessary for the economically efficient operation of the system [204].

At the same time, the holding is a kind of regulated micro-market, within which commodity-money relations are maintained under a regulated system of internal transfer pricing. The fact is that all enterprises of the holding structure, while remaining independent, carry out their economic activities under the control of the parent company. Thus, specific holding economic relations are formed.

The creation of holding structures has some advantages. Without losing their legal independence, the structures that are part of the holding get access to modern technologies, increase competitiveness, synergistic effect, access to new product sales markets.

The holding is formed due to the purchase or acquisition of a share in the authorized capital of the enterprises that are part of it. It is characterized by rigid centralized management, represents a single

integrated system, which is one of the most effective tools in increasing the efficiency of agricultural enterprises [17].

A holding company is created to own controlling stakes in other companies in order to control and manage their activities, as a rule, in the form of a joint-stock company or a limited liability company. At the same time, the availability of production facilities is far from always observed. There is a distinction between a pure holding company, which performs only control and management functions, and a mixed one, which, unlike the first one, is engaged in entrepreneurial activities: industrial, trade, credit and financial.

In general, it should be noted that there is no single definition of a holding company in domestic and foreign economic and reference literature. In particular, the Oxford Economic Dictionary defines a holding company as "a company created to own the shares of other companies it controls" [355]. A rather similar definition is given in the Russian encyclopedic dictionary, where it is stated that "a holding company is a joint-stock company that uses its capital to acquire controlling stakes in other companies in order to establish control over them" [249].

According to the definition of V.V. Goncharova, "a holding company is a special type of financial company that is created to own controlling stakes in other companies and manage their activities" [54].

OHM. Kravchenko notes that "a holding should be understood as a structured organization of legal entities, one of which (the parent company) has the ability to influence the decisions of other members of the holding (subsidiaries)" [143]. The definition of I.S. is quite close in essence. Shytkina, who understands a holding company in a broad sense as "an aggregate of two or more commercial organizations, one of which is the main company, and the rest are subsidiary or dependent companies." A holding company in the narrow sense, according to the author, is "the main company that makes decisions about the activities of subsidiaries and dependent companies" [330].

This is the approach of I.S. Shytkin's definition of holding is quite consistent with the definition given by Thomas Keller. In particular, he notes that "a holding company should be understood as an enterprise whose main field of activity is its long-term participation in one or more production-independent enterprises, highlighting the

concept of holding in a broad sense as "a company that performs function of financing and management", and in a narrow sense - "as a company that manages subsidiaries and dependent enterprises" [130].

Domestic scientists consider holdings as "intensification of investment and innovation activities aimed at preserving progressive structural changes, technical renewal of production, introduction of the latest technologies and new equipment, which is a particularly urgent task of effective owners in the post-privatization period and causes a change in the demand for labor in aspects of its structure and qualification composition, which leads, on the one hand, to a decrease in the need for labor due to the increase in labor productivity, and on the other hand, to an increase in employment and the need for workers due to an increase in production volumes" [240, p. 28–30].

In the Law of Ukraine "On Holding Companies in Ukraine" No. 3528-IV dated March 15, 2006, holding companies are defined as "joint-stock companies that own, use and dispose of holding corporate packages of shares (parts, shares) of two or more corporate enterprises." According to Article 2 of this law, the legislation of Ukraine on holding companies is regulated by the Civil Code of Ukraine, the Economic Code of Ukraine, the Law of Ukraine "On Economic Partnerships", other laws and regulatory acts regulating the activities of holding companies [232].

According to the Economic Code of Ukraine, "a holding company is a public joint-stock company that owns, uses, and disposes of holding corporate shares (shares) of two or more corporate enterprises (except state-owned shares).

Holding-type companies have gained significant popularity abroad, as they allow for centralized business management. With their help, the central company not only manages a package of shares, but actually subordinates formally independent companies to itself and gets the opportunity to appoint its people to management positions.

The main advantages of holdings are:

- implementation of the scale of used resources (production funds, investment means, labor resources);
- minimization of intermediary influence on production processes;

- centralization and increasing the efficiency of the use of capital due to the agreed financial, investment and credit policy depending on the market situation;
- reducing business risks and increasing the competitiveness of structural divisions by creating a closed production cycle;
- forming the image of a large and influential organization.

**Cluster** is an association of enterprises, suppliers of equipment, components, specialized production and service services, research and educational organizations, connected by relations of territorial proximity and functional dependence in the sphere of production and sale of goods and services. The cluster combines competition, specialization and cooperation, ensures effective interaction of all participants aimed at optimizing the conditions of joint development and maximizing the synergistic effect. The mechanism of building a cluster ensures the improvement of management methods and special knowledge through the exchange of experience, the possibility of entering international markets, the implementation of subcontracting mechanisms, the reduction of costs at various stages of production; formation of various options for associations (unification in a holding, union, alliance, technology park or their combinations).

A detailed analysis of possible options and features of forms of integration of enterprises, with an analysis of their characteristics, features, legal status, features of integration of spheres of activity and advantages and disadvantages is given in table 1.1.

*Table 1.1*

**Comparative analysis of the integration of spheres of economic activity depending on the form of association of companies**

Association	Areas of activity				
	production	marketing	finances	accounting	planning
Concern	+	+	+	+	+
Conglomerate	-	-	+	+	+
Holding	+	+	+	+	
Consortium	-	-	-	-	+
Syndicate	-	+	-	-	+
Association	-	-	-	-	-
Trust	+	+	+	+	+

In addition to the specified types of integration associations, other modifications of the association of enterprises and institutions are widely used in the world market economy. They proved the high economic efficiency of their activities. Therefore, with the development and deepening of market transformations in our country, their spread in the practical activities of domestic enterprises is quite possible.

It should be noted that the structural and organizational aspect, which is based on [270, p. 12], is of great importance in coordinating the interests of the participants of integration structures:

- determining the type of organizational structure: with "hard" centralization (holdings), with "soft" centralization (FPG), decentralized (unions, associations), mixed (cooperatives);
- organizations of inter-branch connections: single-branch or multi-branch structures. As a rule, multi-industry integration structures are focused on the production of a large segment of products intended for domestic and foreign markets;
- determining the scale of production and economic activity: regional, inter-branch, transnational.



### **1.3. Methodological foundations of the formation and functioning of agricultural holdings**

The concentration of capital in agricultural production in the form of the creation of integrated structures occurs under the influence of objective economic factors that are characteristic of both the Ukrainian economy and the world economy and are determined by the processes of its globalization.

All industrially developed countries of the world in the 1950s and 1970s. passed the period of stormy activity of non-agricultural companies regarding investments in agriculture. As a rule, they coincided with periods of agrarian crises, during which farms experienced financial difficulties, and the land lost its value, so it was economically profitable to invest in agriculture. Also, the active investment period in agriculture took place against the background of economic growth in other sectors of the economy after the implementation of agrarian reforms aimed at the industrialization of agricultural production. The main motives were: underestimation of land as the most important factor of production in agriculture (stagnation in the land market is caused by the poverty of the producers themselves, the absence of land legislation, that regulates land circulation); and on the other hand, it is an opportunity for investors to purchase assets that will bring income in the future at low costs [325].

In the agricultural economy of Ukraine, the initiators of the creation of holding companies are mainly industrial enterprises. The synergistic effect created as a result of the union allows to improve the economy of agricultural enterprises, to ensure the solution of social issues, and to create new jobs.

In terms of content, domestic agricultural holding companies are far from the classical understanding of holding. There are property, contractual, unitary and mixed holding companies. Property involves the partial or full inclusion of the ownership of structural subdivisions in the charter fund of the management company that has a dominant share in the holding's capital. In contractual - relations between structural units are regulated by a contract that ensures maximum economic and legal independence of structural units, unitary (state) units are formed thanks to the inclusion of shares of state-owned

enterprises in the main company, as a rule, with the aim of solving social and economic issues of state importance. The mixed type involves the unification of the three previous forms [239].

Typical classification features of holding companies: composition of participants; ownership; the depth of relations between the participants and the integrator in the process of production activity; the limit of economic and legal independence of the subjects of the integrated structure.

According to quantitative indicators, holdings can be classified depending on the amount of consolidated capital, the volume of production activity, the number of group members, the average number of employees, the number of spheres (branches of activity) [270].

Holdings are classified: depending on the center of formation - into industrial, banking, agrarian; depending on the organizational structure - into vertical, horizontal, conglomerate; depending on territorial activity - regional, interregional, transnational; depending on the size of the production activity - for small, medium, large; depending on the method of internal construction - with a soft form, with a hard form.

There are different approaches to defining agricultural holdings. In general, an agricultural holding should be understood as a full or partial pooling of enterprise capitals on mutually beneficial terms on a contractual basis [201].

In general, agricultural holdings are associations of agricultural enterprises different in size and organizational and legal form, aimed at maximizing the economic effect. The perspective of their further development is the strengthening of the processes of globalization and unification in order to protect their own business interests both in the domestic and foreign markets, through the formation of an agrarian lobby, agricultural unions, and transnational associations.

Agro-industrial holdings include non-agricultural companies that trade in agricultural products, companies that supply resources, and companies that independently organize the production of agricultural products.

Motives for the creation of agricultural holdings are: restoration of inter-industry relations by combining production, storage and processing of agricultural raw materials and sale of finished products;

reduction of the tax burden; reduction of product losses during its passage along the technological chain; increasing the degree of processing of agricultural products and their quality; deepening the specialization of farms; reduction of risk and uncertainty under competitive conditions; stimulation of capital investment of processing enterprises in the production of agricultural raw materials [51].

In general, when justifying the feasibility of creating an agricultural holding, the specifics of production technologies should be taken into account; the level of financial stability of all potential participants; measure of mutual importance of enterprises.

The main principles of creating different models of agricultural holdings: voluntariness, comprehensiveness, integrity, adaptability, favorable external environment, support from management bodies [201]; voluntary choice of partners and economic expediency, which allow to optimize the composition of the agricultural holding; integration "from below", that is, unification at the initiative of the business entities themselves without pressure from management structures; the influence of the state on the integration process only by creating economic conditions that ensure its effectiveness, or on the basis of the participation of a state body as an equal partner of the association; organizational integrity of the agricultural holding with a single strategy and tactics, development goals and objectives; selection of the leading link and priority areas of improvement of the agricultural holding; equal economic conditions for all integration participants; unification of not only organizational and economic structures, but also their capitals; the team is not property management, which increases the interest and responsibility of each partner; involvement in the process of integration of trade capital, which ensures the receipt of investments [17, 322].

The most effective in terms of organization and management is the management structure, which is built on the principle that the central company owns a controlling stake in the enterprises and organizations that are part of it. The concentration of ownership according to the holding principle allows combining the assets necessary for production and forming a closed technological cycle of production.

Various types of agricultural holdings can be conventionally grouped into three groups [322]:

1) agricultural holdings based on the partial unification of property of individuals and legal entities. Most often, such structures are created in the form of joint-stock companies, in which one of the partners is an integrator. It is on its balance sheet that shares (shares) of other entities of the integrated formation are transferred;

2) agricultural holdings created as a result of a complete merger of the ownership of partners. All participants of such associations lose their legal independence and become units of a new organizational and economic system;

3) agricultural holdings created on the basis of an institutional unit for the exclusive use of its property. In this case, there is an expansion of the sphere of production activity of the business entity due to the connection to it of one or more links of agro-industrial production (in the form of intra-economic subdivisions) and by means of its diversification. Such structures can be created on the basis of agricultural, processing and service enterprises.

One of the main features of the development of modern agricultural holdings, according to V.A. Semenov [263], there is a "top-down" orientation of formation, and not "bottom-up", as it happens in developed European countries. This situation leads to the rapid and simplified formation of agricultural holdings and the emergence and development of negative social and psychological phenomena. There are other approaches to determining the direction of agricultural holdings. In particular, according to V.V. Gubanova, the orientation "from top to bottom" occurs by the decision of the authorities, "from the bottom up" - by the initiative of the participants. At the same time, if the initiator of the creation of an integrated structure is the state, then the priority is to solve the tasks of ensuring food security, reproduction of agricultural production and solving social issues [59].

Modern agricultural holdings make it possible to accumulate financial, material, energy and labor resources, which provides favorable conditions for the implementation of investment projects, improvement of relationships between all participants of the integration process, increases interest in the results of management and directs their activities to maximize the final result, in connection with which an active process of their formation and development is observed.

The economic essence of the functioning of agricultural holdings consists not only in the consolidation of economic entities [59], but also in some limitation of the monopoly of processing industrial enterprises, support of agricultural commodity producers [264], restoration of lost production ties [154], improvement of socio-economic performance indicators of all participants due to the synergistic effect of integration. According to T.V. Tarelkina [289], it is possible to obtain a synergistic effect only under the condition of full interaction between participants, which, first of all, is aimed at achieving the general goal of the agricultural holding - making a profit.

A defining feature of agricultural holdings is a complex system of production and financial inter-industry relations that has developed between participants.

This problem can be solved by developing a mechanism for coordinating the interests of the participants of the agricultural holding, which should be based on the essence and purpose of integration. The development of such a mechanism is conditioned by the need to solve a number of economic, structural-organizational, functional and social-psychological issues.

The main goal of the implementation of the structural and organizational aspect of coordinating the interests of the participants of the agricultural holding is to restore the broken inter-industry ties between economically connected economic entities, industries and spheres.

In addition to the structural and organizational aspect of coordination of the interests of the participants of holding structures, a functional aspect is distinguished, which is based on two principle points [270, p.15]:

1) definition of the center in the formation of the holding structure: banking (financial and credit), industrial, trade, research. Each of the listed structures has its advantages and disadvantages. The advantage of the bank's parent company is free access to financial resources, the disadvantage is ignoring the interests of the product manufacturer, focusing on obtaining high incomes at the expense of speculative manipulations. The advantage of integration, where the center of integration is an industrial enterprise, is the formation of stable economic ties at all stages of production and processing, strengthening of the enterprise's market position. The advantage of

integration with a trading company is the ability to control the costs and revenues of not only production, but also its implementation, the disadvantage is ignoring the interests of the production cycle.

2) each member of the holding structure specializes in performing a certain function.

According to V.V. Gubanov [59], the principle of company specialization is realized in the holding structure, not only from the point of view of processing, but also from the point of view of management. Thus, a clear division of functions allows the participants of the holding to achieve better final results. Therefore, the main goal of implementing the functional aspect in coordinating the interests of participants is "specialization of the functions of financial and economic activity" [270, p.15].

The main obstacles to the formation of agricultural holdings in the agro-industrial complex, in our opinion, are weak implementation of economic aspects and insufficient scientific validity. In modern scientific literature, the issue of combining tangible and intangible assets in the formation of agricultural holdings [102, 236, 313, 318], as well as their investment in certain projects [321, 113, 102, 195, 33] is well covered. However, the problems of the effectiveness of the creation of agricultural holdings and the organization of financial flows remain insufficiently researched.

A detailed analysis of economic aspects in the domestic and foreign practice of forming agricultural holdings allows us to highlight their advantages, which are [59, 154, 263, 264, 289, 255, 195, 105]:

1) reducing the tax burden;

2) organization of a waste-free production and technological cycle, which contributes to complete processing and reduction of raw material losses;

3) improvement of product quality, reduction of costs for its production and sale;

4) solving issues of shortage of funds, at the expense of own financial and credit institutions, in the case of such, and with the help of optimization of intra-economic financial flows and internal financing.

In view of the above advantages and taking into account that per unit of production, fixed costs are reduced, and variable costs remain

the same [321; 113], the following conclusions can be drawn. With the increase in the volume of produced products due to the involvement of a larger number of participants in the agricultural holding, directly related to the production of these products, the income from the production and sale of products, which is calculated for each participant, increases to a certain limit.

In this regard, the main goal in the sphere of coordination of the interests of the participants of the agricultural holding is to establish the optimal ratio of total income and total costs. This necessitates a detailed analysis of the structure of expenses and income in each specific case.

The formation of agricultural holdings, focused on the unification of the agricultural and industrial sectors of the economy, is one of the ways of solving socio-psychological aspects. It should be noted that the main goal of the socio-psychological aspect of coordinating the interests of the participants of the agricultural holding is the formation of cultural and value guidelines [270, p.17].

Socio-psychological aspects in coordinating the interests of agricultural holding participants, according to V.A. Semenov, associated with the emergence of social tension due to intracultural disagreements and the unwillingness of rural residents to independently solve the problems of agricultural production, take care of the interests of the community and the territory in which they live. During the administrative system, these functions were entrusted to the state. In the conditions of market relations, they became the responsibility of the village community [263]. At the same time, the financing of social infrastructure, which was transferred to the balance of local self-government bodies, was reduced or completely stopped. However, the budgets of the latter allow only to maintain it in proper condition, but not to develop it.

At the same time, the peasants are not used to taking on the risks associated with the production and sale of agricultural products. The formation of market relations ensures equality of opportunities, that is, freedom of choice, and not freedom of results [270, p.16].

For the socio-psychological adaptation of the population, it is necessary to ensure the formation of economic and non-economic interests, including the determination of cultural and value orientations,

when the main criterion in the company is the work capacity of its employees.

Thus, as a result of a detailed analysis of the theoretical and methodological aspects of the formation of agricultural holdings and the coordination of the interests of their participants, it was possible to determine the main features of the organization of the work of agricultural holdings: structural and organizational, which consists in restoring broken inter-branch ties; functional - specialization of functions of financial and economic activity of all participants; economic - determining the optimal ratio of total income and total costs; socio-psychological - the formation of cultural and value orientations.

Agricultural holdings, compared to horizontal and conglomerate integrated structures, allow to restore economic ties between economic entities (structural-organizational aspect), clearly distribute the functions of financial and economic activity (functional aspect), increase income and reduce costs for production and sale of products by means of the construction of a complete production cycle (economic aspect), to ensure equalization of the incomes of employees of all participants of the integration structure, smoothing of social conflicts between agricultural and industrial personnel, as well as to increase motivation to increase labor productivity (social and psychological aspect) [270, p.18] .

In addition, deepening the processes of vertical and horizontal integration based on the creation of various agro-industrial formations allows solving the following issues: providing the population with the necessary finished products; coordination of business activities of association members; protection of joint property interests, their financing and lending; conducting marketing research on production and delivery of the finished product to the final consumer; ensuring stronger competitive positions in the food market. The most stable are agro-industrial associations that create a closed cycle of "production-processing-realization", which allows them to restore the inter-industry price imbalance, overcome the monopoly of industrial structures and their dictates in the formation of prices on raw materials markets,

The main task of the agricultural holding is to establish sustainable, long-lasting and stable production, economic,



organizational, technological, commercial and other ties that ensure the maximum reduction of product losses in the process of transition from one sphere to another, clear functioning of the reproduction chain and stable provision of the formation of district , regional and interregional food funds [201].

The relevance of the study is due to the lack of a clear definition of the processes of investment activity of non-agricultural companies in the agricultural sector and the processes of vertical integration.

Based on the fact that the purpose of creating horizontally integrated structures is mainly to solve short-term tasks, in particular, the implementation of a single price policy on the market in conditions of fierce competition, technical and economic exchange of experience or innovative transformations, the object of research is defined as a vertically integrated structure.

The development of holding structures in agricultural production requires new scientific developments and recommendations in the direction of the formation of a competitive environment, working out mutually beneficial rules of the game between the subjects of lease agreements: establishing the optimal amount of rent, forms of its payment, lease terms, implementation of their powers by subjects, in particular , introduction of pledge of the right to rent, exchange of land plots. In addition, there are debatable issues that require additional research.

Considering that the development of agricultural holdings is based on the shareholder type of building an organizational structure, we consider it expedient to consider and analyze it in detail on the example of Rise-Agro CJSC, whose shareholders are legal entities and individuals who have acquired the right to own the company's shares.

The governing bodies of a joint-stock company are the general meeting of shareholders - the highest body; supervisory board – representative body of shareholders in the period between general meetings; general director - executive body; as well as the audit commission - the body of control over the financial and economic activities of the general director.

The competence of the general meeting of shareholders includes the approval of the annual results of the company's activities, reports and conclusions of the audit commission, the order of profit

distribution, the term and order of payment of a share of the profit (dividends), determination of the order of loss coverage.

The competence of the supervisory board includes: determining the main directions of the company's activities and approving its budget, production plan and reports on their implementation; approval, at the request of the general director of the company, of rules of procedure and other internal documents of the company; determination of the organizational structure of the company and the staff list; approval of the collective agreement of the company and determination of the terms of payment of company officials, directors of subsidiaries, branches and representative offices, as well as their motivation system.

The executive body of a joint-stock company, which manages its current activities, is the general director, who is appointed by the supervisory board.

The general director, with the approval of the supervisory board, signs a collective agreement with the labor team and establishes a wage fund on the terms specified in the collective agreement.

According to the charter of the enterprise, the rules of internal labor regulations, employment in the company is implemented through the conclusion of an employment contract or contract between the management company represented by the general director of the company and a citizen.

A candidate for the position of deputy general director, director of a department or branch, chief accountant of the enterprise is approved by the company's supervisory board, after which he is appointed to the position by order of the general director. The General Director may delegate the right of employment to branch directors. The director of the branch has the right to hire an employee only if there is a vacant position provided for in the company's staff list.

Chief specialists of branches are appointed to the position only by order of the general director of the company. As an exception, the director of the branch may, by his order, appoint an acting chief specialist of the branch, followed by his approval, within a month, by order of the general director.

The coordinating link of agricultural holdings is the central company, which is delegated the authority to make major decisions,

implement top strategic management, coordinate financial and economic activities, business planning, and develop a marketing policy [201].

The organizational structure of the agricultural holding is, first of all, aimed at solving issues regarding the selection of the quantitative and qualitative composition of the participating enterprises. Such selection should be based on the following factors: production direction and level of management; substantiation of technological and economic connections of potential participating enterprises, degree of centralization of production and management functions, territorial factor.

The main tasks in the formation of an agricultural holding are to ensure the coordinated activity of all organizational and legal economic structures participating in the organizational and technological cycle of the production of certain types of finished products, the economic and social interest of each partner in obtaining a high final result, a better organization of the agricultural market [17]. This can be achieved through the implementation of the principles of using investment and innovation resources, which play a decisive role in the process of forming a group of founders of newly created economic structures. In the absence of a leading enterprise and a reliable investment source, a newly created agricultural holding can turn into an ineffective formal association of legal entities.

In fact, in the formation of agricultural holdings, the main founders are non-agricultural companies that were either buyers of agricultural products or suppliers of material and technical resources of industrial origin. However, there are cases when the investor is not related to agriculture at all.

Most authors distinguish the organizational, economic, structural, and legal stages of formation of agricultural holdings [201].

Recently, the process of creating agricultural holdings through mergers and acquisitions of other companies has been actively developing (Fig. 1.1).

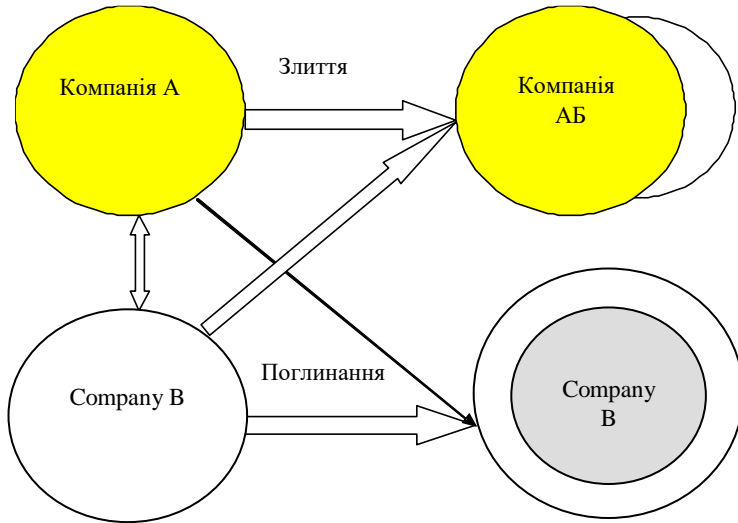


Fig. 1.1. An example of the creation of agricultural holdings through mergers and acquisitions

Source: author's research.

In particular, the processes of mergers and acquisitions became quite active in 2009. For example, in September, the agro-industrial holding "Land West Company" and "Western Company" Dakor completed the process of merging their assets, resulting in the creation of a new company "Dakor Agro Holding" (Dakor Agro Holding, Cyprus). The structure of the new association consists of 4 sugar factories with a total sugar beet processing capacity of 16.7 thousand tons per day, has 163 thousand hectares of agricultural land in use, has a park of modern equipment, as well as companies providing logistics and product storage. It is planned that such a merger will allow the new association to enter the top three largest agricultural holdings of Ukraine. Thus, the holding expects to increase the sale of agricultural products by 3.6 times by 2012, compared to the level of 2009 - to UAH 758 million.

In December 2009, it was announced that the merger of one of Ukraine's largest agro-industrial holdings, OJSC "Sugar Union" Ukrros" with LLC "Ukrros-zerno" (99% of the share in its authorized capital was purchased by OJSC "Sugar Union" Ukrros"). At the same time, the main goal of combining agrarian business and processing was to improve and improve the management system.

In April 2009, Mriya agricultural holding completed the takeover of several large agricultural producers in the western region, and in July the Antimonopoly Committee of Ukraine allowed the holding to acquire shares of six sugar factories in the Ternopil region. Basically, such activity is aimed at increasing the volume of production of agricultural products [344].

In general, the creation of integrated structures can open the way for business entities to enter new markets. Moreover, integration structures can act as a convenient form of transfer of capital from industries that have problems associated with a decline in production [236].

The main goal of creating agricultural holdings is the formation of such an integration structure that is able to ensure the profitability of the association's production and financial activities in the long term and a stable place on the domestic and foreign markets. The specific goals of each participant are usually different from the general goals. However, they have a common strategic goal, which is to maximize profits.

The creation of agricultural holdings necessitates the definition of an accurate unified terminology that reflects the economic essence, character and nature of each of them individually and collectively as parts that make up a single agrarian-industrial complex at the level of the national economy scale [51]. We consider this point of view to be well-founded and one that requires clear definitions of terminological concepts.

Our studies of the practice of cooperation and integration in agricultural holdings at the current stage of the development of these processes confirm that the named organizational formations are not identical both in terms of their functioning and in terms of economic

relationships within agro-industrial formations. In many cases, their names do not correspond to the content of economic relations with the external environment and between units in the enterprise (association). Based on these prerequisites, we have made an attempt to formulate terminological definitions: "agroholding", which would reflect the content of the activity of these formations and intra-economic economic relations.

Agroholding is an association of enterprises of various forms of ownership and management, which have integrated into a single economic legal entity for joint multi-sectoral activities in the production of products, their processing, service maintenance of productions, trade, operating according to a single economic plan and general management [209].

Clear differentiation regarding the name and content of agricultural holdings contributes to the creation of such organizational and legal structures that meet the requirements of the mechanisms of action of economic laws and ensure higher economic efficiency of management.

#### **1.4. Institutional effects and significance of integrated structures**

Solving the problem of institutional effects of the development of agricultural holdings is of great importance in the formation of economic relations between their members, gaining special relevance under the conditions of globalization of the domestic economy.

In the period from 2000 to 2010, there was a rapid development of integration formations in the agrarian sphere, which led to a qualitatively new development of them as institutions and a significant expansion of the sphere of activity. Currently, the issue of weakening the negative influence of agricultural holdings on the state's agrarian policy has become acute, as there is a situation where they, acquiring significant financial power, leave state control. In some cases, there is even an increase in their pressure on institutions of state power.

In the scientific literature, there are ongoing disputes regarding the affiliation of integrated structures to institutes. Having conducted a detailed analysis of their structure, activities, forms of setting up production processes and economic and financial relationships, we came to the conclusion that modern integrated formations have gone far beyond the boundaries of ordinary organizations, and their influence on the development of the national economy of the country is not local, since quite often it is they who establish the "rules of the game" in the domestic economic and sometimes political arenas. The active development of agricultural holdings and the strengthening of their financial stability are facilitated by significant amounts of investments, including foreign ones, which leads to the inclusion of Ukraine in the world integration processes, thus strengthening their institutional basis.

The process of integration, as a rule, is characterized by the formation of the so-called "agro-industrial chain". Interacting, economic structures that are links of such a chain have quite high economic indicators, which is due to obtaining additional institutional effects from their economic activity. In general, the evolutionary processes of the development of integrated structures cause the appearance of such effects.

The concept of institutional effects of the development of agricultural holdings is multifaceted and multicomponent, therefore it is advisable to combine them into six main groups: investment, management, organizational, personnel, financial and social (Fig. 1.2).

The investment effect is manifested through the investment attraction mechanism.

In our opinion, the tools for creating an investment effect are as follows:

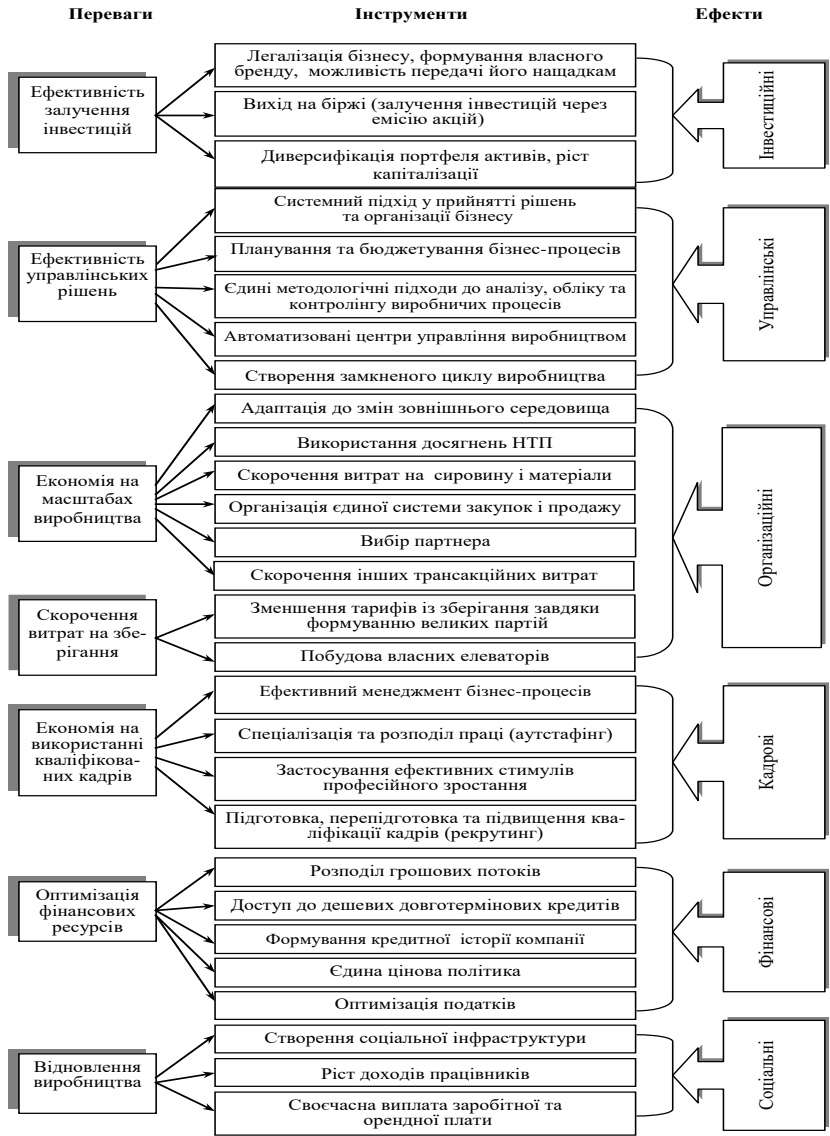


Fig. 1.2. The main institutional effects of the development of integrated structures



Source: author's research.

- legalization of business, formation of one's own brand and the possibility of passing it on to descendants, which makes it more attractive;

- going to the stock exchange, which allows attracting investments through the issue of shares;

- asset portfolio diversification, capitalization growth.

Management effects are ensured as a result of making effective management decisions. For this purpose, the following are used in the adjustment of the management mechanism of the agricultural holding:

- a systematic approach to decision-making and business organization;

- planning and budgeting of business processes;

- unified methodological approaches to the analysis, accounting and controlling of production processes;

- automated production management centers;

- creating a closed production cycle.

Organizational effects include economies of scale in production and reduction in storage costs. At the same time, economies of scale in production are ensured through:

- quick adaptation to changes in the external environment;

- use of achievements of scientific and technical progress;

- organization of a single system of purchases and sales;

- the possibility of choosing a profitable partner;

- reduction of costs for raw materials and materials;

- reduction of other transaction costs.

It should be noted that the active development of agricultural holdings objectively contributes to the effective penetration of the achievements of scientific and technical progress into all links of the agro-food chain, and is also the basis of the unification of technological processes and, as a result, the improvement of the efficiency of agricultural production as a whole.

The development of agricultural holdings ensures an increase in the efficiency of economic activity due to the reduction of transaction costs. Transaction costs of activity should be understood as costs arising as a result of the exchange of ownership of agricultural products and raw materials in the process of their purchase and sale.

In this regard, it is appropriate to note that the reduction of costs for the organization of the supply of raw materials and materials is carried out through the formation of joint purchases for a certain link of integrated enterprises or through the involvement of logistics centers and causes the creation of an organizational effect of the activity of the agricultural holding.

Reduction of storage costs is achieved by:

- reduction of storage tariffs thanks to the formation of large batches;
- construction of own elevators.

Reducing the costs of storing goods and material values requires the development and adoption of appropriate management decisions regarding rationing of stocks, coordination of the purchase plan with the plan of production or sales (trade), customer segmentation during implementation and the creation of priority systems during the assembly and delivery of orders, which, in turn, , contributes to increasing the efficiency of work with customers.

Savings on the use of qualified personnel include:

- effective management of business processes;
- specialization and division of labor (outstaffing);
- application of effective incentives for professional growth;
- training, retraining and advanced training of personnel (recruiting).

In the conditions of modern agricultural holdings, there is an opportunity to attract the most qualified personnel, taking into account their specialization, which allows the employee to concentrate on the performance of specific tasks and contributes to increasing the efficiency of their performance.

The effect of the use of qualified personnel is manifested in the improvement of the efficiency of the personnel's work with the simultaneous regulation of the level of wages of employees and causes:

- optimization of the number of personnel based on the labor intensity of business processes (rationing of labor resources);
- decision-making by the management apparatus on the efficiency of employees' activities, which leads to the need to review the existing indicators of their work efficiency and strengthen the

motivation of employees to achieve better financial results of the enterprise's work.

Financial effects are manifested in the optimization of financial resources and are ensured by:

- distribution of cash flows;
- access to cheap long-term loans;
- formation of the company's credit history;
- uniform price policy;
- optimization of taxes.

The social effect is ensured thanks to the restoration of production and is characterized by:

- creation of social infrastructure;
- the growth of employees' incomes;
- timely payment of wages and rent.

The main institutional effect of the development of agricultural holdings is a decrease in the cost of production of goods, works, and services, which is ensured by:

- introduction of advanced technologies that reduce resource intensity and labor intensity by automating production processes, standardizing consumption of fuel and energy resources: raw materials, materials, components and other material resources of the enterprise (development of norms and standards for a specific enterprise that reflect the specifics of the technological process);

- by reducing the costs of storing goods and material values by developing and adopting separate management decisions (rationing of stocks, coordination of the purchase plan with the production or sales plan, segmentation of customers during implementation and creation of priority systems during the assembly and delivery of orders), which, in turn, will help companies to improve the efficiency of customer service;

- reduction of costs related to the supply of raw materials and materials through the organization of joint purchases with other enterprises or the involvement of logistics centers;

- reduction of transaction costs associated with the execution of operations: costs of choosing a partner; for signing agreements; for control over performance; to adapt to the changes taking place; to improve the qualifications of individual

employees; to prevent fraud;

– the involvement of qualified personnel, which allows the employee to concentrate on the performance of specific tasks and contributes to increasing the efficiency of their performance;

Deepening vertical integration will allow business entities to reduce costs associated with the search for suppliers and sales channels for products and their processing.

After analyzing, grouping and classifying institutional effects, it is appropriate to note that the deepening of vertical integration in agricultural holdings enables business entities to reduce costs associated with the search for suppliers, the assessment of the quality of agricultural products and raw materials, as well as the costs of using agricultural product sales channels and products of its processing. Further deepening of interaction, development of relations between business entities in various spheres, including within the framework of the technological process, will contribute to increasing the competitiveness of agricultural holdings due to the manifestation of individual institutional economic effects or their combination.

Integrated structures play an important role in ensuring the food security of the state, increasing the volume of production of domestic agricultural products and increasing its competitiveness on food markets, providing raw materials for industry, increasing the employment of peasants, raising their wages to the level of industrial workers, increasing the welfare of peasants and social development Ukrainian villages belong to agricultural holdings. To a large extent, the future of the agricultural sector of Ukraine depends precisely on the efficiency of their work. After all, large agricultural holdings have access to capital, the latest technologies, and knowledge in each individual segment (agronomy, veterinary medicine, ecology, economics, management, etc.) [279]. The main motivating motives for the creation of agricultural holdings are the achievement of economies of scale of production,

Thanks to the activities of agricultural holdings, it was possible to significantly improve the economic indicators of agricultural production in recent years.

Stopping the decline in production, which continued since 1993 and was caused by the price and tax policy unfavorable for the village, the violation of integration inter-industry relations, under which the newly created organizational and legal structures in the processing industry in the process of privatization, occupying a monopoly position, tried to ensure the effectiveness of their activities at the expense of agricultural producers, unilaterally setting low prices for raw materials.

Since 2000, crop production has grown as a result of improved technical equipment, an increase in the amount of applied organic and mineral fertilizers, and the use of plant protection products. The latter was due to the leveling of the price disparity, improvement of the credit policy.

Thus, it can be noted that agriculture shows positive results. According to the results of 2009, it is a type of economic activity where an increase in production volume by 0.1% was recorded. This indicator was achieved against the background of an extremely high comparative statistical base in 2008 (the growth rate in 2008 was 17.1%). The gross harvest of grain crops amounted to 46 million tons (against 33.3 million tons on average for 2000–2007), sunflower - 6.4 million tons (against 3.8 million tons).

In July–November 2009/10, Ukraine ranked third in the world in terms of grain and legume exports (11.3 million tons versus 10.9 million tons in July–November 2008/09). In the structure of exports, along with traditional sales markets (Egypt, Iran, Syria, Turkey, Bangladesh, etc.), there is a diversification of exports to developed countries (Japan, South Korea, Spain, Israel, etc.). As of January 1, 2010, compared to the corresponding date in 2009, the number of pigs increased by 9.3%, sheep and goats - by 4.1%. In addition, as a result of the increase in the number of poultry in all categories of farms (by 7.3%), the growth of egg production (by 9.1%) continues. In 2009, the total volume of livestock production increased by 4.2% compared to 2008.

For example, if for 1991–2000 the volume of investments in agriculture well, the agricultural sector decreased almost 24 times, investment activity in agriculture has been observed recently. In particular, in 2009, capital investments in the agricultural sector

amounted to over 9.3 billion UAH (compared to 2.1 billion UAH in 2003), or 6.2% of their total volume in the economy of Ukraine.

Experience shows that no matter how large-scale, deep and radical the changes in property relations in the countryside and organizational forms of management in agro-industrial production are, in the absence of adequate resource, material and technical and financial support without the use of modern technologies, the construction of integrated structures is practically impossible to ensure high final production results.

At this stage, agricultural production turns from unprofitable to profitable. In 2000, agricultural enterprises had losses in the amount of UAH 121.4 billion, and in 2009, the level of profitability of economic activity of agricultural enterprises was 8.5%, including sales - 13.8% [266].

Agriculture is one of the basic, life-supporting industries, the condition and effective development of which directly affects the functioning of the entire national economy. After all, one unit of manufactured products contributes to the development of other industries by 10–12 units. Currently, almost a quarter of all employed work in the agricultural sector, and in it, together with the processing sector of the agricultural sector, more than 60% of the total consumption fund and more than 40% of the positive balance of foreign trade turnover are created. However, the agricultural sector, thanks to which large cash flows are formed in the state, on the one hand, remains as before, "deprived" of investments, trade and financial resources, and on the other hand, works for other branches and spheres of the national economy, depleting its own natural and ecological, production and human capital.

The creation of agricultural holdings is a model for the revival of agricultural production and, on this basis, ensuring the food supply of the people of Ukraine at the level of rational nutritional standards, providing raw materials for industry, increasing the labor employment of peasants, raising their wages to the level of workers in industrial industries, increasing the welfare of peasants and the social development of the Ukrainian countryside.

The practice of forming agricultural holdings in the agricultural economy of Ukraine shows that this is a rather long and painstaking process. The development of agro-industrial associations in the form of agricultural holdings is one of the effective ways of reviving the entrepreneurial activity of agricultural producers. At the same time, the advantages of this form of management are determined by the combination of the function of ownership, labor and management in one person, which stimulates an additional impetus to the efficient management of agricultural production.

Holding-type companies are full-fledged and equal producers of agricultural products, they occupy a leading place in the Ukrainian food market.

For their formation and development, conditions and time are necessary, which largely depend on the following factors: improvement of financial and credit and tax policy; creation of appropriate land legislation; formation of the appropriate infrastructure of services, agricultural service, processing and sales of products; state support of holding companies in the creation of a production base; holding events for special training of specialists on the basis of secondary and higher educational institutions, as well as promoting the development of integrated structures in mass media.

The basis of the activities of the holdings is the restoration of old and the construction of new relations with agricultural enterprises, which include seasonal and off-season lending, the establishment of a higher price level in order to attract raw materials for processing, modernization of farms, the purchase of highly productive livestock and equipment at the expense of non-agricultural companies [325].

The main factors that will ensure high economic efficiency of the business include: the use of advanced technical and technological solutions in production; development of multi-sectoral activity in a closed economic space; processing of almost all raw materials produced in the association; organization of agricultural production and processing services; implementation of equivalent exchange between business units; sale of manufactured products through own retail establishments. This makes it possible to increase revenue from the sale

of products not by raising prices, but by eliminating the middleman-processor and buyer-wholesaler [321].

In general, the formation of integration structures makes it possible to solve many issues: to respond quickly to changes in the market situation, to reduce production costs, to achieve economies of scale of production, to accumulate and attract additional financial resources, to improve the efficiency and maneuverability of the use of labor, technical and financial resources [59 , 154, 263, 264, 289, 255, 195].

Enterprises that are part of agricultural holdings receive a guarantee of stable supplies of raw materials, capital, and labor, and regulate the costs of purchasing the necessary resources.

The conducted analysis shows that the advantages of large integrated associations are convincing and indisputable, which indicates the expediency of creating similar agro-industrial formations. The analysis of the situation showed that in complex macro-economic market relations not regulated by the state, agricultural holdings increased the efficiency of agricultural production through the wide implementation of progressive technical and technological solutions in production, active development of multi-sectoral activities, and provision of equivalent exchange between economic units. The growth of economic indicators was facilitated by the internal processing of all manufactured products and their sale through our own trade organizations. A significant role was also played by the organization of agricultural service maintenance of production and processing processes.

The expediency of the participation of agricultural enterprises in agricultural holdings is that it will improve their financial and economic condition and provide expanded reproduction, reduction of transaction costs, reduction of material costs per unit of produced products, growth of gross income due to increase in production volumes.

In general, the development of integrated agricultural formations through the combination of agricultural, industrial and trade capital should be considered as a prerequisite for the effective development of the agricultural economy in the near future, the creation of new jobs and the solution of social problems in rural areas. Unification of processing, trading and banking capital in agricultural production and



involvement in production management of effective teams of managers, new technologies and management systems can become the most promising way of development of the agricultural economy.

Therefore, one of the main tasks of the research is to evaluate the results of the activities of agricultural holdings both for the development of the agricultural sector of the economy and rural areas, as well as possible scenarios for the development of investment activity in the medium term.

The production efficiency of the vast majority of agricultural holdings is determined by the presence of significant amounts of sown areas and the establishment of own production of finished products. Rural areas receive new jobs, local budgets are replenished and, as a result, social projects are implemented, which will ultimately contribute to the revival of agriculture, the improvement of the trade balance, and the increase in the incomes of the rural population.

The investment attractiveness of agriculture contributed to attracting significant financial resources to agricultural production. New technologies and quality management systems are being actively introduced into production, the qualifications of employees are improving, and the management system of agricultural enterprises is being improved, the result of which should be stabilization, and in the future, an increase in production volumes and an improvement in the quality of products and the expansion of sales markets.

Undoubtedly, the positive aspect of the creation of agricultural holdings is an increase in rents. In some cases, it is paid at the level of 8% of the land value. Rent payments are paid on time, arrears are not allowed. The main motive is to receive state subsidies and a satisfactory audit opinion at the end of the year. This is absolutely necessary to improve the status of the company when attracting investments. The volume of attracted investments in 2007-2008 alone amounted to more than 1 billion US dollars.

The main and defining achievement of the work of agricultural holdings for the period from 2004 to 2010 is the suspension of the decline in the production of agricultural products and the increase of its volumes. The weighted average level of profitability of agricultural production, without taking into account subsidies and surcharges, is almost 15%, under the conditions of the use of the latest technologies,

investors received significantly better results. So, in 2007, the profitability of sunflower production in agricultural holdings was 130%, and wheat - 80%. Along with this, the infrastructure is gradually developing, new elevators, new feed plants are being built, in particular, the domestic producer of concentrated feed and feed additives "Eurokorm".

The activity of agricultural holdings with a developed livestock sector is characterized by special advantages. In particular, the formation of integrated structures with the participation of enterprises specializing in the production of livestock products allows:

- to increase the level of intensification, concentration and specialization of production and to restore livestock farms and complexes suitable for further exploitation;
- to form optimally sized livestock farms;
- significantly increase the productivity of livestock and poultry on the basis of strengthening the fodder base and improving the qualitative composition of livestock;
- to develop selection and breeding work in agricultural enterprises;
- to introduce effective energy- and resource-saving technologies for the production of animal husbandry products;
- restore the compound feed industry and the production of compound feeds to provide the livestock industry with complete compound feeds and protein and vitamin supplements;
- to ensure the improvement of the infrastructure of the livestock product markets and to introduce effective methods of regulation of the livestock product markets through an intervention policy.

The formation of agricultural holdings contributes to the strengthening of labor intensity, the reduction of non-productive costs due to the reduction of the excess number of employees, the loss of working time, which is actually accompanied by the release of the workforce:

- closure of low-profit and unprofitable enterprises;
- decommissioning of redundant workplaces and, accordingly, the main production assets and production capacities in connection with denationalization, structural restructuring and changes in market

conditions;

- technical updating of functioning physical workplaces, increasing the technical level of production and the efficiency of the use of fixed assets, increasing the need for highly qualified workers in modern professions and reducing jobs with manual labor;

- increasing the number of jobs in priority sectors of the economy at effectively operating enterprises of the state and private sectors of the economy as a result of the development of entrepreneurship, small and medium-sized businesses, and the development of market infrastructure.

The economic mechanisms of management are being improved, which is based on the regulation of mutually beneficial economic relations in the agro-industrial complex, increasing the material interest of employees aimed at improving production, increasing its quality and profitability of production.

New technologies and quality management systems have been introduced into production, the qualifications of employees are improving, and the management system of agricultural enterprises is being improved, the result of which should be stabilization, and in the future, an increase in production volumes and an improvement in the quality of products and the expansion of sales markets. The employment of the population is increasing - the revival of production is a guarantee of the creation of new jobs and the preservation of existing ones.

In order to realize competitive advantages, a constructive agrarian policy is necessary, which in the conditions of the global economic crisis should become a priority in the system of economic transformations. First of all, it concerns the development of a strategy for the development of agriculture, the improvement of land legislation and the regulation of property relations, crediting for the development of the infrastructure of the agrarian market and the protection of domestic producers, including through import restrictions. The important issues that need to be resolved are:

- restoration of state subsidies for improving soil fertility;
- strengthening the performance of contractual obligations within land lease agreements;
- legislative substantiation of the possibility of deducting 1%

from the gross production of products by processing enterprises, which in the vast majority are the founders of agricultural holdings, for the development of the social infrastructure of rural areas.

In general, an economically beneficial and socially oriented policy of agricultural holdings can be ensured by combining effective state regulation of their activities and economic freedom of integrated formations in the conditions of market relations.

The increase in the efficiency of the production of integrated structures will be facilitated by the state policy aimed at protecting the domestic producer; improvement of the agricultural market infrastructure and market mechanisms of price regulation; joining the world community; attracting investments aimed at reproduction and modernization of the resource potential of agricultural enterprises; improvement of the tax mechanism and credit and financial policy; restoration of irrigation and drainage systems; introduction of control over ecologically safe land use in agricultural enterprises and agricultural associations of all forms of ownership and management; development of modern resource-saving technologies for the production of ecological agricultural products; introduction of purposeful state support for agro-industrial production with simultaneous improvement of information, scientific, personnel support; development of breeding and seed production in crop production and selection and breeding in animal breeding; revival and development of the social sphere of the village.

In this context, it should be noted that the main tasks of the development of agricultural holding structures in the near future are the redistribution of the regional structure of the placement of productive forces, the deepening of the social division of labor, and the effective use of agro-climatic potential. The main obstacle that should be overcome in the implementation of the set tasks is the elimination of significant regional disparities in the levels of intensity and resource provision of agricultural production.

At the same time, the size of investments in agricultural production is of great importance in the development of agricultural holdings. In this regard, the formation of an investment-attractive innovative image of agricultural enterprises and their associations becomes important, which requires:



- activation of organizational and information support for investment attraction;
- improvement of organizational, legal and economic conditions for the activity of investors;
- comprehensive protection of the legal rights of investors, including foreign ones;
- ensuring the effective functioning of investment activities in market conditions.

The creation of integrated structures helps to concentrate the production of raw materials, their transportation, processing and storage, all production services and trade in a single closed economic system and due to this ensure the equivalence of exchange between all these links. Increasing the efficiency of the economic activity of agricultural holdings occurs due to the creation of proportionality and synchronicity throughout the technological chain of production of final products "from the field to the counter", which makes it possible to eliminate costs at the junctions of links: production, processing, storage, transportation, trade [50].

## **SECTION 2**

### **FORMATION AND FUNCTIONING OF INTEGRATED STRUCTURES**

#### **2.1. Prerequisites and mechanisms of formation of integrated structures in agriculture**

In Ukraine, important stages of reforming land relations were carried out: denationalization and monetary valuation of lands were carried out, more than two-thirds of agricultural lands were privatized. Market-oriented business structures are formed on a rental basis.

At the same time, the issue of effective production and attracting investment and solving social and economic issues on this basis is an important task of economic science and requires research.

The works of well-known agrarian economists V.G. Andriichuk, M.Ya. Demyanenko, I.I. Lukinova, Lupenko Yu.O., M.Yu. Kodenska, M.Y. Malika, V.Ya. Mesel-Veselyaka, Yu.O. Nesterchuk, O.M. Onishchenko, B.Y. Pashavera, P.T. Sabluka, V.P. Sytnyka, V.K. Tereshchenko, M.M. Fedorova, V.V. Yurchyshyn and others. However, the formation of a market economy requires further, in-depth study of new approaches to the production organization system.

As a result of denationalization and privatization of land, the share of state ownership decreased to 26.2 percent, while 73.8 percent is in non-state ownership. State-owned lands are used mainly for scientific activities, for educational purposes, as well as for seed production, breeding, production of specific types of agricultural products. The collective form of ownership has almost lost its validity (Fig. 2.1).

The development of organizational and legal forms of management took place by testing various models. At the first stages of denationalization and restructuring of enterprises, important importance was attached to the development of farms and cooperatives, which have become widespread in many countries of the world. So, in Japan - 80%, EU countries - 60%.

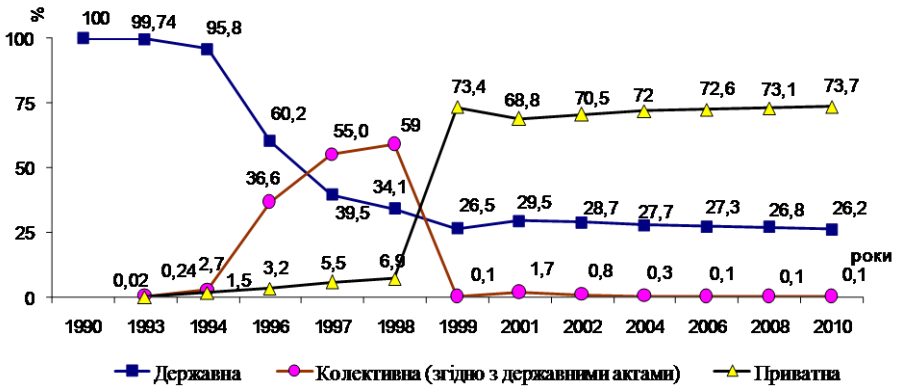


Fig. 2.1. Distribution of agricultural land in Ukraine by forms of ownership in all categories of farms for 1990–2010.

Source: author's research.

Collective enterprises were reformed into economic formations with relatively smaller sizes, which inhibited the use of the mechanisms of economic laws: the advantages of specialization and concentration of production; compliance of industrial relations with the level and character of productive forces; increase in labor productivity; socialization of labor and production, etc., which led to a decrease in economic efficiency [225]. Agrarian potential, the development of organizational and legal forms contributed to the consolidation of scattered land massifs and the creation of new viable formations.

As of January 1, 2010, according to form 50 s.-y., in Ukraine 9,249 agricultural enterprises are reported, of which the largest share (54.2%) is occupied by business associations, 24.1% by private enterprises, and 6.8% by farms (Table 2.1). During 2001–2009, there was a tendency to increase the size of agricultural enterprises and reduce their number. Thus, the specific weight of cooperatives decreased from 16.9 to 6.8%. The idea of cooperative agro-industrial integration in the conditions of Ukraine did not spread significantly, since the newly created cooperatives did not differ in their organizational and economic activity from collective agricultural enterprises. Farms, in the absence of proper logistical and financial support from the state, could not become a

dominant producer of products and concentrated production on a limited spectrum,

*Table 2.1*

**Composition and structure of agricultural enterprises according to organizational and legal forms of management**

Form of management	Year							
	2001				2009			
	number of farms	%	area s.-g. land, thousand ha	the area of the village land, per state, thousand ha	number of farms	%	the area of the village land, thousand ha	the area of the village land, per state, thousand ha
Business associations	6970	54.4	13057	1.9	5017	54.2	10720	2.1
Private enterprises	2577	20.1	4054	1.6	2227	24.1	3394	1.5
S.-g. production cooperatives	2165	16.9	3707	1.7	629	6.8	1025	1.6
Others, including inter-farms	462	3.6	672	1.5	304	3.3	918	3.0
State enterprises	256	2.0	927	3.6	275	3.0	625	2,3
Peasant farms	390	3.0	526	1.3	797	8.6	1542	1.9
In total	12820	100.0	22943	1.8	9249	100.0	18225	2.0

Source: author's research.

During the period of reforming the agrarian sector of the economy, there were changes in the structure of acreage of agricultural enterprises. The specific weight of grain and industrial crops increased and the specific weight of fodder decreased. If in 1999, cereals occupied 48.9% of the cultivated area, then in 2009 - 63.9%.

Analysis of the data in Figure 2.2 shows that during 2001–2009 there were trends to increase the size of agricultural enterprises with an area of more than 6,000 hectares and increase their management efficiency. The share of enterprises with an area of more than 8 thousand hectares in 2001 accounted for only 5.3% of agricultural land, and in 2009 they concentrated production on 20% of such land.



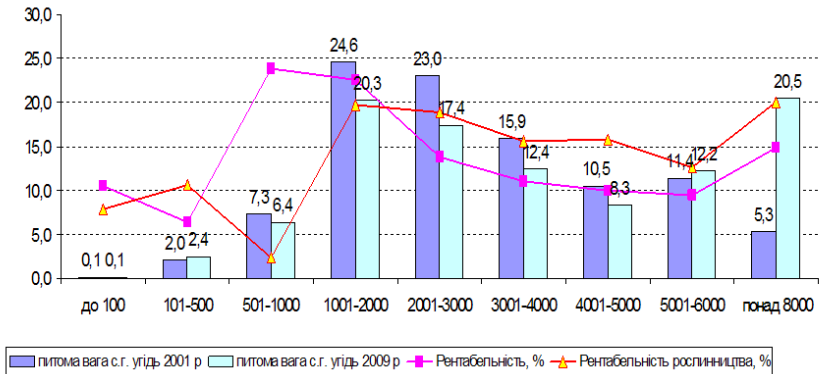


Fig. 2.2. Dynamics of the size of land use of agricultural enterprises (2001–2009)

The increase in the size of agricultural enterprises is largely due to the attraction of investments in agricultural production. The concentration of capital found its expression in the creation of associations of agricultural enterprises in the form of holdings, associations, corporations, concerns, which assumed the functions of management, material and technical support, organization of production and sales of products, restoration of broken inter-industry ties, leveling of intermediary influence on the development of the agricultural industry.

The most important sign of modernity is the growth of interdependence and interaction of independent business entities in the field of resource use and distribution. Such interaction in economic science is called "economic integration". According to the generally accepted approach, economic integration is characterized by the deepening of interaction, the development of relations between business entities in various spheres, including within the framework of the technological process. There are three main forms of economic integration: horizontal, vertical and conglomerate. The development of each of them helps to increase the competitiveness of the business entity due to the manifestation of separate economic effects: first of all, synergistic, scale and broad profile.

As practice shows, in recent years in Ukraine, vertical integration has received the greatest development, which objectively contributes to the effective penetration of the achievements of scientific and technical progress to all links of the agro-food chain, and is also the basis of the unification of technological processes and, as a result, increasing the efficiency of agricultural production.

Associations are currently particularly important, as they contribute to the entry into the world economic system, accelerated achievement of the necessary level of competitiveness. From the point of view of optimizing taxation, the unification of several legal entities, each of which is intended for specific purposes (creating a raw material base, processing, production of finished products) into a concern (holding structure) or a financial and agro-industrial group is the most effective and widespread in domestic practice .

The creation of agricultural holdings is a peculiar response of the agrarian economy of Ukraine to market requirements. This process takes place in an evolutionary way and does not have wide publicity and is a fundamentally new approach to the organization of agricultural production. The prerequisites for the creation of agricultural holdings are the underestimation of the value of land as the most important factor of production in the agricultural sector and the decapitalization of the industry, which sharply increases the return on investment. The results of the activity are: increased competition in the land rental market and an increase in the amount of rent; investment attraction; increase in labor productivity; strengthening the competitiveness of domestic production.

Considerable attention was paid to this topic by well-known agrarian economist scientists: V.G. Andriichuk, O.M. Borodina, V.L. Valentinov, S.I. Demyanenko, M.Y. Malik, B.Y. Paskhaver, P.T. Sabluk, V. V. Yurchyshyn and others. The difference in their separate views on certain aspects of the development of integrated structures indicates the complexity and relevance of these problems and the need for continuing scientific discussions.

During 1992–2000, the agriculture of Ukraine underwent significant structural changes: lands were denationalized and transferred to collective ownership of collective agricultural enterprises, with their subsequent division and transfer to the ownership

of peasants. Based on the lease of land and property shares of citizens, new market-oriented agricultural formations were created.

The transformation of agriculture to market conditions and the formation of organizational and legal forms of management took place in difficult conditions due to the disruption of economic ties, a significant price disparity between the agricultural products sold and material and technical resources of industrial origin, the absence of a self-sufficient credit system and the elimination of the system of zonal prices and subsidies, which operated during the planned economy. As a result, households became the main producer of agricultural products (vegetables, potatoes, milk, meat). Their specific weight in the total volume of production is 75%, agricultural and farm holdings account for 21 and 4% of the total volume, respectively. Some industries, in particular flax growing, hop growing, potato growing, and vegetable growing, were practically degraded.

Favorable market conditions and increased profitability of certain branches of agricultural production created conditions for strengthening globalization processes in agriculture. During the years 2000-2009, there were trends towards the consolidation of newly created enterprises, the increase of their area and the increase of production capacities.

The process of capital concentration in agricultural production is reflected in the creation of integrated structures - large business structures with an area of about 300,000 hectares. The basis of their formation is investments from abroad, as well as from domestic financial and industrial groups that are trying to diversify their risks, take advantage of the favorable global situation and gain a foothold in the Ukrainian land market. So, only during ten months of 2010, investments in the amount of more than 500 million dollars were attracted. USA.

According to preliminary estimates, there are more than 60 large holdings operating in Ukraine, which continue to expand land massifs. According to experts' estimates, for the current period they cover more than 6 million hectares, or about 24%, they are the largest producers of grain and industrial crops. Mainly, associations use innovative technologies and grow competitive products. By 2015, according to

experts' forecasts, about 200 holdings will be formed in Ukraine, and gross grain production may reach 60–70 million tons [139].

According to the current legislation, "...a holding company is a business entity that owns controlling stakes in one or more other business entities" [222]. Currently, in agriculture, we refer to agricultural holdings as non-agricultural companies for which agricultural production is not a specialized type of activity, but which are engaged in agricultural production by creating agricultural divisions in their structure. Companies engaged in agricultural production may not have a holding structure. On the other hand, holdings represent vertically integrated enterprises, the motives of which may not be related to vertical integration.

Agroholding is a qualitatively new organizational management system, in which material (economic, technological, resource, etc.) factors are closely interconnected with social factors, which contributes to the restoration of broken inter-industry ties and the formation of mutually stimulating socio-economic processes [193].

From an organizational point of view, the formation of the association and its expansion takes place through the purchase by the parent company of the property complex of the agricultural enterprise and the lease of land, mainly on medium and long-term lease terms. The company identifies specific areas of development. Each type of business is granted the status of a legal entity with the transition to self-sufficiency. The management company takes over the functions of decision-making according to the strategic directions of the company's development, as well as the function of financing and control. Under such conditions, the company can unite a large number of enterprises of various sizes in the form of branches or production sites, which form added value in all subsequent divisions of the company, ending with the sale of products. Currently, most of the enterprises that are part of the holdings

The motives for the creation of agricultural holdings are: provision of own production with raw materials, since in the conditions of an imperfect market, the organization of own production is less expensive, compared to operations on the free market; fixation on the land rental market pending lifting of the moratorium; diversification of financial risks when placing a financial portfolio in order to avoid high

risks; control over the processes of agricultural production in order to ensure the return of previously issued loans; expansion of sales markets for products of own production and the company's sphere of activity; preferential taxation.

The purpose of forming an agricultural holding is to ensure the coordinated activity of all organizational and legal economic structures participating in the organizational and technological cycle of production of certain types of finished products; the economic and social interest of each partner in obtaining a high final result; better organization of the agricultural market.

Conventionally, the organization of the holding can be divided into the following stages:

- organizational - determination of the composition of participants, type of activity and specialization;
- economic - assessment of the potential of structural units, stock volumes, finished products and possible sales markets. Development of a business plan, order and terms of debt repayment, determination of centers of financial responsibility based on the principles of intra-economic calculation;
- structural - optimization of the organizational structure, the selection of independent business units, the formation of the company's central apparatus, the number of employees, the principles of relations between divisions and the external environment. At the same time, the central apparatus performs functions related to strategic planning and protection of the interests of the owners of the enterprise, and the structural divisions are engaged in current production activities;
- legal - official registration in state authorities.

Agricultural holdings provide for the organization of work in agriculture by supplying resources (commodity credit), leasing land, providing soft credit, obtaining assets for debts and organizing production, purchasing assets of joint enterprises. The agricultural activity of most agricultural holdings begins with the lease of land and the purchase of assets.

The formation of agricultural holdings is aimed at restoring broken inter-industry ties and eliminating the price disparity between sold agricultural products and material and technical resources of industrial origin, restoring a self-sufficient credit system. Unlike small

agricultural enterprises, agricultural holdings have better chances of attracting investments, experienced and qualified personnel, developed infrastructure, the ability to diversify risks and control costs along the entire chain - from the field to the supermarket.

The entry of enterprises into the agricultural holding will allow them to expand the sales market, improve the image of the enterprise, increase competitiveness, strengthen competition in the land rental market and increase the amount of rent, attract investments.

The protracted nature of the reforms and the unsettled nature of property relations for a long time led to the destruction of property complexes and the decline of the economy of agricultural enterprises, which presented commodity producers with a choice: either grow competitive crops (sunflower, rapeseed, corn), or go bankrupt. Under such circumstances, about 60% of agricultural enterprises were unprofitable during 1995–1999. At that time, the processes of expanding the size of enterprises that were able to meet market requirements began. Mainly, these became vertically integrated enterprises, which, along with production, established processing, transportation, storage and sales of products.

When creating agricultural holdings, it is necessary to take into account:

- the need for infrastructure development, technical re-equipment and modernization of production, introduction of scientifically based systems of agricultural culture on an innovative basis;

- the need to establish cooperation with local and regional authorities;

- the sending of cheap imported products, in particular, vegetables and meat, forces domestic producers to increase the area under export-oriented crops (sunflower, rapeseed) and reduce capital investment in the development of the livestock industry;

- peculiarities of the local mentality - the management psychology of most managers and specialists was formed during the times of the administrative-command system of management, where gross indicators were put first, however, the basis of work under market conditions of management is profit making;

- shortage of qualified personnel at all levels of production, in

particular machine operators, milkmaids, engineers, resulting in low labor productivity and additional costs of time and money for the training of specialists.

According to experts, the process of creating a holding can last up to 10 years. This is confirmed by the experience of the majority of domestic agricultural holdings that are actively developing on the Ukrainian agricultural market [144].

The generally recognized reasons that hold back investment in agriculture include: uncertainty of the prospects of the domestic land market; unresolved land disputes; imperfect legal framework; unstable agrarian policy; unjustified government intervention in business; excessive regulation of business - the need to obtain a large number of licenses, certificates and permits.

The development of large-scale agricultural production and the formation of holding structures based on it takes place both at the expense of foreign capital and domestic capital that was previously exported from the country. Ukrainian industrial and financial groups intensified their activities in this direction by creating vertically integrated agro-industrial enterprises covering all stages, starting with cultivation and their primary processing and ending with the sale of ready-made food products through the retail network.

Characteristic features of the creation of agrarian associations are the direct participation of investors in the processes of managing agricultural production and investing in agriculture [325].

The production specialization of the agricultural association is largely formed based on the specialization of the parent company or the main type of business of the holding. Considering this, agrarian associations can be divided into sugar producers - CJSC "Ukrprominvest", LLC "Astarta", "Dakor Agro Holding"; of grain traders - JV "Nibulon" LLC; dairy farming - CJSC "Industrial Dairy Company"; material and technical support and provision of services - CJSC "Rise", grain processing - "Ukrzernoprom", LLC "Stiomi-Holding", animal husbandry - LLC "Myronivskiy Hliboprodukt", oil and fat company - "Kerner".

Analysis of the activities of large agricultural associations in the agricultural sector is significantly complicated by the limited access to company information and official statistics, which would allow to

distinguish these structures from the group of commodity producers (appendix).

Based on the results of the research, it can be noted that the main prerequisites for investing in agriculture are:

- the global food crisis, caused by the increase in the global population and the growth of biofuel production, has led to an unprecedented increase in food prices in the world. At the beginning of 2008, world prices for most food commodities reached the highest level in the last 50 years, in particular, the price of wheat in the world increased by 108% from 1999 to 2007;

- profitability of agriculture - according to the State Committee of Statistics, grain crops in 2007 provided 60-80% of profit, technical crops - 100%;

- unsecured domestic demand, great potential for domestic consumption. Thus, the consumption of meat increased by 42%, compared to 2000, milk and dairy products - by 30%, fruits - by 20% [41]. In 2006, meat consumption per capita in Ukraine was 32.9 kg per year, and in EU countries - 80.9 kg. Every year, the meat market increases by 25–30% [144];

- the potential of Ukrainian chernozems allows harvesting at least 60–70 million tons of grain per year, the country owns about 8% of the world's chernozem reserves, the arable rate is 69%, the arable area is 32 million hectares, while in France - 20 million hectares, in Spain, Germany and Poland - less than 15 million hectares, in Great Britain and Italy - 10 million hectares each). Ukraine, the south of Russia, and Kazakhstan account for approximately 12% of the world's total cultivated area, and these lands are of very high quality, and their potential is only half used, as they produce only 6% of the world's agricultural production [138].

- the ability to quickly organize large-scale production and the relatively low price of entering the market - "the purchase of a company that leases agricultural land will cost up to 500 dollars. US dollars for 1 hectare, and the annual rent to the owners of land shares is 40–60 dollars. USA for 1 hectare per year". At the same time, "earnings before taxes, interest and depreciation (EBITDA) from one hectare can reach 500 dollars. USA" [144].

- realization of Ukraine's competitive advantages - with



relatively small investments in the next three to five years, there are significant reserves for increasing the yield of agricultural crops due to the use of innovative technologies. Thus, the yield of grain crops in Ukraine averages 2.7 t/ha, in Poland – 3.1 t, in the European Union – 4.8 t, in Britain – 7 t [52].

– the increase in the value of agricultural land, which should be expected after the lifting of the moratorium. Currently, the rent is 30-40 dollars. USD per hectare per year, and the sale of corporate rights is USD 1–1.5 thousand. USA/ha. At the same time, 3.6 thousand dollars are needed to purchase land in Poland. USA/ha, in the USA – 5.4, in Germany – 22.3, in Belgium – 25.9 thousand dollars. USA/ha [52].

The level of profitability of agricultural production, excluding subsidies and surcharges, is almost 15%. Under the conditions of using modern technologies, foreign investors obtained significantly better results. In particular, in 2007, the profitability of sunflower production in agricultural holdings was 130%, wheat - 80%. Such profitability of domestic agricultural production for foreign companies is explained by relatively small direct costs. Thus, "Landkom International" pays about 35 US dollars for one hectare per year, which is 10 times less than in Great Britain. The company pays peasants a salary of 400 dollars per month, while in the countries of the European Union, the minimum wage for a regular work schedule is 1.8 thousand dollars per month, or 4.4 times higher than in Ukraine.

The main advantages that contribute to investing in agriculture: convenient economic and geographic location and natural conditions favorable for agriculture; own raw material base of processing industry; lack of tough competition in the industry; proximity to potential sales markets; cheap labor.

Investments in agriculture are not only risk diversification, but also the development of a business direction, the profitability of which will grow over the years.

The activity of agricultural holdings creates wide opportunities for the development of agrarian business in Ukraine and ensures the competitiveness of domestic agricultural products. First, significant savings on the purchase of means of production. Secondly, the possibility of new pledges: agricultural products are a pledge for non-agricultural activities of holdings (a lot of them appear, especially in

the season), and this is a significant credit mass that begins to finance activities that are not related to agriculture in any way. Conversely, the provision from the parent company becomes collateral for the purchase of means of production for agriculture. Thirdly, this is a rapid change in the structure of crops, which is impossible in traditional agricultural production. In the management structure - the creation of powerful private vertical hierarchies with a very complex management system. Setting up the accounting and internal control system, the centralized payment system, the development of the planning and budgeting system.

The advantages of agricultural holdings, compared to other agricultural formations, are as follows: in the field of management - involvement of experienced specialists; in the field of financing - preferential loans and subsidies, attraction of private investments, greater maneuverability of own capital; in the field of production - rationalization and effective use of resource potential, wide-reaching aggregates, intensification and diversification of production; in the field of the sales system - the possibility of forming large batches, export.

Unlike small agricultural enterprises, agricultural holdings now have the opportunity to attract additional capital in order to expand and modernize production. Most of them were formed in the 90s, have accumulated work experience, qualified personnel, developed infrastructure (elevators), the ability to produce products for which demand is stable, the ability to diversify risks and control costs throughout the chain - from the field to the supermarket [41 ].

There are already examples of cooperation between big business and local councils and the population, and companies are implementing programs to support the development of infrastructure in rural areas, because the restoration of agricultural production is new jobs and a stable source of filling local budgets. The development of agriculture gives impetus to other branches of the economy. Thus, the demand of agricultural enterprises stimulates the production of machinery, plant protection products, and mineral fertilizers. Thus, in 2007, the production of tractors increased by 64.6% and amounted to 4.3 thousand units, planters - by 40.8% (5.4 thousand units) [144].

Agricultural holdings receive the largest profit, which is what investors who invest in the development of agriculture are counting on. Thus, the profitability of production at the Land West company, as one of the largest representatives of agrarian business in Ukraine, is 30–50% [144].

Progressive production technologies are introduced in agricultural holdings. Thus, the Danish company Trigon Agri managed to increase the yield of wheat from 2.95 to 5.67 tons per hectare thanks to the use of wide-reaching equipment, the introduction of new varieties and hybrids of agricultural crops, and the improvement of production technology. In order to save fuel costs, GPS satellite navigation systems were installed on tractors and combines. The system automatically lays out the route of the machinery, which allows you to save about 30% of energy resources. In addition, the GPS system monitors the consumption of mineral fertilizers. The "Mriya" company uses No-till technologies, which involve sowing seeds without plowing the soil. This makes it possible to reduce the fleet of equipment, to perform field work in optimal terms, to optimize the expenditure of time and money.

Agricultural holdings monitor market conditions and grow those crops that provide higher profits. If earlier in Ukraine, rapeseed was practically not grown, now it is one of the main crops of agricultural holdings. The Land West company plans to grow "ecologically clean" grain - without the use of fertilizers and plant protection products, the price of which is much higher, in particular in the EU it is 1.5-2 times the price of ordinary grain.

The use of GPS technologies, namely, the technology of differentiated application of fertilizers and plant protection products, allows to reduce the need for their use by up to 30%, while the application corresponds to the real needs of the crop. One of the important aspects is the creation of an agrochemical examination laboratory ("Privat" group), which makes it possible to implement an individual approach when applying technologies on a specific field.

CJSC "Rise" was one of the first in Ukraine to introduce a system of precision agriculture into production, in particular: a system of precise management and application of differentiated rates of mineral fertilizers, based on the actual supply of each field with elements of

mineral plant nutrition; the introduction of crop rotation, which allows to maximize the collection of protein even on relatively poor lands; the use of phosphorus-mobilizing bacteria for finishing seeds in order to reduce the standards of phosphorus fertilizers; the use of nitrogen-fixing bacteria in order to obtain additional doses of biological nitrogen; use of microfertilizers and plant growth regulators. This approach ensured high profitability of growing agricultural crops and management efficiency.

Agricultural holdings are formed, as a rule, on the basis of a leading company. Land is leased in many regions of the country, which significantly reduces production risks. The increase in the number of agricultural holdings and the expansion of their areas is predicted at the expense of other farms engaged in extensive farming and the restoration of production on lands that are currently not cultivated, which is about 4.7 million hectares of arable land.

American agriculture has evolved into agro-industry, which includes various farming formations - from small family farms to large conglomerates. The process of their formation was accompanied by a significant reduction in number and increase in size. If in 1940 there were 6 million farms in America with an average area of 67 hectares, then by the end of the 1990s there were about 2.2 million of them, and the average size increased to 190 hectares. The number of people working in agriculture decreased from 12.5 million in 1930 to 1.2 million in the 1990s. If in 1900 farmers made up half of the entire labor force, then in 1990 - only about 2%.

Under conditions of limited domestic resources, the most attractive source of material, technical and financial support for enterprises is foreign investment. According to many analysts, their influx to Ukraine is connected not so much with the interest of foreigners in Ukraine, but with the activity of domestic companies in attracting foreign capital. As before, the main obstacles for investing money in Ukraine are cited by foreigners as the high level of corruption, as well as the weak legislative protection of property rights.

The stock market is developing - investment funds operating in the securities of Ukrainian agricultural companies are appearing. Investing in such securities can be risky, as influencing the performance of a company whose shares you do not own is quite

problematic. At the same time, for Ukrainian companies, it is a diversification of financial income and an opportunity to accumulate a significant amount of investments.

Many large Ukrainian companies listed their shares on Western stock exchanges and managed to attract investments (Table 2.2).

*Table 2.2*

**Deals on the capital market of Ukrainian agro-industrial companies [166]**

Issuer	Agreement date (year)	Raising funds, million dollars USA	Package of sold shares, %	Capitalization at the moment agreement million dollars USA
"Ukproduct"	February 2005	11	27	42
LLC "Astarta-Kyiv"	August 2006	31	20	155
"Western Dakor" company	May 2007	21	20	103
"The Sugar Union Ukrros"	July 2007	42	20	210
Landkom International	November 2007	111	55	202
"Kernel"	November 2007	218	38	574
"Land West"	December 2007	43	20	215
Landkom International	March 2008	22	10	220
"Kernel"	March 2008	84	9	933
MCB Agricole	March 2008	56	24	233
"Myronivskyi bread product"	May 2008	322	19	1700
"Dream"	June 2008	90	20	450
Sinthal Agriculture	August 2008	34	15	230
Sinthal Agriculture	October 2010	13	17.2	h
Milkenland	October 2010	22.4	29.7	h
"Vanguard"	May 2010	21.7	208	h
Ovostar Union NV	July 2011	25	33.2	h

Source: IC "Arta investment partners".

In 2010, "Avangard", "Agroton", and "Milkyland" held IPOs. In the first half of 2011, the domestic producer of eggs and egg products

Ovostar Union (raised \$33 million), KSG Agro (about \$40 million) and "Industrial Dairy Company" (about \$30 million) made successful IPOs on the Warsaw Stock Exchange.

According to the State Statistics Committee, as of January 1, 2011, direct foreign investments in the agricultural sector of Ukraine amounted to 833.7 million dollars. USA, which is 2.1 times more than on the same date in 2007 - 404.3 million dollars. USA and 4 times, compared to 2004 - 206.0 million dollars. USA. (Table 2.3). If in 2006, in the total volume of funds raised from the sale of share capital, companies in the agricultural sector accounted for no more than 7% (US\$ 31 million), in 2007 – up to 25% (US\$ 435 million), and in ten months of 2010 – 833.7 million dollars. USA.

Despite the fact that in the period from 2001 to 2008, the volume of foreign investments in agriculture increased by 10.9 times, their level still remains low - 2%. Many potential foreign investors refrain from capital investments in the agricultural sector of Ukraine, motivated primarily by the instability of legislation in the state, the unwillingness of most Ukrainian partners to comply with contractual obligations, the unclear work of the judicial system and other factors that shape the state's investment climate.

*Table 2.3.*

**Direct foreign investments in the economy of Ukraine as of the beginning of the year, million dollars. (as of January 1)**

Indicator	Year					
	2004	2005	2008	2009	2010	2011
Total to Ukraine	6794.4	9047	29542.7	35616.4	40053	44708
Agriculture	206	224	557.3	793	813.3	833.7
Specific weight of agriculture, %	3.03	2.48	1.89	2.23	2.03	1.86
Production of food products, beverages and tobacco products	1006.4	1127.6	1561.2	1685.9	1828.4	1858.7
Specific weight of the food industry, %	14.81	12.46	5.28	4.73	4.56	4.16

Source: according to the State Committee of Statistics.

The principles of investing in the agricultural sector of Ukraine differ from those generally accepted in Western countries. The main and basic principle is that in Ukraine one should manage one's own investments independently [41]. As a rule, foreign companies open

their own enterprises in Ukraine, nominally Ukrainian, where the entire top management are foreign specialists.

Agricultural holdings are practicing wide introduction of new technologies and quality management systems, improving the qualifications of employees, improving agricultural production management systems, the result of which should be stabilization, and in the future - increasing production volumes and improving the quality of products and expanding sales markets.

Global trends and domestic potential allow Ukraine to realize its potential as an agricultural country and in the near future become one of the leading exporters in the food market and produce about 60 million tons of grain per year. Such volumes of production become real provided that new investments are attracted to agriculture and the development of new forms of management - agricultural holdings, which will allow the country to realize new export opportunities, contribute to the development of all branches of the agricultural sector, the development of rural areas and infrastructure, the creation of new jobs, and also increase guarantees of the country's food security.

In order to stimulate the attraction of investments in agricultural production, it is advisable: at the state level to introduce: financial support for agriculture in the form of long-term loans, to create a land bank; develop a scale of motives for investors, first of all, those who will develop the social infrastructure of the village, investing in its development [273]; carry out a land inventory - according to experts, more than 40% of the land areas of settlements and 30% of non-agricultural land are considered uninventorized, which leads to irrational and non-targeted use of land [124]; to legislate the limitation of the size of land plots in the same hands by adopting the law "On the State Land Cadastre".

Unconditional results of the creation of agricultural holdings are: increased competition in the land rental market and an increase in the amount of rent; investment attraction; increase in labor productivity; attraction of qualified personnel; strengthening the competitiveness of domestic agricultural production.

Land is the main wealth of the Ukrainian people, its investment reserve and guarantor of national security and further economic

development of the state. In the conditions of the primary accumulation of capital, it is especially important to work out the mechanisms of its economic regulation and protection of the interests of the peasant owners. The land lease mechanism fully allows investors to be sure of their future.

In agriculture, there is a process of capital concentration, which is reflected in the creation of agricultural holdings. The study of the efficiency of their work and the justification of the optimal, from the point of view of management, scale of sizes and the solution of socio-economic issues on this basis is an important task of economic science.

Formation of land massifs of agrarian associations takes place on the basis of land lease. Renting is the most common and least expensive way to expand the land area of newly established enterprises. At the same time, the most optimal is a medium-term lease for a period of 6-10 years. Such lease terms allow tenants to invest in land improvements and receive a long-term return on investment.

The criteria for the formation of land massifs of newly created associations are soil fertility and their proximity to large industrial centers and raw material zones. In connection with this, there is increased competition in the market of land lease and sublease. If the state legislatively regulates the lower limit of rent at the level of 3% of the normative monetary value, then newly established enterprises already offer up to 8%.

The generally recognized reasons that restrain their development are: the uncertainty of the prospects of the domestic land market; unresolved land disputes, imperfect legal framework; unstable agrarian policy; unjustified government intervention in business; lack of a strategy for the development of the agro-industrial complex for the future; excessive regulation of business.

The process of consolidating farms and creating agricultural holdings on their basis began to manifest itself especially vividly in 2001–2008. The vast majority of agricultural holdings are subsidiaries of foreign agricultural companies, as well as enterprises that are part of Ukrainian financial and industrial groups [123].



In Ukraine, official statistics of agricultural holdings are not kept, given the wide geographical location of the lands included in each specific holding, so it is only possible to determine their area approximately. As of January 1, 2011, more than 24% of arable land is under the control of agricultural holdings of Ukraine. Among them, we should highlight: "Ukrlandfarming plc", which leases about 430,000 hectares of land; LLC "Ukrainian Agrarian Investments" - 330 thousand hectares, LLC "Myronivskiyi Hliboproduct" - 280; "HarvEast" (JSC "MMK named after Ilyich") - 238 thousand ha; LLC "Astarta-Kyiv" - 230 thousand hectares; CJSC "Agroton" - 150 (Fig. 2.3).

The main criteria for the formation of a land massif for sugar growers are the fertility of the lands and their maximum proximity to the sugar mills, which, from the point of view of transportation, should not exceed 90 km. This criterion is followed by holdings whose agricultural production is aimed at providing processing capacities with their own dairy raw materials, although the qualitative characteristics of the soil are not a determining factor. In this case, attention is drawn to the presence of a sufficient number of natural fodder lands and the formation of an appropriate fodder base. Companies whose activity is based on the production of plant products followed by their processing or export place their main bet on the fertility and proximity of land to transport arteries, in particular, railway stations and elevators.

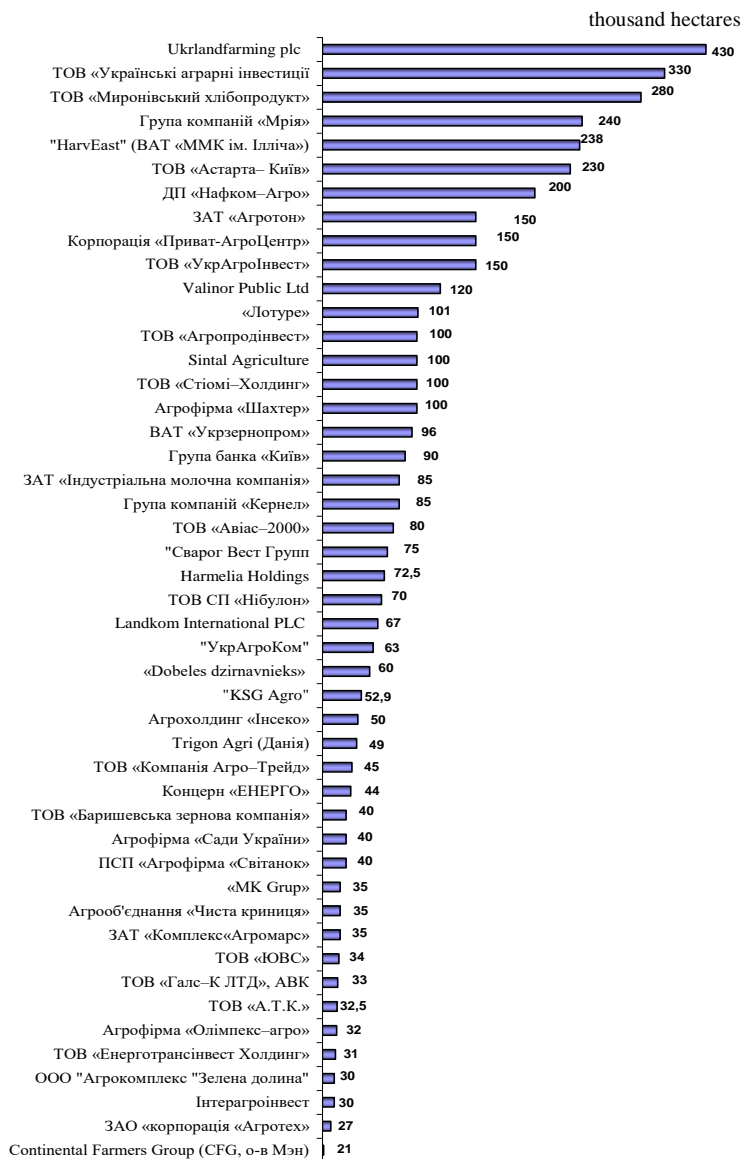


Fig. 2.3. The largest agricultural holdings of Ukraine, thousands of hectares

Source: author's research.

In general, optimal, from the point of view of management and organization of production, in most agricultural holdings is a structural subdivision, the size of which is up to 5 thousand hectares of land.

Investors concentrate their assets in the most profitable regions of the country, which allow them to get the maximum profit from agricultural production. At the same time, preference is given to the long-term lease of land for a period of more than 10 years and the purchase of complete property complexes. The result is increased competition in the land rental market and an increase in rent.

The process of land concentration in the hands of large companies occurs due to a decrease in the number of "independent" small and medium-sized agricultural enterprises.

Land redistribution is characterized by the transfer of corporate lease rights between large farms and agricultural holdings and increased competition in the land lease market. Studies show that agricultural holdings plan to expand land use areas. Even under the conditions of lifting the moratorium, the mass purchase of land is unlikely, given the large financial costs and organizational difficulties [119].

Problematic issues in the expansion of land massifs of agricultural holdings are cases when:

- lease agreements do not undergo state registration, and in those that have undergone a registration inscription, it does not allow judging by which body and when the registration was carried out. In other cases, registration of additional agreements (on extension of the lease term) is not carried out;
- lease agreements are not notarized;
- contracts do not contain all essential terms of lease contracts and all annexes, and the terms of contracts have not been reviewed for a long time;
- short-term lease of land shares (shares) is a potentially problematic moment in connection with the need to renegotiate lease agreements after the owners receive the deeds for the ownership of the land plot. Since the procedure for such renegotiation is rather ambiguous, there are risks that contracts will not be renegotiated;

– the lease of unclaimed shares is also potentially problematic due to the possibility of claims by their owners and early termination of the lease.

The holdings introduce modern methods of automated production control and management, based on "precision farming" technologies, which allow: to obtain reliable information about the area, the nature of land use and its regime; on the basis of cartographic material, determine the exact dimensions of fields and the area of land use, create thematic maps (soil, productivity, relief, road, legal, accumulation of water flows) and form a passport of the field and the land massif as a whole on this basis; increase the efficiency of the use of agricultural machinery due to the reduction of costs during soil cultivation due to the exclusion of skips and zones of double cultivation; to reduce costs in the operation of technical means due to the optimization of movements, control over the location and fuel consumption;

Despite the positive trends in the development of agricultural holdings, studies show that some companies, for example, LLC "Ukrainian Agrarian Investments", CJSC "Agro-region" for various reasons, or partially, did not start production activities on leased land in the first year (Fig. 2.4). . To a large extent, this is caused by production problems, taking into account the mainly plant-based direction of economic specialization of the holdings and the seasonality of agricultural production; organizational - related to the formation of separate structural divisions and the expansion of territories in order to improve the capitalization of the company and prevent competitors in the conditions of undervalued land and positive trends in the world markets of food products; commercial - anchoring in land rental markets and expectations, related to the lifting of the moratorium on the purchase and sale of agricultural land; legislative - the absence of fines for lack of production activity.

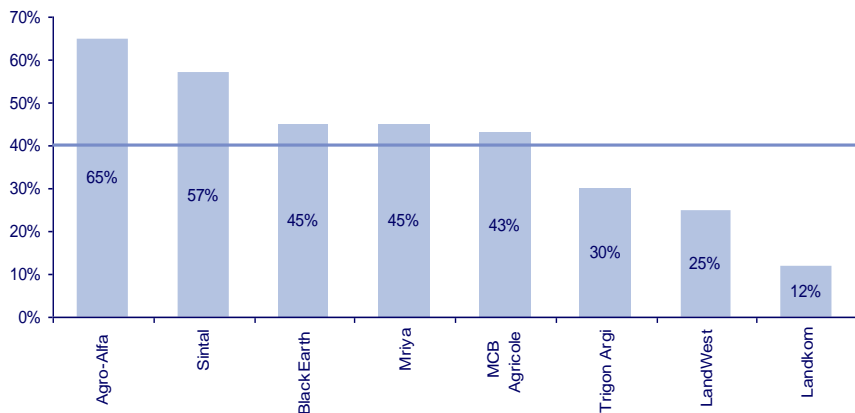


Fig. 2.4. Specific weight of cultivated lands to all lands at the first stages of formation, %

Source: author's research.

A significant part of investors, creating structural subdivisions based on agricultural enterprises, pay taxes to the budgets of the territorial community at the place of their state registration, which leads to a reduction in revenues to local budgets. In order to eliminate these disproportions, it is advisable to make clarifications to the Economic Code of Ukraine regarding the territorial characteristics of the structural subdivisions of the enterprise, namely: to indicate that the structural subdivisions of the enterprise must be located according to the location (within the territorial community of the same name) of the enterprise - a legal entity. This will make it possible to fill the revenue part of local budgets and implement social programs.

The state position on the issue of effective use of agricultural land should be aimed at establishing a legal norm of fines for non-use of land. Useful in this is the historical experience of Ancient Babylon, in particular, the study of the laws of Hammurabi, according to which, in the event that the field was not cultivated for a year, the law forced the tenant to pay the owner a rent at the level of 33-50% of the harvest and to carry out the main cultivation of this field. and if the field was not cultivated for 3 years, in addition to the first two items, the tenant

was additionally forced to "measure 10 grains of grain for each grain of the field."

Most agricultural holdings do not separate agricultural production into a separate type of business, so they will finally be formed after the moratorium on the sale of land is lifted. There are both supporters and those who are against lifting the moratorium. The former hope to quickly buy up land, the latter to continue this process in order to concentrate larger areas and restrain competition from financial and industrial groups, banks, foreign companies and funds.

The next stage of the formation of agricultural holdings will be the optimization of their size. Further consolidation of agricultural lands into massifs with an area of 300–400 thousand hectares or more is unlikely for Ukraine. Taking into account the experience of Russia, we should expect the reduction of land massifs and the formation of economic formations rational in terms of size and management system up to 100 thousand hectares of land [325].

At this stage of the development of land relations, the most regulated in legal terms are leased land relations, which should become the main tool for the formation of land massifs of agricultural holdings. Relatively small, compared to other countries, rental payments in the range of 40–60 dollars. The US per hectare per year allows agricultural holdings to form desired, from the point of view of management, structural subdivisions and spend money on their modernization.

The land lease mechanism allows companies to be confident in the future. In global practice, leased land relations have confirmed their effectiveness as an effective mechanism that allows the owner to receive stable dividends, and the tenant to save money on the purchase of land, instead investing it in the modernization of production. In particular, China is developing agriculture on state-owned land based on long-term leases. In the Netherlands, public land is leased by farmers, however, here land is a commodity and can be bought for \$50,000/ha with a hefty tax, or leased for \$200. for a year. A similar system operates in France, where the son often rents land from his own

father, since the purchase is much more expensive [30]. Each country has its own approach, but there is something in common, first of all,

Rent payments are paid on time, debt is not allowed, the main motivation is to receive state subsidies and a satisfactory audit opinion at the end of the year, to improve the status of the company when attracting investments. The reserve for increasing the amount of rent is profit maximization, which is possible by protecting the national producer from the shipment of imported food products on the domestic market.

The incomplete solution of the problem of land relations at the current stage complicates the development of the agrarian sector of the economy. In particular, the unresolved issues are: state management of land resources; strengthening of corruption; lack of measures regarding perspective planning of stable development of the territory, lack of optimal models of agricultural land use, which leads to the emergence of peculiar latifundia, mainly with foreign investments. Under these conditions, foreign companies can become users of large land massifs. Thus, Landkom International plans to increase the area of leased land to 600,000 hectares, Concord Capital – to 200,000 hectares [52]. At the same time, it is important to protect the national interests of the state and prevent inappropriate use of agricultural land.

To complete the land reform in Ukraine, it is necessary to: introduce the agricultural land market, implement measures in the field of land ownership and forms of land management; to form a competitive environment and implement comprehensive protection and guarantee of the rights of peasant landlords; create a single system of land rights movement; to increase the rent in accordance with economic growth, to extend the terms of lease agreements, to create conditions for the rational use of land.

Implementation of the mentioned areas of land reform development will enable agricultural holdings to rationally, highly efficiently and environmentally safe use of agricultural land, preserve and increase their productive potential; implement new export opportunities of the country; promote the development of all branches

of the agricultural sector and the rural area; create new jobs, increase guarantees of food security of the country.

The introduction of the land market will allow agricultural holdings to use land as collateral and an asset during capitalization and will be an additional incentive to attract investments.

## **2.2. Organizational and economic model of construction agricultural holdings**

The development of organizational and legal forms in agriculture is carried out under the influence of the approval of various models. The steady growth of demand for food products required the search for new approaches, in particular, the concentration of capital in the form of the creation of agricultural holdings. Such associations, as a rule, cover the entire production cycle and are characterized by purposeful reproduction of the industry on a new technological, organizational and economic basis (Fig. 2.5).



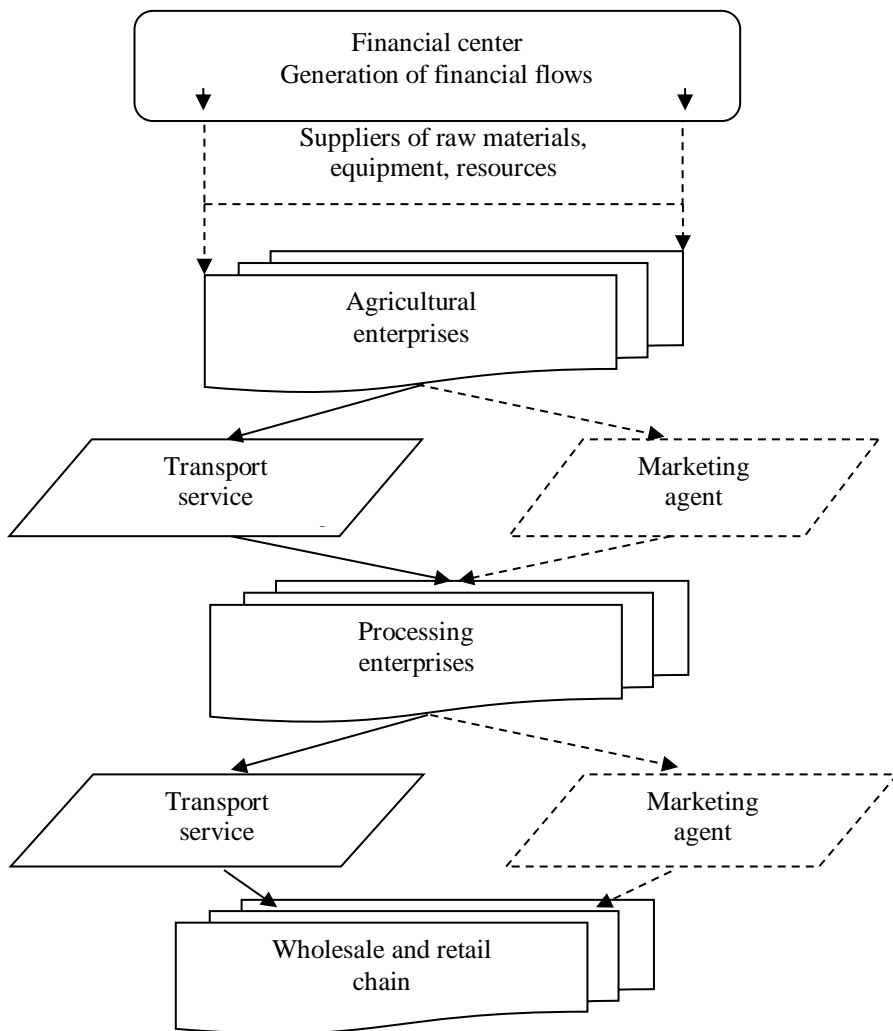


Fig. 2.5. The general scheme of the agro-industrial association  
 Source: author's research.

The classic structure of an agricultural holding includes separate elements that perform certain functional loads that depend on the features and specifics of its activity. One of these elements is a financial center that generates financial flows. It is a key element that works on attracting investments and their effective distribution between production links and economic structures that are part of the agricultural holding.

The components of this formation are directly agricultural and processing enterprises, organizations of wholesale and retail trade. Sometimes the elements of the agricultural holding are suppliers and contractors of material and technical resources. In some cases, they can act as initiators of the creation of integrated associations of the holding type. However, in practice, mainly the initiators of the formation of agricultural holdings are processing enterprises that unite the production of raw materials (agricultural enterprises), supply of resources and logistics. There are cases when the founders or initiators of the creation of agroholdings are financial structures, as a result of which finagropromholdings are formed. In domestic practice, financial structures, as a rule, provide their services to agricultural holdings on a contractual basis. Financial and investment institutions,

The core of the organizational model of any agro-industrial formation, including an agroholding, is the managing (parent) company that manages and coordinates its activities. The sphere of management and coordination extends directly or indirectly to all components of the agricultural holding.

The formation of holdings is based on the economic processes of capital concentration and centralization, integration, merger and acquisition. The main tools of expansion remain the reorganization of enterprises, obtaining instructions from owners (mergers of enterprises, mergers of enterprises), the purchase of a significant share of the capital (a controlling stake) (Table 2.4).

### Types of integration and their features

Indicator	Type of integration		
	Separation, isolation	<u>Absorption, acquisition</u>	<u>Association</u>
Features integration processes	<p>Disconnection of the links of the agro-industrial chain. Separation and separation of enterprises will be used in the case when it is more profitable to separate any function, stage of production, business process into an independent business unit</p>	<p>The main reasons for the merger of companies are economies of production scale (reduction of production costs per unit of production), strengthening of market positions, diversification and improvement of creditworthiness, improvement of management quality, legal, social and tax aspects.</p> <p>In order to optimize the agro-industrial chain, a horizontal merger can be carried out within the link, that is, a merger of enterprises working in the same industry. To optimize the chain within the framework of several functionally different links, it will be advisable to carry out a vertical merger, that is, a merger with a business related to the sequence of the technological process of production. The merger effect implies that the value of the experienced enterprise as a result of the merger exceeds the value of the two enterprises before the merger</p>	<p>Associations of enterprises are created on a contractual basis with the aim of expanding the possibilities of enterprises in production, scientific and technical and social development: the scale of concentration of capital and production capacities; wide possibilities of production diversification; coordination of joint activities, joint solution of common tasks and problems; certain stability against market fluctuations; redistribution of investment resources, their concentration on the most profitable areas with a high return</p>
Characteristics of the process	<p>When the enterprise is divided, it completely ceases its activity and transfers the rights and obligations to the newly created enterprises. When separating a part of the enterprise, it transfers only part of its rights and obligations to the newly created enterprise</p>	<p>Types of merger:</p> <ol style="list-style-type: none"> <li>1. Merger or merger of a company of a similar profile. The goal is to obtain ready-made production areas, capacities, patents, licenses, and know-how. Optimization of a link in the agro-industrial chain;</li> <li>2. Merger or merger of a firm of a different profile. The goal is vertical integration or diversification. Optimization of several links in the agro-industrial chain;</li> <li>3. Acquisition of a department, branch, branch network, sales network. Purchase of a package of shares, including controlling shares. The goal is to acquire ready-made production areas, patents, licenses, know-how or vertical integration</li> </ol>	<p>Enterprises can join associations (unions), concerns, consortia, industrial holdings, financial and industrial groups, clusters, inter-industry, regional and other associations</p>

The main tasks in the formation of an agricultural holding are to ensure the coordinated activity of all organizational and legal economic structures participating in the organizational and technological cycle of the production of certain types of finished products, the economic and social interest of each partner in obtaining a high final result, better organization of the agricultural market. This issue is solved thanks to the establishment of effective management of production processes by means of planning, budgeting, controlling production processes and developing constructive proposals regarding directions for increasing its efficiency.

The management system of holdings in the vast majority consists of two control centers: financial and production. The basis of the organization of economic activity is the planning and budgeting of processes with the control of the use of funds during the reporting periods.

To build an effective company, there must be a philosophy of the company's development, its strategic goal. The basis of the effective development of the business structure is the creation of a full-fledged team, which should implement the business psychology of the owner.

Depending on the assigned tasks, the coordinating departments conduct economic, social, environmental and other studies with the preparation of relevant recommendations aimed at achieving the organization's goals: substantiating the economic efficiency of investments; implementation of informational and advisory activities; conducting marketing, economic and scientific research; performance of research, development and design works in promising areas of science and technology, promotion of introduction of innovations in production; development of methodological recommendations for increasing the stability and optimization of the production, financial and economic activities of the members of the association; organization and holding of advertising campaigns and events, exhibitions, meetings, scientific symposia and seminars; provision of consulting services for members of the association,

In addition to the function of planning and directly controlling production processes, the management company carries out coordination regarding the movement of financial flows, providing the association with qualified personnel, conducting scientific research

within the association. Scientific and innovative activities are carried out on the basis of own or engaged consulting or innovative enterprises. In order to develop new innovative technologies, project scientific groups are working to fulfill the tasks set before them, aimed at improving the work of the association and increasing the efficiency of its activities. In particular, innovation and investment centers are assigned the function of selecting promising innovative projects, rejecting weaker ones or rejecting less priority areas.

Special attention in the management of production processes is given to the financial and economic service, which implements the following tasks: formation of a unified economic policy in the areas of planning, regulation, motivation and complex economic analysis of the production and economic activity of the association as a whole and of separate divisions in particular; determination of ways to improve the efficiency and profitability of production; strengthening control over the implementation of the resource and energy saving policy in project documentation; application of highly effective technologies, equipment, structures, materials, compliance with general economic and industry norms. One of the main ways of solving these problems is the development of a budgeting system and the preparation of a production and financial plan of the enterprise's activities and its control during reporting periods.

Budgeting is a technology of financial planning, accounting and control of income and expenses received from the activities of the enterprise (company, holding) at all levels of management, which allows analyzing the forecasted and obtained financial indicators for each of the financial accounting centers within the approved financial structure of the enterprise. Budgeting is an integral part of the production and financial plans of the enterprise.

A detailed description of all the above-mentioned aspects, reflected in the formed agro-industrial association, and their organic relationship conditionally take the form of an organizational model (Fig. 2.6).

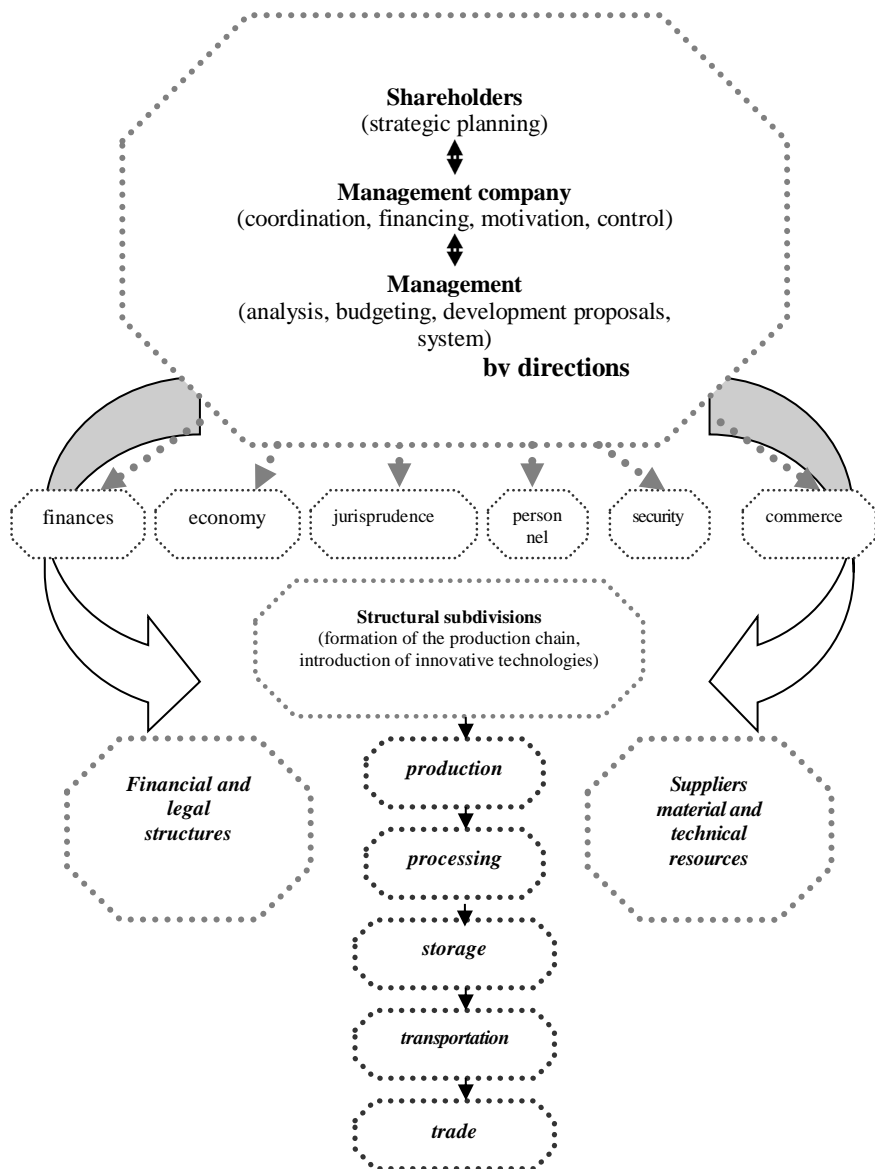


Fig. 2.6. Organizational model of an agricultural holding  
 Source: development of the author.

Features of the functioning of a specific chain (for certain goods, works, services) and the coherence of its links have a decisive influence on the level of competitiveness. Optimizing the agro-industrial chain is a key factor in increasing the company's competitiveness in modern market conditions, the main goal of which is to reduce the price of finished products, goods, works, and services.

The process of optimizing the agro-industrial chain, as a rule, includes several stages.

At the first stage, an analysis of the existing state of the agricultural holding is carried out, all its links are analyzed, the contribution of each of them to the increase in added value is assessed, the distribution of the profitable and expendable part among individual links is checked. Special marketing research can be conducted to identify sources of added value.

At the second stage, possible options for optimizing the production chain should be considered. In general, there are two types of optimization of the agro-industrial chain - within the links and between them. Optimization in this case should be understood as: activities aimed at improving the efficiency of the process; introduction of new products or improvement of existing ones; change of activities; association with other links of the chain; separation of business units into independent units; transition to another value chain.

It should be noted that there are structural differences in the creation of added value in the links of the chain. For example, with a relatively small gap in the level of wages with accruals by enterprises and the size of the employees' wealth, there may be a fundamental difference in the profitability of enterprises.

Options for optimizing the agro-industrial chain (between links and within each of them) are possible.

Option 1 – unification of the links of the agro-industrial chain (Fig. 2.7). When optimizing the agro-industrial chain, it is necessary to determine whether this or that form of combining links is beneficial from the point of view of saving monetary resources. A positive result can be obtained by excluding goods and services from the cost

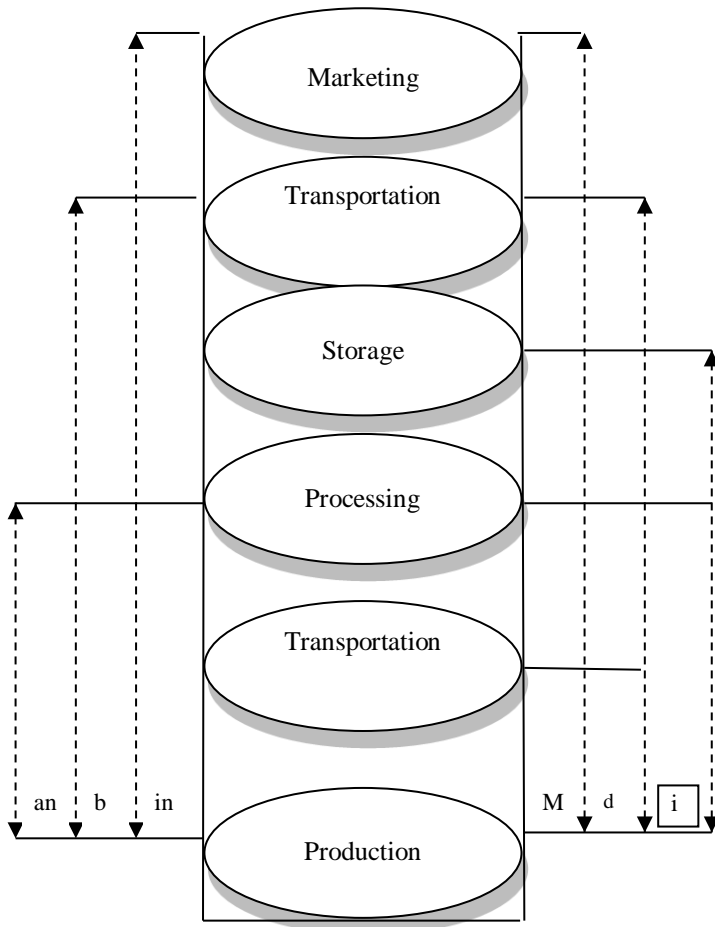


Fig. 2.7. Variants of unification of the agro-industrial chain  
 Source: author's research.

profit rates (with the option of uniting capitals of organizations), as well as due to mutually beneficial cooperation with counterparties (admission to industrial unions, consortia, etc.). There may be different options for associations of the agro-industrial chain: a) production-processing; b) production-processing-transportation; c) production-processing-transportation-sale; d) production-processing-storage-transportation-sale (full chain); e) production-processing-storage-transportation; f) production-processing-storage.



Option 2 – consolidation of the link of the agro-industrial chain (Fig. 2.8). In order to obtain the effect of the scale of production, it is possible to combine enterprises, component links of the chain with similar enterprises, that is, with those that perform the same functions, stages of production or technological process.

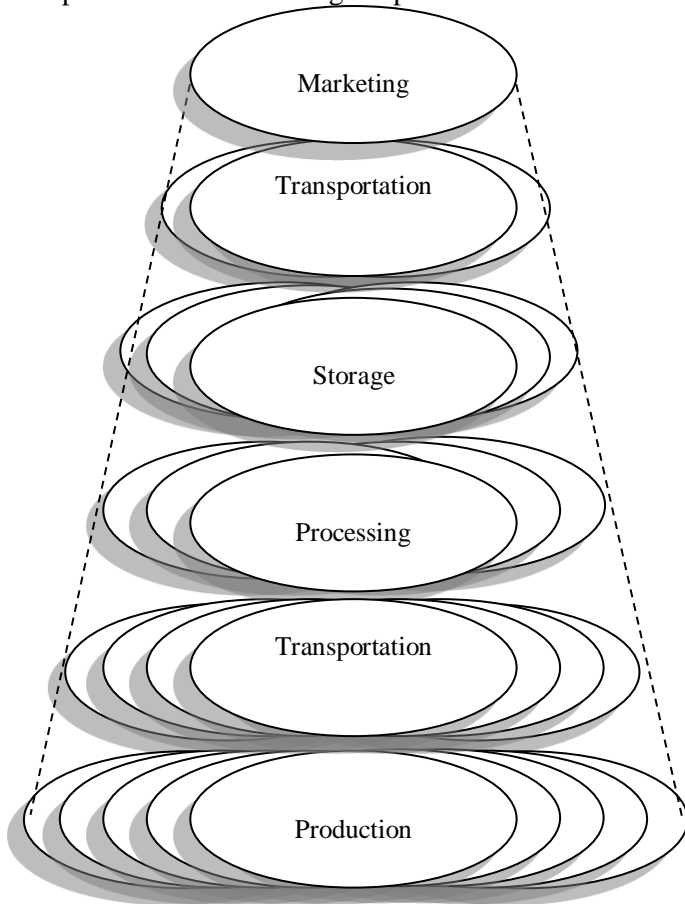


Fig. 2.8. Consolidation of the agro-industrial chain

Source: author's research.

Option 3 – "uncoupling" (separation) of the links of the agro-industrial chain. This option is used if there is an economic benefit from

this measure. For example, it is possible to replace the services of the company's transport service with the services of a third-party organization, which will reduce costs, etc.

Option 4 – the division of the agro-industrial chain, accompanied by the termination of the activities of the integrated association and the transfer of assets to more than one enterprise. It is observed in cases where the creation of a large agro-industrial chain did not justify itself from an economic point of view.

Optimization of the agro-industrial chain takes place mainly within the agricultural holding. The types of integration for various chain optimization options are shown in Fig. 2.9.

For an agricultural holding, it will sometimes be more profitable to acquire assets through a merger than to create or develop a new enterprise. Combining liquid assets (cash, stocks of raw materials, materials, finished products) will increase the overall liquidity, financial stability and maneuverability of the agricultural holding. The maneuverability of the united agricultural formation is manifested in the form of an increase in the mass of free working capital, not related to the fulfillment of short-term obligations, which can be used for investment in production.

By merging a loss-making company, an agricultural holding can expand its business and reduce income tax due to the accumulated losses of the absorbed company. Savings are achieved if the company actually being acquired and the "acquirer" are covertly affiliated. The norms of domestic legislation allow such losses to be included in the out-of-pocket costs.

From the point of view of tax optimization, combining several legal entities, each of which is intended for specific purposes (creating a raw material base, processing, production of finished products), into an agricultural holding or a financial and agro-industrial group is the most effective and widespread in domestic practice.

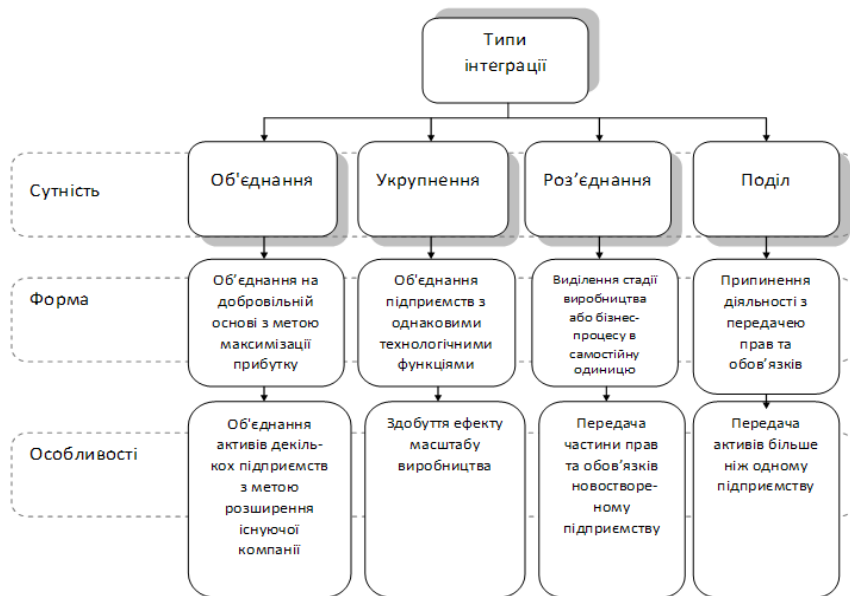


Fig. 2.9. Peculiarities of integration processes in agricultural holdings

Source: author's research.

For Ukrainian entrepreneurs, such associations are currently particularly important, as they contribute to the entry into the world economic system, accelerated achievement of the necessary level of competitiveness.

The merger of enterprises into an agricultural holding reduces the probability of the bankruptcy of individual enterprises, which will also have a positive effect on price formation. The general interest of the participants of the agricultural holding will reduce to zero price premiums for products that pass through the technological chain between the participating enterprises. The increase in prices will not be provoked at the intra-group level between the members of the agricultural holding.

The entry of enterprises into agricultural holdings allows them to expand the sales market, improve the image of the enterprise, and increase competitiveness. The merger of enterprises provides many advantages for the development and protection of business, increasing competitiveness. There are no significant barriers to entry and exit from the association. However, when an enterprise joins an agro-industrial association, the risk of possible absorption of one company by another should be taken into account.

The mechanism of creation of such associations, as noted by Yu.O. Nesterchuk, "presupposes the sequential implementation of a number of stages, in accordance with the goals and external conditions of integration, in particular: defining the goal and substantiating the goals of integrated formation; identification of potential participants, their functions and tasks; the choice of an option for the organizational design of the agrarian-industrial association and production-economic interactions between its participants; construction of an organizational and economic model of an integrated structure, its material, personnel, regulatory and legal basis; settlement of the ownership issue; development of a system of external relations; working out the mechanisms for realizing the economic interests of the integration participants" [196, p. 197].

Optimizing the agro-industrial chain can be achieved by uniting enterprises into a territorial production cluster (Fig. 2.10). The concept of long-term socio-economic development should provide financial, administrative and infrastructural support for the formation of high-tech clusters, the promotion of the products of these clusters on the domestic and world markets. The goal of the formation and development of territorial production clusters is the diversification of the economy by increasing the competitiveness of the domestic economy and intensifying the mechanisms of private-state partnership.

A territorial-production cluster may consist of competing enterprises, suppliers of equipment, components, specialized production and service services, research and educational organizations, local self-government bodies, advisory services. The purpose of creating a cluster is the effective interaction of its participants, the expansion of access to innovations, information, technologies, and the reduction of transaction costs.

In addition to domestic enterprises, agro-industrial associations may also include foreign companies. The processes developing in the spheres of the real sector of the economy, communications, trade, movements of flows of direct and portfolio investments in the world financial system cause the transformation of the world economic system into a single, integral organism - the world economy. The global economic space becomes a single field for entrepreneurship, when the geography of the placement of productive forces, the sectoral structure of production investments, and sales systems represent not just a certain level of internationalization of the reproductive process, but its higher phase - globalization.

At the same time, the importance of the integration process increases in order to ensure the maximum economic effect. Subsystems of the world economy are regional, local associations and groups connected by trade-political and socio-cultural ties.

The basis of globalization is the internationalization of the reproductive process on the scale of the world economy, i.e. the transfer of the reproductive cycle (the reproductive cycle is considered as science, technology - investments - own production, implementation and service) as a whole or its individual phases beyond the national framework, with the aim of achieving cost optimization and profit maximization [35]. Some domestic agricultural holdings work according to this principle of building relationships. Internationalization in itself does not involve a fundamental, revolutionary change (method) of the production technology or the technological cycle, but only aims to bring it beyond the national framework, with the aim of reducing production costs or transaction costs, getting closer to the sources of raw materials and the markets for goods. acceleration of service provision or conquest of new niches and market segments.

Thus, according to Yu. Shyshkov, "a new historical phenomenon is being born: monostate economic and social organisms (national economies), which are gradually transformed into polystate complexes, remain interstate in form, and increasingly transform into a single economic and social cultural organism" [331]. This is evidenced by the creation of integration groups and associations, including agricultural holding companies, in almost all regions of the world.

The most important subjects of the internationalization of production are transnational companies [30], which are dominant in the markets of oil, minerals, food and agricultural production.

Competitive advantages in the global economy are associated not only with products and technologies, but also with the speed of innovation, production and distribution systems. The main principles of commodity production are freedom of supply and demand, freedom of entrepreneurship and competition, which is the main driving force behind the development of agricultural holdings with the involvement of foreign capital. However, the competition implemented under modern conditions and manifested in the form of mergers and acquisitions and aimed at rationalizing the production process leads to the bankruptcy of individual manufacturers and the reduction of jobs. However, it is the competition, having adjusted the production process and increasing its efficiency, that persistently demands the performance of the "social function" by the business. aimed at eliminating social differences by reducing the burden on the state and the possibility of redistributing state budget funds for the formation of a so-called social society. However, in our opinion, this is possible only with an appropriate state strategy. Economic progress is assessed not only by indicators of the level, structure, dynamics of production and consumption, but also by the specific weight of the country's participation in the international division of labor and the resources it possesses. In this connection, the indicator of competitiveness of national products is a necessary element. and is determined by the specific weight of the country's participation in the international division of labor and the resources it possesses. In this connection, the indicator of competitiveness of national products is a necessary

element. and is determined by the specific weight of the country's participation in the international division of labor and the resources it possesses. In this connection, the indicator of competitiveness of national products is a necessary element.

The Ukrainian economy is characterized by increased competition in the market of goods and services both due to the development of domestic economic structures and the penetration of foreign enterprises. The modern market economy is characterized by a high degree of risks associated with the uncertainty of the behavior of the subjects of the external environment. Such a situation requires organizations and enterprises to find ways to improve the efficiency of their functioning and increase competitiveness.

As a result of the liberalization of foreign economic relations, external suppliers of products with significant raw material and financial potential entered the food market, but previously they did not have access to these markets. A significant part of processing enterprises switched to imported raw materials, thus reducing the sales market of domestic producers of agricultural products and raw materials. As a result, agricultural holdings have expanded the scope, geography of their activities, and industry specialization, extending the sphere of interests not only to highly profitable branches of agriculture, such as grain production and sunflower, but also actively work in animal husbandry, especially in industries with a high short-term return on invested capital (poultry and pig farming).

In this way, integrated agro-industrial associations are created with the involvement of foreign capital, foreign raw materials, equipment, machinery and technologies (Fig. 2.11).

Such associations, as a rule, try to export part of the produced products to the country where the investments came from.

Processes of capital concentration in agricultural production take place without administrative pressure, taking into account economic expediency. At the same time, the intensive development of agro-industrial integration differs in economic, production, ecological and social nature.

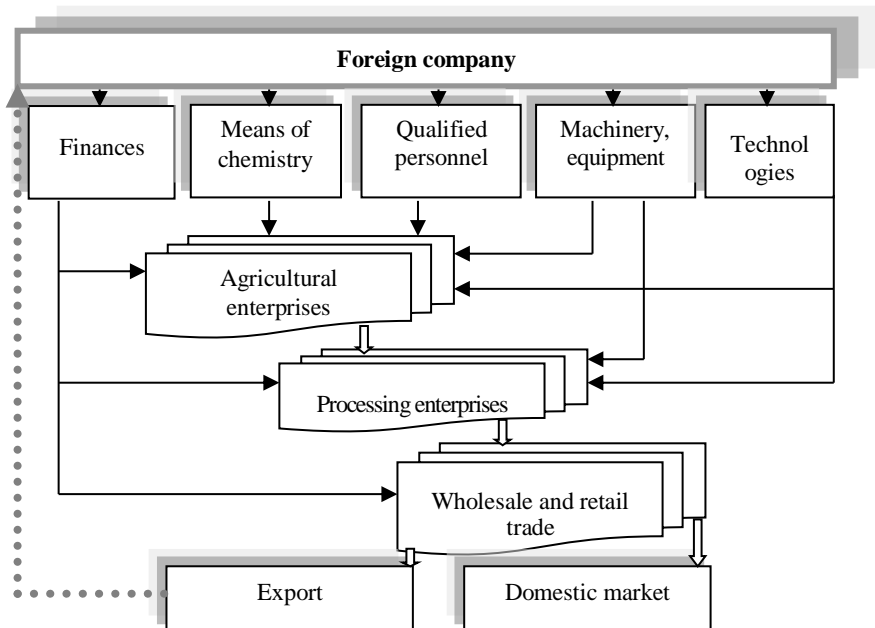


Fig. 2.11. Organizational chart of an agro-industrial association with the involvement of foreign capital

Source: author's research.

The problems of the effective functioning of the agrarian sphere of the economy are the lack of necessary investment resources, since the formation of vertically integrated entities in the agrarian sphere requires the presence of significant financial investments. At the same time, at the initial stage of economic reforms, there was a significant outflow of capital from the agricultural sector of the economy, which was the result of "price scissors" - there was a break in the economic ties of the agro-industrial complex and, first of all, between vertically interacting producers of agricultural products and raw materials and processing enterprises. One of the reasons for such a gap was the monopolistic position of processing enterprises, which caused negative consequences, including a decline in agricultural production and a decrease in the welfare of the rural population.

The creation of agricultural holdings is a model for the further development of the agro-industrial complex of Ukraine, which will allow to lead it to a qualitatively new trajectory of stable, highly



efficient and competitive functioning and to solve priority tasks, namely: the food problem, to achieve rational standards of consumption of basic food products by all sections of the country's population, to increase the export potential domestic agricultural sector of the economy. In addition, this strategy is designed to revive domestic agricultural production, ensure comprehensive improvement, socio-economic and ecologically balanced transformation of rural areas and settlements.

There is a wide spectrum of mutual interests of non-agricultural companies that have come to work in agriculture, and regional authorities concerned with the development and implementation of programs to support the agricultural sector and the development of rural areas.

The reasons leading to structural changes include: management; efficiency; access to finance; scale effect; advantages of vertical integration; arrival of powerful investors. And the influence factors are taxation; state support programs; financing; transaction costs; cooperation with the authorities; technologies. At the same time, it should be noted that the possible consequences of structural changes may be: an increase in the cost of rent, attracting financing, improving the prospects for productivity growth, potentially higher land prices due to increased demand, attracting personnel, potentially investing in the development of rural areas, changing the structure of markets, changing the structure of production, increase in unemployment, curtailment of non-core activities.

The introduction of vertical integration will ensure a guaranteed supply of raw materials; optimization of costs for it; consolidation in sales markets; consolidation in the land rental market; diversification of financial support opportunities. Such integration will contribute to attracting investments, improving technologies, developing infrastructure, increasing labor productivity, and optimizing financial results of business.

Along with this, it is necessary to point out the problematic issues arising in the activities of agricultural holdings, in particular, the management of cash flows and taxation, the legal and social insecurity of rural workers, the union of only the necessary production units, the creation of a high level of social tension in rural areas.

In Ukraine, the following types of holdings can be distinguished basic structures:

- penetration of industrial capital into agribusiness and management of agrarian business according to the holding principle (Smart-holding);
- penetration of agrarian capital into the processing industry, when agricultural enterprises begin to control the activities of processing enterprises due to ownership of a controlling stake;
- creation of holdings by enterprises engaged in material and technical supply for the agricultural complex (Rize-Agro, Agrosoyuz);
- investment of bank capital in the agricultural sector and the creation of agroholdings, which by structure can be classified as finagropromholdings.

Summarizing the experience of functioning of integrated structures in the agrarian sector of the economy allows to determine the main trends of their development and the problems arising in this connection.

Members of the association gain access to new opportunities, which strengthens their competitive positions, leading to increased profits and sales volumes. Local self-government bodies, thanks to the improvement of the financial condition of the enterprises in question, increase tax revenues and, in addition, the need for social costs decreases.

Financial institutions, primarily credit institutions, benefit from associations, because the risk of non-repayment of loans issued to the enterprise decreases, as agricultural holdings master new technologies in management and production, strengthen their competitive positions, reach a higher level of development, and move from mutual competition to mutually beneficial cooperation.

The local community receives new jobs, fills the local budget, and as a result, solves social problems.

The industry as a whole benefits from an improvement in the trade balance, an increase in income, and a reduction in unemployment.

For the owner of the capital of the agricultural holding, it is first of all: successful resolution of issues of legalization of capital and assets, minimization of costs, growth of capitalization, optimization of the taxation system; protection of assets in case of raider attacks; the

ability to give a group of companies a name; formation of a positive creditor history of the firm, conducting an audit; the ability to own assets centrally and openly. The holding is an ideal platform for listing a business on the stock exchange to receive investments, helps attract strategic investors and partners. Allows you to leave a structured and established business to descendants, reduce risks, if necessary, facilitates the sale of the business at a fair market price.

However, when creating agricultural holdings, problems arise, in particular:

- the parent company receives unlimited economic powers, and the structural units lose not only their legal independence, but also a significant part of the means of production;

- there is a conflict of interests between the investor and the local community, caused by the reduction of certain productions, in particular, livestock farming and the payment of taxes to the budgets of the territorial community at the place of state registration of the investor, which leads to a reduction in revenues to local budgets;

- for various reasons, not all agricultural holdings start production on leased land in full or in part in the first year;

- technical re-equipment of production is accompanied by optimization of the number of employees; at the same time, not always enough attention is paid to the social factor in relation to the adaptation of laid-off workers, to an individual approach to their possible employment in other positions.

In order to resolve misunderstandings during the creation, functioning and liquidation of agricultural holdings, to increase the efficiency and "transparency" of their activities, it is expedient to conclude agreements between interested parties, i.e. between the managing organization-investor and agricultural enterprises joining the agricultural holding and territorial bodies, already in the preparatory period of the organization of such formations authorities. The main principles of such agreements are parity participation and equal economic benefit from joint production, agreement of actions and efforts of partners, optimal combination of economic interests and responsibilities of the parties, the possibility of administrative control

over the effective use of natural and production resources, compliance with environmental standards, participation of agricultural holdings in the development of the social sphere villages [18].

To increase the efficiency of holdings, it is necessary to:

- in order to prevent conflict situations, create a procedure for consideration of proposals, statements, complaints between the management company and ordinary employees;

- to form a legislative framework that will regulate the activities of agricultural holdings;

- in order to eliminate disputes between agricultural holdings and local communities regarding the payment of taxes, it is advisable to make clarifications to the Economic Code of Ukraine regarding the territorial characteristics of the structural subdivisions of the enterprise, namely: to specify that the structural subdivisions of the enterprise should be located according to the location (within the territorial community of the same name) of the enterprise - a legal entity, which will make it possible to fill the revenue part of local budgets and implement social programs.

### **2.3. Land use formation of integrated structures**

In the market economy, every enterprise strives to achieve maximum profit. Therefore, the hectare involved in production must be profitable. In this regard, the formation of the optimal size of enterprises from the point of view of management and organization of production is an important task of economic science.

Such scientists as: V.G. Andriichuk, B.S. Huzar, D.S. Dobryak, V.Ya. Mesel-Veseliak, L.Ya. Nowakovsky, S.O. Osypchuk, B.Y. Paskhaver, S.M. Rybak, P.T. Sabluk, A.Ya. Sokhnych, V.M. Trehobchuk, A.M. Tretyak, M.M. Fedorov, V.M. Yurchyshyn and others. However, the market conditions of management require further, in-depth study of new approaches to the system of agricultural production organization.

The dimensions of integrated agricultural structures are formed under the influence of many factors: the goals and objectives set by the

business entity; natural conditions; proximity to transport routes and sales markets; specialization, technological equipment, production technology; ways of forming start-up capital; methods of carrying out industrial and economic activities; forms of production organization.

The agriculture of Ukraine has undergone significant structural changes. The processes of reorganization of collective enterprises were accompanied by the fragmentation of land masses and property complexes, which inhibited the use of the mechanisms of economic laws: the advantages of specialization and production concentration; compliance of industrial relations with the level and character of productive forces; increase in labor productivity; socialization of labor and production, etc. [227]. On average, farms in the steppe zone have the largest areas of arable land – 4–6 thousand hectares, and smaller ones – farms in the forest-steppe zone – 1.5–3, sometimes 4–5 thousand hectares; even smaller in Polissia and in the western regions of Ukraine.

During the years 2001–2009, trends towards an increase in the size of agricultural enterprises with an area of more than 5,000 hectares were observed. If in 2001, only 5.3% of the land belonged to enterprises with an area of more than 8 thousand hectares, then in 2009 such enterprises concentrated their production on the area of 20.5% of agricultural land (Fig. 2.12).

The increase in the size of enterprises is largely due to the concentration of capital in agricultural production in the form of the creation of agricultural holdings, which, unlike small enterprises, introduce new technologies into production, attract qualified personnel, develop infrastructure, diversify risks and control costs at all stages of the formation of added value of products - from the primary stage of production to the final consumer. All this opens up wide opportunities for increasing production efficiency, further increasing accumulations as the main factor of extended reproduction.

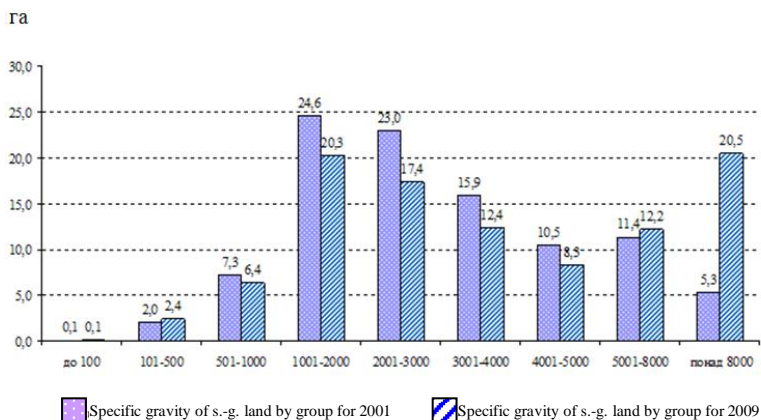


Fig. 2.12. Dynamics of land use sizes in 2009 compared to 2001.  
Source: author's research.

In the near future, an increase in the number of agricultural holdings and an expansion of their area due to farms engaged in extensive agriculture is predicted. By 2015, Ukraine can collect at least 60–70 million tons of grain per year with a yield of 5–7 tons per hectare due to the increase in cultivated areas and the use of innovative farming systems [144].

An increase in the size of land uses allows more rational use of agricultural machinery, reducing the influence of the human factor on the production process.

If we consider the production of agricultural products as a whole, the production of 78.4% of vegetables and fruits, 62.6% of meat, and 42.8% of milk, 43.4% - cereals and 41.2% - industrial crops. The specialization of structural divisions of large companies is formed based on the main type of activity of the parent company (sugar, grain, milk). At the same time, the focus is on the formation of highly specialized, highly industrialized production with a clear export orientation. Data analysis (Fig. 2.13) shows that the group of enterprises with an area of more than 8,000 hectares, whose land use in the total area of land use increased by 15% during 2001–2009, produces the largest specific weight of products, compared to other groups of

enterprises similar in area. In particular, 56.4% of sugar beets, 26.5% of cereals and 21% of industrial crops are produced here, which is an average of 12% more, compared to the similar area group. In general, there is a tendency to increase production volumes with an increase in the size of enterprises.

Analysis of data from the statistical reporting form No. 50 s.-y. makes it possible to characterize the level of production in each of the groups in various ways. The development of animal husbandry in the group with an area of more than 8,000 hectares is approximately the same as in the entire set of enterprises. The group produces 21.4% of milk and 19.5% of meat, which is 5 and 13% more in the total specific weight of production, compared to the group with a similar area (Fig. 2.14). Small businesses have significant employment opportunities in the field of vegetable growing. Therefore, it is necessary to increase the share of intensive production in the agricultural sector.

Consolidation of enterprises should take place in the direction of strengthening vertical integration and improving an effective business model due to the accumulation of unique experience and the introduction of innovative technologies.

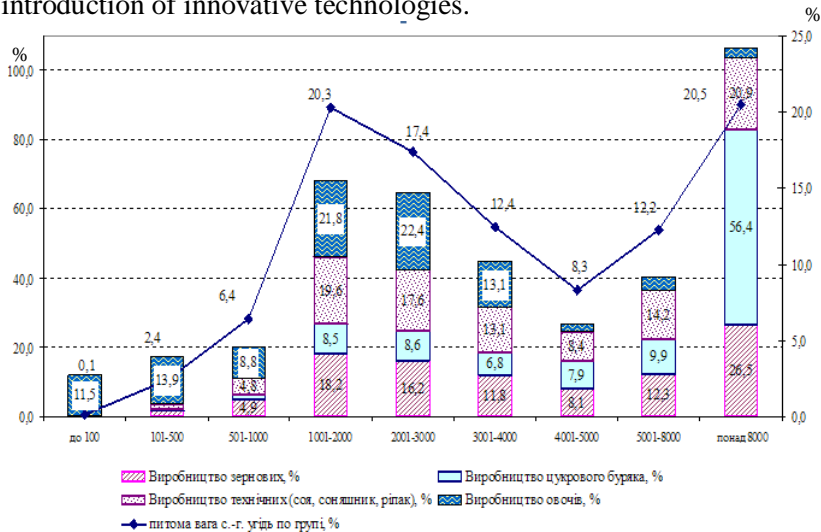


Fig. 2.13. The specific weight of crop production depending on the size of land use of enterprises,% (2009)

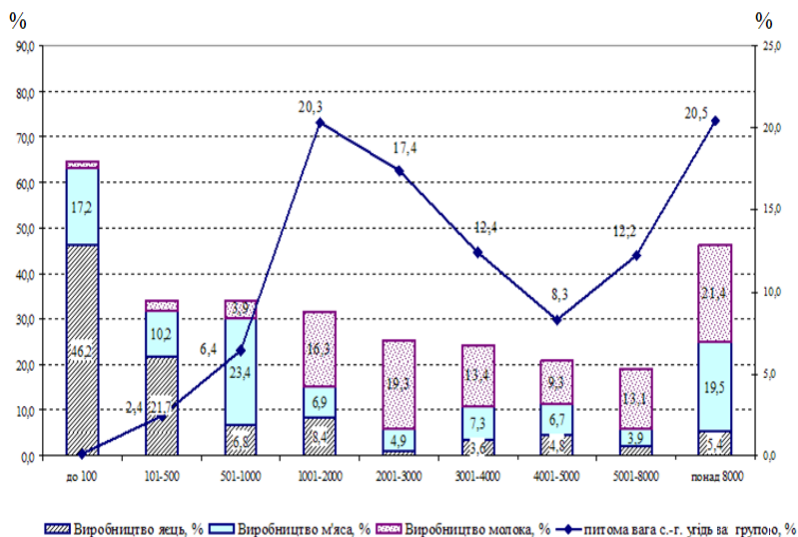


Fig. 2.14. The specific weight of production of livestock products by categories of enterprises depending on the size of land use, % (2009)

Source: author's research.

In order to study the influence of factors on the formation of the size of land use on the production data of agricultural enterprises of Ukraine, which are reported in the form of 50 s.-y., a sample of 9,242 farms working on leased land was formed.

The analysis showed that there is a close relationship between the growth of land use and economic efficiency indicators of agricultural production. The calculations shown in fig. 2.15, show that with an increase in the area of the enterprise, there is a tendency to increase sales revenue, gross production, and crop production profit per 1 ha of arable land. Thus, for a group of enterprises with an average size of 20,000 hectares, the revenue from the sale of plant products, based on 100 hectares of arable land, is UAH 397, compared to UAH 183 for a group with an average size of 750 hectares.



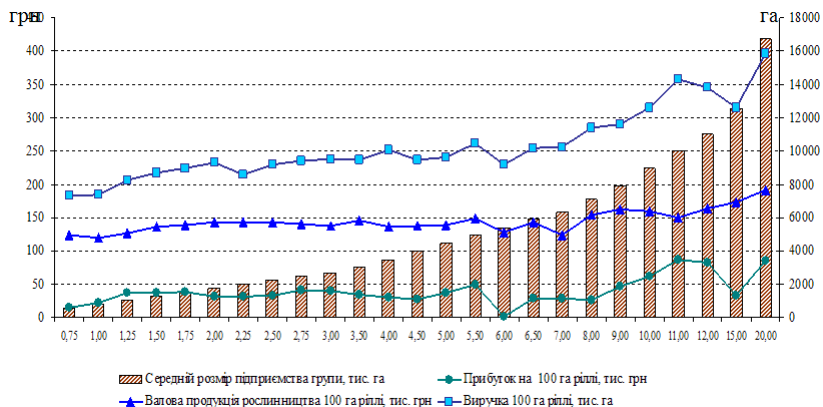


Fig. 2.15. Efficiency of agricultural production depending on the size of land use in 2009.

Source: author's research.

With the help of groupings, the dependence between the size of land use and the output of gross production, revenue and profit per unit of area was established. However, for a detailed analysis and study of the degree of influence of each of them, we conducted a correlation-regression analysis. The dependence of the production of gross crop production (Y1), revenue from the sale of crop production (Y2) and profit of crop production (Y3) per 100 ha of arable land on the influence of the factor of the size of the arable area (X) was established.

To do this, the parameters of the equation of the form were estimated:

$$Y = a_0 + a X$$

According to the results of the calculations, the relationship between the productive features and the size of land use is expressed by linear regression equations:

$$Y1 = 127.377 + 0.0033 X;$$

$$Y2 = 194.695 + 0.0122 X;$$

$$Y3 = 23.138 + 0.0032 X.$$

All coefficients of the regression equation have a positive sign, which indicates a direct relationship between the variables.

The coefficient of multiple correlation (R) is  $R_1 = 0.849$ ,  $R_2 = 0.9519$  and  $R_3 = 0.6514$ , which characterizes the relationship between the values of the function and the independent variables as close. The coefficient of multiple (cumulative) determination ( $R^2$ ) is 0.7216, 0.906 and 0.4243. This means that 72% of the variation in the value of the gross crop production per 100 ha of arable land, 90.6% of the increase in revenue from the sale of crop production and 42.4% of the profit per 100 ha of arable land in the conducted study is due to the increase in the size of land use. According to Fisher's test, the equations are statistically significant: estimated value of Fisher's coefficient  $F_1 = 59.6$ ;  $F_2 = 221.9$  and  $F_3 = 16.95$  more than the table value of the coefficient with a probability of 0.95  $F_{gr} = 4.3$ .

Regression coefficients are prone to fluctuations in small samples, so they should be checked for significance in the case of a linear relationship. We check the significance of the regression coefficients using the Student's t-test. Tabular value of Student's coefficient with probability  $P = 0.95$ ,  $T_{gr} = 2.07$ . According to the conducted research, the value of t-characteristics is 7.72; 14.9 and 4.1 and exceeds the critical value of the Student's t-test, which means that the coefficients of the equation with the X variable are statistically significant.

The value of the coefficient of the regression equation ( $a_1 = 0.0033$ ;  $a_2 = 0.0122$  and  $a_3 = 0.0032$ ) determines the coefficient of increase of the Y variable when X increases by one unit relative to the average.

According to the researches of the scientists of the Institute of Agrarian Economics, when forming the size of economic formations in crop production, it is advisable to take into account the factor of rational use of a complex of technical means that ensure the implementation of technological operations in agriculture. An important condition should be the establishment of appropriate proportions between land use, productive assets and the availability of labor. For example, in the forest-steppe zone, the optimal area of arable land for agricultural enterprises is 3–5 thousand hectares.

In animal husbandry, the method of determining the rational size of farms for the production of beef and pork involves, firstly, taking into account the actual level of production efficiency depending on the level of livestock concentration, and secondly, the use of the calculation method of optimality. For the Polissia zone, profitable livestock and pig farming is ensured with an average annual livestock of 3–6 thousand cattle and 6–12 thousand pigs on farms. The number of livestock kept by farms that specialize in the production of livestock products also depends on the size of land use [189]. At present, most companies, when forming the structure of fodder lands, proceed from the calculation of 1.1 ha per cow with a plume.

The objective technical and economic advantages of large-scale production over small-scale production are: a higher level of labor productivity; lower costs per unit of production; savings in capital and operating costs per unit area; greater opportunities for rational organization of production, use of technology, achievements of science and progressive practice; storage and sale of products in better terms and of higher quality, etc. However, the increase in the size of enterprises and their divisions cannot be unlimited. Ensuring efficient production must be achieved by harmonizing the balance between economic activity and the land's ability to reproduce.

The tools that will contribute to the formation of the optimal size of the enterprise and the effective use of resource potential include: the introduction of a system of planning and budgeting of production processes, scientifically based crop rotations, the removal from circulation of unproductive and degraded lands.

The size of the enterprise depends on the goals that the company sets for itself and the ways of their implementation in a specific socio-economic environment; ways of forming start-up capital; methods of carrying out industrial and economic activities; forms of production organization. Studies show that with an increase in arable land by 1 ha, the gross crop production per 100 ha of arable land will increase by UAH 3.3, sales revenue by UAH 12.2, and profit by UAH 3.2. When forming land massifs, the company must be guided by the principle of economic expediency, which will allow to obtain the maximum profit

with a minimum of costs, without disturbing the balance between economic activity and the ability of the land to reproduce.

Land relations are social relations regarding the ownership, use, disposal and management of land at the state, economic and intra-economic levels as an object of management and a means of production in agriculture [310].

The practice of world economy proves beyond doubt that the efficiency of land use is determined by the extent to which the right of ownership is fully implemented, including the possibility of buying and selling, pledging, and exchanging land. The effective symbiosis of labor, land and capital markets in the developed countries of the world makes it possible to attract significant credit resources to agricultural production and creates favorable conditions for its development. Thus, in the USA, mortgage loans account for almost 70% of all lending volumes in agriculture. In 1999, the amount of mortgage loans in the USA reached 3.5 trillion dollars. [146]. The implementation of land ownership allows to increase the efficiency of land use, increase rental payments and significantly reduce the plowing of agricultural land. At the same time, the availability of tractors per 100 hectares of arable land in Ukrainian agriculture is 1.3, while in the USA - 3.0, France - 8.6, Germany - 20.3. In Ukraine, up to 30 kg of the active substance of mineral fertilizers is applied per 1 ha, in Germany – 420 kg, in France – 294 kg [238].

Mortgage relations are a defining feature of the financial and economic mechanism of countries with a developed market economy. They act as a guarantor of the fulfillment of obligations between subjects of market relations. The introduction of the mortgage lending market in Ukraine requires legislative and organizational support, which on a comprehensive basis will regulate the creation of a unified state system of registration of ownership rights to immovable property and their restrictions, the introduction into economic circulation of mortgage securities - mortgage and mortgage deeds, the functioning of the land cadastre, the creation State Land (Mortgage) Bank and Credit History Bureau.

International experience convinces that the most effective for Ukraine is the two-level model of functioning of the mortgage lending market, which provides for the presence of primary and secondary

markets. The first is characterized by relations regarding the provision and repayment of mortgage loans in the mortgage creditor-borrower plane. The essence of the operation of the second is to refinance the activities of mortgage lenders in the primary market by issuing mortgage securities, selling mortgage assets to specialized mortgage institutions or transferring these mortgage assets as collateral to attract refinancing loans.

In the development of land massifs of integrated structures, an important place is given to the development of the land market. The concept of the land market is not reduced only to buying and selling, but has a much broader understanding, which includes a set of categories related to solving the problem of land valuation, including land in economic turnover, building a system of price, tax, credit support, improving regulatory and methodological basis of development of land relations.

In Ukraine, private ownership of land and its lease has been revived by law, which makes it possible to optimize the size of land use of newly created agrarian formations. Currently, short-term leases of up to 5 years prevail, long-term leases of more than 6 years account for 41%, while its share increased by 19.3% between 2000 and 2009 (Table 2.5). From the position of the owners, who expect better rental conditions, such terms are justified. However, from the point of view of the organization of stable production, short-term rent is an obstacle to capital investments in long-term land improvement.

Table 2.5.

**Conclusion of lease agreements and rent for land in agriculture**

Indicator	Ukraine		
	2000	2009	"+,-"
<i>Specific weight of concluded lease agreements by subjects,%</i>			
From the subdivision where the land share was received	85.2	42.2	-43
With farms	4.3	14	9.7
With other subjects	10.5	43.8	33.3
<i>Specific weight of lease contracts by their validity periods,%</i>			
For 1–3 years	45.7	10.1	-35.6
For 4-5 years	41.2	48.9	7.7
For 6–10 years	11.3	30.6	19.3
More than 10 years	1.8	10.4	8.6
<i>Payment for the lease of land plots and land shares (shares)</i>			
The total amount of payments, in accordance with the concluded lease agreements, million hryvnias	1589. 3	4547. 8	2958.5
<i>Of them by forms of rent, %:</i>			
monetary	13.9	18.9	5
natural (farming products)	77.4	76.5	-0.9
work	8.7	4.6	-4.1
Fee for 1 ha per year, UAH	73.6	260.2	186.6
Actually paid since the beginning of the year, %	65.7	91.6	25.9

Source: author's research.

The amount of the rent is determined based on the monetary valuation of the land and is regulated by Decrees of the President of Ukraine. Monetary assessment of 1 hectare agricultural land. land in Ukraine amounts to UAH 10,707. The total amount of payments under lease agreements in 2009 reached UAH 4.57 billion, and the average annual rent was UAH 260.2 per hectare. Almost 64% of landlords are pensioners.

In countries with a developed market economy, the dominant share of agricultural land is in circulation on the land rental market and only 3% is bought or sold, in particular, in the USA and Ireland - 1.2%, Great Britain, France and Italy - 2.0%, Germany, Holland , Belgium – 1.5–2.5, in Denmark – about 4% of the land fund [353]. The advantage

of renting is primarily due to the fact that farmers do not have enough funds to purchase land and the possibility of more rational use of capital to modernize production. Various methods of relations between owners and tenants are practiced abroad: lease based on labor participation; for animal husbandry; on the basis of share participation in the harvest; on the basis of participation in net income and rent on the principle of fixed payments.

Tenancy on the basis of labor participation, or as it is also called in the USA "father-son" tenancy, when the parties work on the basis of colleagues. The profit is distributed in proportion to the labor contribution of everyone. The owner is freed from the daily work on the farm, but at the same time exercises control over its production activities. The tenant, as a rule, is a young specialist (heir), who will become a farmer in the future, invests only labor in production and participates in management. This type of lease allows the tenant to develop their management skills under the guidance of an experienced farmer with minimal capital risk.

Leasing land for livestock farming is based on the partnership of the parties, in which the profit and contribution of each partner to the business is distributed proportionally. Typical for this type of lease is the ratio of capital, livestock, feed, equipment, seed costs, etc. as 1:1. For the owner, this type of lease is the most profitable compared to other types, especially if the tenant is a highly educated specialist.

Tenancy based on share participation in the harvest is most common in countries with high land prices. The parties share between themselves both the profit and the costs of crop production. Under such conditions, the risk is shared, and the revenue of each party fluctuates depending on market and production conditions. The owner receives a share of the grain harvest (from 1/3 to 1/2 depending on the quality of the land) and payment for the tenant's use of buildings and pastures, if applicable. Usually, his participation is limited to management functions. For him, this form is more profitable compared to cash rent, because it allows him to spend less time on management and in conditions of price instability, he can receive more in the form of a share of the crop than a share of the profit from the sale of the crop. The lessee risks less capital than with a fixed cash lease.

A net income share lease has features of both a fixed rent and a crop share rent. The level of payments is not fixed and is derived from the obtained harvest. The owner receives the monetary equivalent of his annual participation in the grown crop. He does not work on the farm, but leases land, buildings, machines, and carries out long-term work on improving the properties of the soil. The tenant is responsible for the costs of the necessary equipment and labor. The ratio of the costs of both parties determines the share of the profit or harvest paid by the lessee. It is usually 50/50 on grain farms, 30/70 on dairy farms and 40/60 on mixed farms. Depending on the type of farm, the tenant pays 50, 30 or 40% of the profit from the sale of final products as rent, respectively.

Renting on the basis of a fixed payment is most similar to the rental agreements common in Ukraine. Under such contracts, the tenant assumes all management risks, and the landowner receives a guaranteed profit. In the United States, a landowner can claim 20-30% of the crop. In Great Britain and Australia, rent is paid according to the contract on the specified day and month. In general, the calculation of rents in these countries is based on the principles of farmer participation in income sharing and partnership.

The principle of partnership is realized in three types: direct, managerial and contractual. A partnership involves the presence of two equal participants in production, who jointly conduct economic activities on the land owned by the owner, complementing each other professionally and professionally, and have a joint bank account. A management partnership is a type of land lease in which the owner invites a tenant to manage the farm. As a result, the lessee receives the part of the harvest specified in the contract as payment (in addition to wages) for effective management. In a contractual partnership, the owner leases the plot to tenants, who provide the production process with labor and the necessary equipment. In this case, the owner of the land receives rent in the form of part of the harvest, the rest of which remains with the tenant.

In general, in the countries of the European Union, more than 40% of agricultural land is cultivated on lease terms. The average rent for 1 hectare is 8 cents of wheat, or its current year's market value. The structure of contracts is dominated by long-term leases for a period of 9 years or more.



The high level of rent in the developed countries of the world (in the USA – 195, Germany – 260, the Netherlands – 652, Japan – 1,685.7 dollars per 1 ha) is primarily due to the high yield of land. For example, in Japan, on the basis of 1 hectare, products are produced for 11,250 dollars, in the Netherlands - 8,900 dollars, in Germany - 2,650 dollars, while in Ukraine - only 272 dollars. One worker employed in agriculture in Denmark and France provides food for 40 people, in Germany - 50, in Canada - 55, in the USA - 80, in Belgium - 100, while in Ukraine - only 15 people. At the same time, plowed land in Ukraine is 78%, while in England – 30%, USA – 36%, France – 57%, Germany – 61% [6].

State policy in the field of land relations is important for the formation of land massifs of integrated structures. The priority of agrarian policy is to protect and create favorable conditions for the work of tenants as direct producers of agricultural products. In particular, they are provided with long-term guarantees of ownership of the cultivated land and preferences regarding the purchase of land from the owners. At the state level, the attraction of capital from other areas of the economy to agriculture is stimulated. For example, the following measures have been tested in the Czech Republic in order to stabilize land use and support tenants: a long-term land lease agreement with a difficult mechanism for its early termination, concluding lease agreements not with a specific owner, but with their association. The purchase and sale of land is regulated in detail. So, it is forbidden to sell the land to foreigners and to change its intended purpose. There are state programs in the country to support the purchase of land by peasants, providing them with interest-free long-term loans in the amount of up to 80% of the land value.

In many countries of the world, the state regulates land relations, but it should be noted that its participation is not the same. In Germany, Great Britain, Greece and Luxembourg, the principle by agreement of the parties prevails, in France, Belgium, the Netherlands, Italy, Spain and Portugal, the state actively intervenes in the regulation of lease relations in terms of land transfer. In Denmark and Ireland, priority is given to the incentive of the farmer-owner with a certain limitation of

rent. The land owner appropriates land rent in the form of rent. It is a fee for permission to conduct business activities on land [162].

The perspective of the development of land use of integrated associations in Ukraine is the introduction of a model of medium and long-term lease with subsequent renegotiation of the agreement, inheritance of the right or purchase of land. If the moratorium is lifted and the sale of land is implemented, it is advisable to apply a scale of motives and restrictions on their resale.

Further effective development of integrated structures requires significant funds in the form of medium and long-term loans. One of the ways to obtain them is the introduction of a mechanism for pledging the right to lease land. The object of the pledge may be the right to lease, which belongs to the lessee according to the lease agreement. In this case, the main documents are contracts: lease, credit, pledge of the right to lease land, insurance. The State Land (Mortgage) Bank can regulate mortgage operations, carry out mortgage lending, issue mortgage bonds and control the movement of land and the targeted use of funds, carry out information, advisory and consulting work. Funds from the State Customs Service and the Pension Fund of Ukraine, as well as proceeds from the privatization of strategic enterprises, can be used to service the bank at the initial stages.

Problematic issues in the expansion of land massifs of agricultural holdings are cases when:

- lease agreements do not undergo state registration, and in those that have, the registration record does not allow judging by which body and when the registration was carried out;

- the contracts do not contain all the essential conditions and appendices to them, and at the same time, the conditions of the contracts have not been reviewed for a long time;

- the lease of land shares (units) has certain risks in connection with the need to renegotiate lease agreements after the owners receive state deeds for the ownership of the land plot;

- the lease of unclaimed units is risky, as there is a possibility of early termination of the lease agreement.

The inviolability of private land ownership is a defining attribute of a democratic society. At the same time, the politicians of the countries of the European Union are currently fighting to limit the

rights of private owners, subordinating the benefits from the use of land to the interests of the local community and society and giving maximum possible preferences to direct producers of products (tenants).

The state policy of Ukraine in the field of land relations should be aimed at protecting the interests of domestic producers and preserving domestic agricultural production, since the country's food security depends on it, and hence its sovereignty. Unmotivated imitation of the standards of the Western economy, without taking into account national characteristics and legislative justification, can lead to the decline of the Ukrainian countryside, will lead to the gradual transfer of Ukrainian lands through third hands to foreign citizens.

In order to preserve existing enterprises at the state level, it is necessary to initiate the allocation of long-term loans to them for the purchase of land within the limits of which they conduct production and to legally regulate their preferential right to purchase these lands. Increase the maximum permissible area of land that can be privately owned.

To improve the efficiency of agricultural production, it is advisable to develop a mortgage lending system. This requires legislative and organizational support, which will regulate the creation of a unified state system of registration of ownership rights to immovable property and their restrictions, the introduction into economic circulation of mortgage securities - mortgage and mortgage deeds, the functioning of the Land Cadastre, the creation of the State Land (Mortgage) Bank and Bureau credit histories.

To improve the process of formation of land massifs of agricultural holdings and improvement of land relations, it is necessary:

- to improve the procedure and system of maintaining the state land cadastre and land monitoring and to provide landowners and land users with information about soil quality;

- to form an effective functioning mechanism of a full-fledged, state-regulated market circulation of agricultural lands;

- conduct an inventory of land;

- to develop a mechanism for including the value of land in the economic turnover and its legal support;

- to improve the legal and socio-economic mechanisms of effective implementation of property rights on agricultural land;
- to develop a new method of normative monetary valuation of lands taking into account market factors;
- to improve the system of state management of land resources;
- to improve the economic mechanism of regulation of land relations through price regulation of the market turnover of land plots;
- to develop mechanisms for using leased land as collateral, in particular, collateral for the right to lease land, which will contribute to attracting additional credit resources to agricultural production;
- to introduce a program of reproduction of soil fertility, which involves the greening of the use of leased lands and the removal of degraded and unproductive lands from intensive use;
- introduce economic stimulation of rational use and protection of agricultural lands;
- to ensure state control over measures to preserve and reproduce soil fertility.

Improvement of land legislation is a guarantee of further effective development of leased land relations. Despite the adopted draft laws, issues related to the implementation of their rights by the subjects of lease relationships, the development of mortgage lending, increasing the efficiency of land use and improving their fertility, and removing unproductive and degraded lands from active turnover remain unsettled. This requires the urgent adoption of laws and amendments to already existing draft laws, in particular, the adoption of the Laws of Ukraine provided for by the Land Code: "On the State Land (Mortgage) Bank".

#### **2.4. Features of the development of agro-industrial integration at the current stage**

One of the important components of the national economy is the agro-industrial complex, the main purpose of which is to provide the population with high-quality food products and obtain positive economic results from the activities of agricultural enterprises. In the conditions of market relations, an important factor in the effective

functioning of the agro-industrial complex remains the creation of integration formations, which include the process of production, its further processing and sale.

The agricultural sector of the economy generates more than a third of the national income, 70% of the total retail turnover is formed, a third of the main production assets are concentrated, and a fourth of the population employed in the economy of Ukraine works. According to the UN, the potential of Ukrainian lands allows providing food for about 100 million people. This can be achieved through the introduction of fundamentally new approaches to the organization of agricultural production.

Agrarian-industrial integration is a process of combining agriculture and industry, the economic prerequisite of which is the continuity of scientific and technical progress, which is based on a set of production relationships and ultimately allows to reduce costs and increase the possibility of promoting products to the market.

The issue of the development of agro-industrial integration in agriculture under market conditions is covered in the works of V.G. Andriichuk, P.Yu. Buryaka, M.V. Gladia, F.V. Gorbonosa, V.V. Zinovchuka, I.I. Lukinova, M.Yu. Kodenska, M.Y. Malika, V.Ya. Mesel-Veselyaka, Yu.O. Nesterchuk, P.T. Sabluka and others.

In recent years, there has been a need to create a closed cycle of development, namely: the combination of agricultural production with processing and sale, because this is the only way to obtain competitive products and improve the results of production activities.

There is a significant expansion and deepening of inter-industry relations in two directions - on the one hand, as a result of meeting the growing needs of agriculture with the products of fund-generating industries, and on the other - due to an increase in the supply of agricultural raw materials for industrial processing to the food and light industries.

Agro-industrial integration means a certain organizational combination of agricultural and technologically related industrial production with the aim of obtaining final products from agricultural raw materials and achieving greater economic benefits due to the mutual material interest and responsibility of all participants in agro-industrial production for the final results of management.

Therefore, the advantages of integrated structures are undeniable. Academician of the National Academy of Sciences of Ukraine I.I. Lukinov noted that scientific and technical progress, the development of equipment and technologies came into conflict with sectoral fragmentation and economic universalism. On this basis, new theoretical views emerged and developed regarding the objective necessity of forming optimal production structures, deepening the specialization of farms, rational dismemberment of the reproduction process into the separation of stages with current machine technology and their synthesis at the level of inter-farm cooperation, and in the future - at the higher degrees of agro-industrial integration [48].

The conducted research makes it possible to determine the advantages of integrated agricultural formations compared to existing agricultural enterprises, in particular:

- significant reduction of losses of agricultural products, especially perishable ones, due to minimizing the gap between their collection and industrial processing;

- increasing the volume of production of final products due to the disposal of non-standard agricultural products and by-wastes, which without integrated production are completely lost or used irrationally;

- independence in making a decision on changing the product range and sales volume, respectively;

- provision of guaranteed supplies creates conditions for influence on the supplier regarding the level of quality, efficient use of resources and minimization of stocks; facilitating access to "know-how" that integration partners have, joint creation of new products; creation of price advantages in the distribution system.

Important aspects of the development of integrated formations include the creation of motives for domestic and foreign investors: using the potential of a foreign partner for production; development of new trade channels; updating the technical and technological base by using advanced foreign equipment and technologies; increase in product exports and decrease in national imports; receiving converted currency; obtaining additional financial and material resources; use of foreign management experience.

Motives for the arrival of foreign investments: conquest of new markets; reduction of capital costs for the creation of new capacities; acquisition of new sources of raw materials and renewal of the

production base; continued use of equipment and technologies that are at the last stage of their existence; use of cheaper labor and resources; the ability to avoid cyclicity or seasonal instability of production; increasing the effectiveness of existing marketing.

By receiving more income, compared to ordinary agricultural enterprises, agro-industrial formations more successfully solve economic and economic issues, provide higher social security for their employees, which is an important feature of a socially oriented market economy. Agro-industrial formations provide employees with a broad technological base for the application of skilled labor.

The mutual material interest of all participants of regional and economic organizational forms of agro-industrial integration in achieving high final results, on the one hand, and each of them in increasing the scale and efficiency of production of their type of activity, on the other, becomes the driving force that creates the necessary economic environment for introduction of innovative achievements of science and technology into production, economically encourages to ensure proportional development of agriculture and processing industry, the base of product storage and its implementation. As a result, conditions are created not only for increasing the volume of production and improving the quality of products, but also for the rational use of raw materials, ensuring their in-depth processing, and expanding the range of food.

Over the past few years, agroholdings have expanded the scale, geography of their activities, and industry specialization, extending the sphere of interests not only to the traditionally highly profitable branches of agriculture, such as grain production and sunflower, but also actively working in recent years in animal husbandry, primarily in the fields with a high short-term return on invested capital.

The holdings brought with them to the village not only capital, but also the basic ideology of business, new technologies and new management.

According to the principle of construction, holdings can be classified as follows: diversified; vertically integrated; mountains are zonally integrated, mixed, i.e. simultaneously vertically integrated and diversified.

The creation of agricultural holdings is due to the need for raw materials for their main production; informal intervention of the regional administration in the activities of private companies; the need to control the process of agricultural production to return previously issued loans; profitability of production for capital investment and return on investment; the need to expand sales of its products; expanding the scope of the company's activities to reduce financial risks; expectations of secondary property redistribution; the need for food supply for company employees included in the group; tax benefits.

In the conditions of the development of market relations in agriculture, the processes of capital concentration and the formation of agricultural holdings on this basis began. These processes were not widely publicized. The formation of integrated structures took place in an evolutionary way and was largely determined by the restoration of broken inter-branch ties. As a rule, processing enterprises are the initiators of the creation of integrated structures.

Territorially, agricultural holdings cover the entire territory of Ukraine.

The analysis of the development of holding structures in the agriculture of the Zhytomyr region allows us to conclude that more than 42%, or 291.6 thousand hectares of arable land, is cultivated thanks to the involved investments (Fig. 2.16). At the same time, during 2007–2009, this indicator increased by 24%. In 2007, wages in the farms included in the associations increased by 12.1%, in 2008 – by 36%, in 2009 – by 62%, compared to the industry average, and in 2009 it was UAH 1,202 per employee. Financial receipts to local budgets increased by 18.4% in 2007, by 39.3% in 2008, and by 71.7% in 2009.





Fig. 2.16. Changes in the land use structure of agricultural enterprises of the Zhytomyr region for 2007–2009.

Source: author's research.

Based on the natural-climatic and soil conditions of the region, we can generally conclude that the specialization of the Polish regions of the Zhytomyr region should be aimed mainly at the production of meat products, and in the forest-steppe regions, at the cultivation of grain crops. As already noted above, this state of affairs in Polissia is due, first of all, to the removal of significant arable land from intensive cultivation, followed by their transfer to fodder lands and under afforestation. As for the forest-steppe, relatively small massifs of eroded land are mainly removed from arable land, which has little effect on the structure of agricultural land and the specialization of farms in general.

Zonal holding structures cover 68% of the forest-steppe zone of the region, 29% of the transitional zone, and 35% of the Polissia. Their share in the production of products of agricultural enterprises is more than 55%. In the vast majority of the forest-steppe areas, investors started working since 2004, in the Polish areas since 2008.

Most of the large holdings of Ukraine operate in the region. In particular, LLC "ATK" has been conducting economic activity since

2004 in nineteen settlements of Lyubarskyi, Chudnivskyi and Berdychivskyi districts and leases 17,484 hectares of land. The enterprise employs 435 people. The holding specializes in the production of plant products. In 2008, the association received a profit in the amount of UAH 45 million. The level of profitability was 33%. The average monthly salary for one worker per year was UAH 2,110. For the harvest of 2009, 240.5 kg of mineral fertilizers were applied per 1 ha of cultivated land. The fourth year on the lands of "ATK" use the No-till technology of direct seeding of cereals, which preserves the content of organic matter in the soil. Thanks to No-till, plant residues on the soil surface protect it from all types of erosion and increase fertility. As a result, in 2009, while preserving the cultivated area, the yield of grain crops increased by 10%. Thus, in the Lubarsk district, "ATK", occupying 23.4% of the district's arable land, produced 59% of the gross production of grain products and 5% of industrial crops in 2009.

CJSC "Technological Agrarian Company" has been operating in the Zhytomyr Region since 2006. It leases 14,400 hectares of land in the Andrushiv, Popilny and Ruzhyn districts. The largest areas - 10.5 thousand hectares - are concentrated in the Popilnya district. In 2007, occupying 14% of agricultural land, the enterprise produced more than 32% of grain products of the district's agricultural enterprises. At the same time, the grain yield was 59 t/ha. In 2009, the share of the enterprise accounted for 19% of production of grain and 63% of technical crops of agricultural enterprises of the district.

PSP "Ukraine", which specializes in the production of crop and livestock products, thanks to the involved investments, managed to increase the yield from one cow by 51% during 2007-2009 - from 3.6 tons to 5.4 tons per head ( table 2.6).

Despite the positive trends in the development of agricultural holdings, the results of research show that a number of companies, such as Landkom International PLC, LLC "Ukrainian Agrarian Investments", CJSC "Agro-region" for various reasons did not start production activities on leased lands in the first year. At the same time, rent calculations were carried out in full for 2008–2009. Thus, in 2009, JSC Agro-Region did not use 9,000 hectares, or 60%, of the leased 15,000 hectares of land.

*Table 2.6*

**The effectiveness of the work of units of integrated structures in the Popilnya district of the Zhytomyr region in 2007–2009.**

Indexes	Year	All in the district	Name of the investor		
			CJSC "Technological Agrarian Company"	LLC "Khortytsia - Agro"	PSP "Ukraine"
Land area in Brobitku, huh?	2007	52584	7346.1	4208	2391
	2009	56371	10577	4824	2391
Gross harvest of cereals and legumes cultures, t	2007	132324	43647	5600	6210
	2009	195412	37292	21977	8530
Produced milk, i.e	2007	19588	h	h	2730
	2009	17963	h	h	2889
Grain yield, tons/ha	2007	42	59	24	60
	2009	54	95	53	60
Hope from one cow, kg	2007	3812	h	h	3564
	2009	4300	h	h	5397
Average monthly salary, hryvnias	2007	1010	1298	1308	1074
	2009	1345	1912	1401	1558
profit received thousand hryvnias	2007	20892	2058	3109	47
	2009	37593	3244	8002	5284

Source: according to annual reports.

The availability of uncultivated land in the first year of the lease is caused by: production problems, taking into account the mainly plant-based direction of economic specialization of the holdings and the seasonality of agricultural production; organizational - related to the formation of separate structural divisions and the expansion of territories in order to improve the company's capitalization and prevent competitors in the conditions of undervalued land and positive trends in the world markets of food products; commercial - consolidation of the land lease market and expectations related to the lifting of the moratorium on the purchase and sale of agricultural land; legislative - the absence of fines for inefficient production activity.

The analysis of the creation of holding structures from different natural and climatic zones of the Zhytomyr region allows us to

highlight the main trends in their creation. Investment processes in agricultural production began in 2004. First of all, the strongest enterprises of the forest-steppe regions of the region were included in the composition of the newly created associations, while the determining criteria was the availability of infrastructure.

In the formation of agricultural holdings in the Zhytomyr region, two stages can be distinguished:

The first one began in 2000, when the expansion of agricultural holdings was not massive and took place solely based on the company's financial condition, soil fertility, infrastructure availability, and the formation of raw material zones in the areas where their owners' processing facilities are located.

The second one began under the influence of global trends in the growth of food prices and in 2008 was characterized by increased processes of competition between tenants, an increase in the cost of subleasing and renting agricultural land. During this period, holding formations expanded the geography of their activities to territories far from cities and district centers. At the same time, the rental payments increased. The expansion of territories was not always accompanied by production activities in these territories. As the research showed, some holdings considered the expansion of land massifs as a profitable investment of funds, while rent payments and deductions to the budgets of the relevant levels were paid in a timely manner.

The analysis shows that investors started working in more favorable areas of the forest-steppe zone. At the first stages, investments were made in promising "living" agricultural enterprises. Not the last role in this issue was played by the administrative component and the combination of bureaucratic influence with financial capital. Thus, in the forest-steppe areas, the vast majority of investors started working since 2004, in the transition zone - since 2006. In 2008, competition began even in the most unattractive areas for the development of agricultural production in the Zhytomyr region. To a large extent, investment activity in 2008 was determined by the expectations of many investors for the quick lifting of the moratorium on the purchase and sale of agricultural land. Therefore, some of them never started agricultural production, and this is 90,000 hectares of land, for which lease payments are paid in a timely manner and at the



appropriate level. In 2009, the situation improved, 40,000 hectares of land leased by investors remained uncultivated.

An example of effective economic activity of agricultural holdings is the economic activity of holding structures of the Chudniv district of the Zhytomyr region. There are seven investors working in the district, who cultivate 26,000 hectares, or 68.1% of the total area of the district, in 26 village and settlement councils, including "ATK" LLC, "Agrarian Fund Tereshchenko" LLC, JV "Nibulon" LLC, ChF CJSC "Rise-Maximko", "Ukrinagroprom" LLC, "Agro-Regiony" JSC PZ.

Capital building of agriculture occurs both through corporatization and as a result of a change in the organizational and legal status of agricultural enterprises, namely: their transformation into divisions of investor enterprises, and the latter can work in various fields - from the processing of agricultural products to the production of industrial goods and the extraction of minerals. In the second case, the agricultural enterprise joins the investor enterprise as a structural or separate unit.

## **SECTION 3**

### **MANAGEMENT OF BUSINESS PROCESSES V INTEGRATED STRUCTURES**

#### **3.1. Organizational and economic principles of management of production and economic activity of integrated structures**

With the creation of agricultural holdings, there was a need for a new approach to personnel management and scientific substantiation of management, that is, the development of specific proposals for improving the organization of work with personnel at the enterprise, based on global and domestic experience.

First of all, the management of the organization determines the goal and the resources necessary for its achievement - the need for funds, equipment, materials and personnel.

The personnel potential of the enterprise is the most important strategic factor. The qualification of labor resources is a determining factor in the company's ability to implement innovative programs, expand production, improve product quality, and increase labor productivity.

Among the main researchers of this issue, F. Taylor, A. Fayol, D. McGregor, F. Herzberg, A. Maslow and others should be singled out.

If earlier a person was considered only as one of the factors of production, which, in fact, does not differ from machines or equipment, now he has turned into the main strategic resource, the main asset of the company in the competitive struggle. This is connected with a person's ability to creativity, which is now becoming the main, decisive condition for the success of any activity. In this regard, costs related to personnel began to be considered as a long-term investment in human capital, which is now recognized as the main source of profit. People began to be considered as "human resources", a system of human resources management gradually appeared.

The introduction of the latest equipment and modern technologies, production management systems is possible only in

combination with modern methods of working with personnel and the correct application of motivational schemes by its management. Therefore, under the current economic conditions, it is important to study the main areas of work with personnel: planning; management; selection of its arrangement and adaptation; rationing and stimulation of labor, assessment, training of personnel, work with personnel reserve and its impact on labor productivity and profitability of the enterprise.

An integrated structure is a miniature society, an artificial man-made system capable of evolution, one of the crucial parts of which is human resources. Within the framework of the concept of "human resources management", personnel are "equal in rights" with fixed capital, costs for it are considered as long-term investments, personnel planning is closely intertwined with production. Thus, the employee is the object of the corporate strategy. At enterprises, group organization of work is actively implemented, and therefore emphasis is placed on team building, development of human abilities and formation of corporate culture. HR services solve organizational and analytical issues, as well as provide support to line. Human resource management is a function of the enterprise, which aims to ensure an effective and continuous balance between the available recruitment staff and the need for them in terms of numbers and qualifications. The task of such management is the constant optimization of personnel competence in the interests of the company's strategy.

Personnel management is a set of management measures that ensure compliance of the quantitative and qualitative characteristics of personnel and the direction of their work behavior with the goals and tasks of enterprises [313, p. 224].

The main tasks of the personnel management system include: providing the organization with qualified personnel; creation of necessary conditions for effective use of knowledge, skills and experience of employees; improvement of the system of remuneration and motivation of employees; increase in job satisfaction of all categories of employees; providing employees with opportunities for development, professional development and professional growth, stimulating creative activity; formation and maintenance of a favorable

moral and psychological climate; improvement of personnel evaluation methods, management of internal transfers and careers of employees; participation in the development of organizational strategy. The stages of personnel management are shown in fig. 3.1.

The main element of the management system is personnel. Personnel is the most difficult object of management in the organization, because it, in contrast to the objective factors of production, is "alive", which causes its ability to independently decide, critically evaluate the demands placed on it, act, has subjective interests, and also very sensitive to managerial influence, the reaction to which is uncertain. Personnel is a permanent full-time staff of qualified employees of enterprises, institutions, and organizations, characterized by the number, structure, professional suitability, and competence. Its number is determined by the nature, scale, complexity, labor-intensiveness of production processes, the degree of their mechanization and automation, computerization. These factors determine their normative (planned) value.

Personnel policy is a system of working with personnel that combines various forms of activity and aims to create a cohesive and highly responsible, highly productive team to realize the company's capabilities to adequately respond to changes in the external and internal environments [313, p. 228]. Its main goal is to provide the organization with personnel of the required quality and number in a timely manner, to ensure the conditions for the realization of the rights and obligations of citizens provided for by the labor legislation; rational use of personnel potential; formation and support of effective work of labor teams. The main types of personnel policy are recruitment, training, remuneration, formation of personnel procedures and social relations.



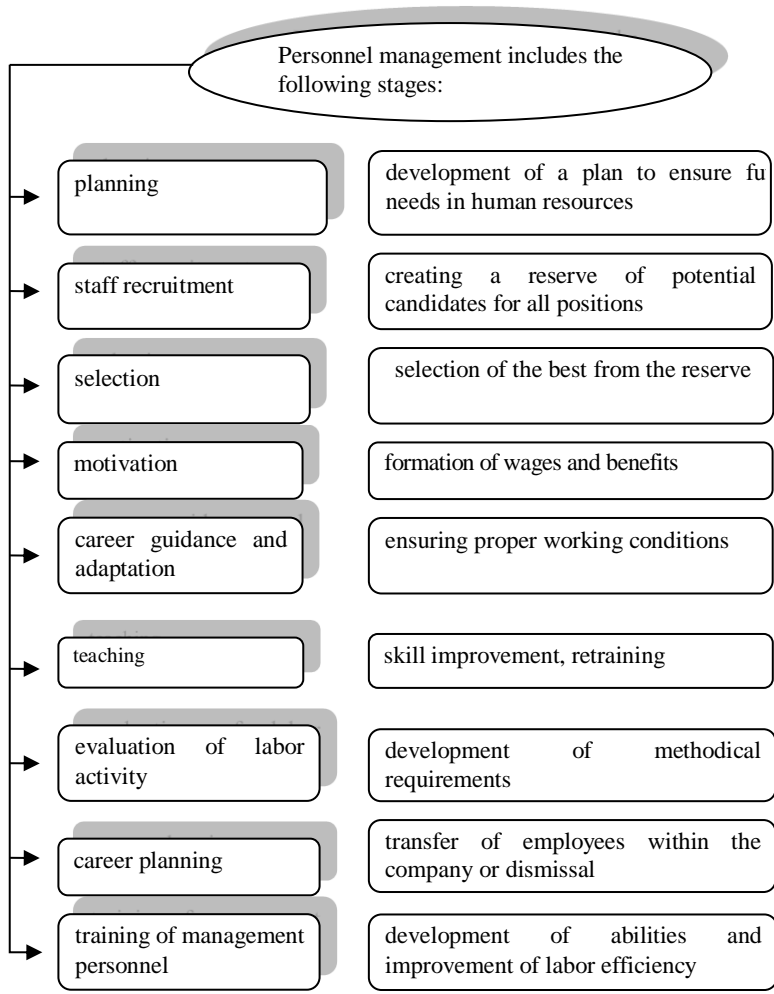


Fig. 3.1. The main stages of personnel management in agricultural holdings [358, p. 566–567]

The management system in structural subdivisions of integrated structures is formed on the basis of clearly defined cost centers and

profit centers. The structure of the management service depends on the nature and size of the organization, the characteristics of the products it produces. It may include the following departments: personnel, training, personnel evaluation and remuneration, social protection, labor protection, sociological laboratory and legal department (Fig. 3.2).

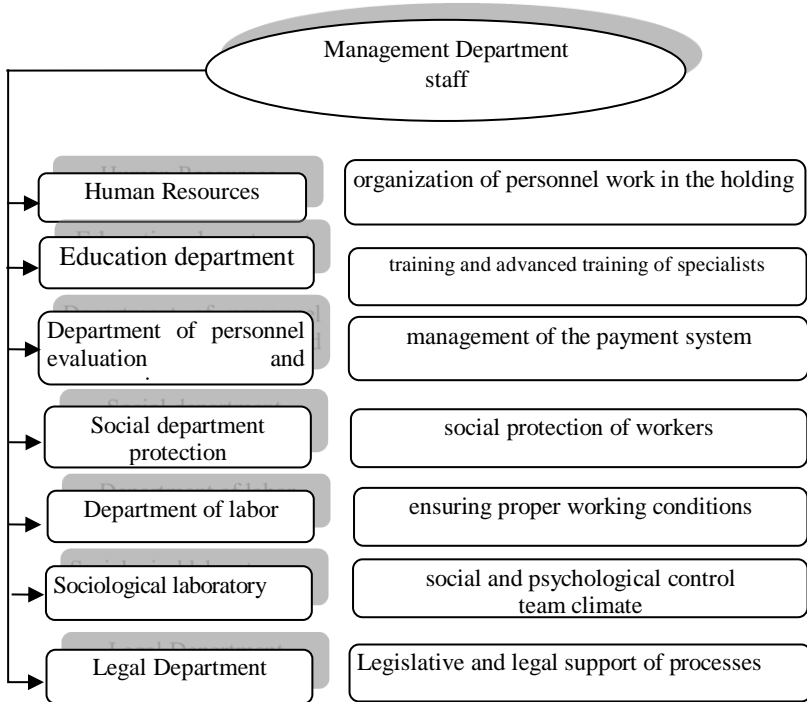


Fig. 3.2. The structure of the personnel management service

The personnel department provides personnel for the implementation of the production program (recruitment, distribution, dismissal), conducts personnel records, analyzes personnel turnover and labor discipline, prepares draft personnel orders.

The training department organizes the training process for managers, specialists, and workers; prepares training instructors from

among managers and specialists of the organization; studies and summarizes the experience of the best employees, organizes the production practice of students.

The department of personnel evaluation and remuneration conducts evaluation and certification of managers, specialists, and workers; improves the organizational structure of management; organizes the development of job instructions; draws up a staff list based on the approved structure; supervises the number of units; proposes the introduction of a modern system of labor remuneration, which is oriented towards the final result of work; introduces contractual (contractual) forms of employment; controls the implementation of labor legislation on wages, rationing; organizes work on attestation of workplaces; compiles statistical reports on labor indicators.

The Department of Social Protection plans the use of social insurance funds; organizes a fund of material assistance, loan payments and other types of social benefits; organizes medical and other types of social insurance for workers; distributes sanitary and resort vouchers, etc.

The occupational health and safety department ensures safety and healthy working conditions at each workplace; monitors compliance with regulations on labor protection; carries out preventive work to prevent industrial injuries and occupational diseases; analyzes and summarizes proposals for the use of funds from the labor protection fund; prepares reports on labor protection.

The Sociological Laboratory studies sociological and psychological problems of organizing work, life and rest of employees, development of solutions and ways of their implementation.

In agricultural holdings, the personnel policy is, as a rule, officially declared and recorded in general corporate documents: memoranda, instructions, which regulate the most important aspects of personnel management. The basis of its formation is the analysis of the personnel structure, the efficiency of the use of working time, forecasts of the development of production and employment. The most effective way to implement personnel policy is personnel planning - the organization's training activities, ensuring proportional and dynamic

development of personnel, calculations of its professional and qualification structure, determination of general and additional needs, control over its use [206, c. 193]. The purpose of personnel planning is to provide employees with jobs at the right time, in the right number and in accordance with the abilities and qualifications of the staff and the requirements of the organization. Under modern conditions, the category "personnel marketing" has gained significant popularity - it is a type of management activity aimed at determining and covering the need for personnel, the task of which is to master the situation on the labor market" [313, p. 232–233] and the optimal use of personnel resources by creating the most favorable working conditions for increasing its efficiency and developing a partner-like, benevolent attitude towards the enterprise in each employee.

An important stage of planning is the assessment of future personnel needs, within the framework of which forecasts are made regarding: personnel needs, their availability in the future (totally by subdivisions, specialties, qualification groups); sources of coverage of needs (for example, release, redistribution, professional development); needs for professional training, retraining and advanced training; working conditions; level and forms of remuneration, social benefits, benefits; necessary expenses.

A special place in the planning of work with the personnel is the planning of its reduction and promotion, while at the same time maximally easing the transition of employees to other industrial or professional spheres of activity and at the same time eliminating social tension. In agricultural holdings, this line of work is called "outplacement" (outplacement) [313, p. 250]. The need for its development is due to the technological displacement of a significant number of workers in the structural divisions of agricultural holdings due to the introduction of new technologies, which finds significant resistance both among employees and management structural divisions. At the same time, personnel optimization leads to the elimination of excess quantity, reduction of additional costs caused by low labor productivity and quality, and therefore it is an economic necessity. Redundancy requires compliance with labor legislation,

The key stage in personnel planning is the organization of recruitment, selection and adaptation of personnel. This issue is particularly relevant in relation to the involvement of young people in production, especially in rural areas.

In order to increase the efficiency of the search for candidates, the personnel manager turns to the following sources: posting information about vacancies in the company's divisions, in printed mass media, on the Internet, on the company's website, and also conducts a targeted search and attraction of specific specialists from other enterprises and companies . If necessary, the search for certain categories of specialists can be conducted through recruitment agencies. Personnel selection takes place on a competitive basis.

The organization's need for personnel is met in the process of recruiting personnel and creating a reserve of employees, depending on the demand and supply of labor on the market - active and passive methods of personnel selection. As a rule, the active ones are turned to when the demand for labor, especially highly qualified workers, exceeds the supply in the labor market. Passive methods of meeting the needs of personnel are used in a situation where the supply exceeds the demand in the workforce. For this, advertisements are placed in mass media.

The advantages of involving your employees are as follows: this process can be planned and the costs for it are lower; people are given opportunities for professional growth, which increases job satisfaction and self-confidence; applicants are well aware of the structure of the organization, which ensures easy adaptation to new requirements. The disadvantages of this method are a small number of vacancies; the need for retraining costs; possible deterioration of the microclimate at the enterprise due to the emergence of internal competition, etc. One of the main problems in recruiting employees is related to the employer's desire to "sell" his company as best as possible. He can overemphasize the positive aspects or underestimate the difficulties of working in the company. As a result, the candidate may have unreasonable expectations. As practice shows, the emergence of this kind of expectations during hiring causes an increase in job dissatisfaction and staff turnover. In order for such problems not to arise, it is necessary to

create various programs that will acquaint the employee with work, its positive and negative features.

Adaptation of personnel is adaptation of a new employee to the content and requirements of work and the social sphere. Professional adaptation is distinguished - active mastering of its intricacies, specifics, necessary skills of the profession, decision-making tools for starting in standard situations; psychophysiological – adaptation to working conditions, work and rest regime; socio-psychological - this is adaptation to the team, management and colleagues.

The first step of adaptation will be introduction to the position, which is a set of procedures aimed at accelerating the new employee's mastery of the job, shortening the employee's adaptation period in the team, and helping to establish contact with employees. Introduction to the position begins with providing the new employee with the necessary information of a general nature in the form of brochures, catalogs, a story about the organization as a whole, about wages, about work and rest regime, about additional benefits, about occupational health and safety, about issues related to related to personnel management, about relations with elected bodies of the labor team, about solving everyday problems, about the economic state of the enterprise. They also provide information about goals, technologies, work features, internal and external relations and connections, personal responsibilities

During the adaptation period, the employee must familiarize himself with the new environment, understand the structure of the organization, informal relationships, psychological climate, personal goals of colleagues and the manager, find a mentor, clearly adhere to subordination, choose the right form of communication, etc. If necessary, a mentor from among experienced specialists should be attached to the employee, and after the trial period ends, in a personal interview, sum up the results of the adaptation.

Salaries and labor motivation are important principles of managing the production and economic activities of agricultural holdings.

The salary structure is determined by analyzing its level, labor market conditions, as well as productivity and profitability of the

organization. Remuneration of employees is determined by their personal labor contribution, taking into account the final results of the enterprise's work and is not limited to maximum amounts.

At the same time, it is worth noting that salary cannot be the only goal of labor activity. Material incentives make work motivation effective only if the latter functions as a system based on the following basic principles:

- communication, cooperation and agreement between employees and the administration regarding the general principles of the system;
- a well-founded system of evaluation of works and determination of the scope of the latter;
- meaningful and substantiated criteria for its measurement and assessment;
- balanced standards, control over them, periodic review;
- clear coordination of incentives with activity performance;
- a reward, especially an additional one, not for the level of performance in general, but specifically for performance related to the quality of work.

The main methods of motivation are shown in fig. 3.3.

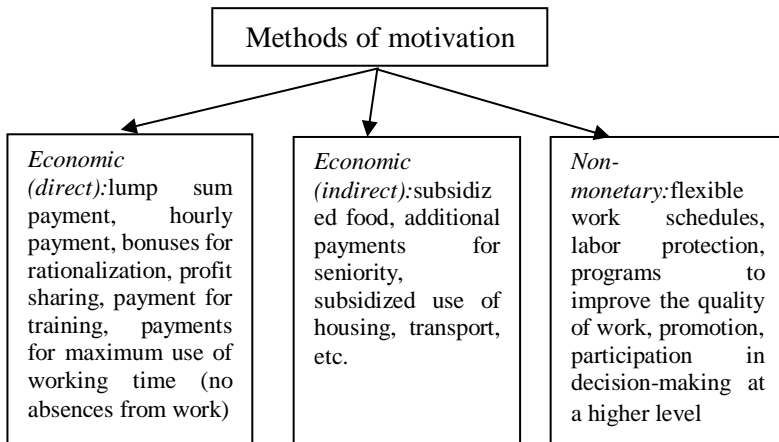


Fig. 3.3. Classification of motivation methods [228]

Source: author's research

The motivation system at the enterprise level should be based on certain requirements, namely: provision of equal opportunities for employment and promotion based on the criterion of labor productivity, matching the level of remuneration with its results and recognition of personal contribution to overall success; fair distribution of income depending on the degree of increase in labor productivity; creation of appropriate conditions for the protection of health, occupational safety, and well-being of all employees; providing opportunities for the growth of professional skills, realization of the abilities of employees, i.e. creation of training programs, advanced training and retraining; maintenance of an atmosphere of trust in the team, interest in the realization of a common goal, the possibility of two-way communication between managers and workers.

One of the main reasons for the inefficient labor incentive system in the countries of the post-Soviet space, including and in Ukraine, there is an alleged advantage of cheap labor, when large investments are made at the expense of minimizing wages. As a result, the bulk of the company's employees do not meet their needs in the required amount, and some of them do so from non-labor income. The so-called cheap labor is actually very expensive for the company. This work is unproductive, reproduces an undeveloped worker, insensitive to the possibility of earning more by increasing labor productivity, suppresses initiative and thereby hinders scientific and technical progress, preserves a low level of organization and working conditions.

Research by some authors shows that a cheap worker is life-threatening for those around him. Cheap labor, which leads to a low standard of living, leads the worker to lose responsibility not only to society, but also to himself. Such a person has practically nothing to lose. This is evident in relation to one's own health. According to research conducted by the Research Institute of Labor, employees who receive bonuses or benefits for unfavorable working conditions are well aware of the danger to their own health, but often oppose the improvement of working conditions, preferring to receive high compensation.



The modern system of labor motivation should be based on the following factors: needs, motives, goals, rules of the game, action, goal achievement, satisfaction of old and emergence of new needs [316, p.27].

ON. Mosiyuk singles out the following basic requirements that stimulate effective work in the agricultural sector: provision of material needs; formation of effective motives for work - prestige and attractiveness of work; the possibility of self-expression of the employee at work; ensuring hygienic and medical labor requirements; providing the employee with necessary household, educational and cultural needs; guaranteeing social security to the employee; favorable mode of work and rest [111, p.80,81].

The intensity of the processes of mergers and acquisitions of companies that have acquired active development during the last time leads to a change in the management structure of agricultural holdings and a significant rotation of managers between internal companies. Quite often, such a management model becomes dominant, which provides subsidiaries with autonomous management decisions and weakens the vertical hierarchy. In this regard, the development of management institutions (boards of directors, executive presidents) in integrated structures occurs much faster than the development of controlling institutions.

This situation makes it necessary to improve the company's management system, especially in the conditions of the economic and financial crisis.

Under such conditions, improving the efficiency of the staff and simultaneously regulating the wages of employees is achieved by evaluating the actual performance indicators that cause:

- optimization of the number of personnel based on the labor intensity of business processes (rationing of labor resources);
- decision-making by the management apparatus on the efficiency of employees' activities, which leads to the need to review the existing indicators of their work efficiency and strengthen the motivation of employees to achieve better financial results of the organization's work.

In this regard, outstaffing is gaining significant popularity in agricultural holdings, which aims to attract a freelance specialist who

has relevant knowledge, professional skills and experience in the implementation of a certain project, and also allows to some extent to evade the requirements of labor legislation [43] .

Sometimes the terms "outsourcing" and "outstaffing" are equated. Outsourcing is the transfer of functions that were previously performed independently by the company to an external company that specializes in the implementation of similar functions (for example, the services of legal and accounting companies, companies that prepare and deliver lunches to the office, etc.). Outstaffing involves the transfer not of functions, but of specific employees working in the company.

The outsourcing company provides employees with the necessary qualifications and is responsible for the quality of the services provided by the staff. If the quality of the client is not satisfactory, the staff will be replaced by another, more qualified one.

The main advantages of outstaffing include reducing the burden on the HR department, reducing staff maintenance costs, tax optimization, minimizing risks and delegating responsibility.

Some agricultural holdings transfer the entire staff, except for the general director and the chief accountant, to outstaffing. In this case, there is no need to keep personnel documentation, fill out timesheets, work record books, and perform procedures related to personnel records. In such a situation, the tax inspectorate, social insurance funds, migration service and other inspection bodies will not be able to fine the company for violations related to personnel, migration and tax issues regarding personnel.

Conducting personnel records is a complex and time-consuming process that requires high competence and qualification of personnel services, which is associated with significant costs and risks. In case of detected violations by the tax inspectorate, social insurance funds or the migration service (if there are foreign citizens in the staff), not only the human resources employee, but also the management of the enterprise is responsible. When using outstaffing, the organization and its management are completely exempted from responsibility not only before the inspection bodies, but also in case of labor disputes.

If the organization works under a simplified taxation system, certain restrictions are set on the number of full-time employees. In the opposite case, it is necessary to switch to the general taxation system,

which is associated with significant costs. When using outstaffing, it is possible to remain in the status of an object of preferential taxation, while increasing the number of employees actually employed.

The implementation of outstaffing by integrated structures plays a rather positive role in increasing the investment attractiveness of the company. With a formally small number of employees and relatively low staff maintenance costs, financial indicators per employee (profit, sales volume, etc.) improve. This can be used as a tool to increase the investment value of the company.

When merging enterprises, coordinating bodies are created, the main tasks of which, as a rule, are:

- conducting economic, social, environmental and other studies with the preparation of relevant recommendations aimed at achieving the goals of the organization;

- implementation of informational and advisory activities, marketing, economic and scientific researches;

- carrying out research, research and design and project works in promising directions of science and technology, promoting the implementation of advanced achievements of science and technology in production;

- development of methodological recommendations for increasing the stability and optimization of the production and financial and economic activities of the members of the association;

- organization and conduct of advertising campaigns and events, exhibitions, meetings, scientific symposia and seminars;

- implementation of consulting services for members of the association, ensuring protection of the rights and legitimate interests of the members of the organization [51].

For the agricultural holding, the priority is to obtain an economic effect - profit, and for society - to ensure the moral and material benefits of the local community. The efficiency of a particular enterprise and the public good are always in opposition. Achieving harmony in relations between two subjects and forming a balance of interests is an important task of economic science. Under the current conditions, the needs of society for the implementation of social issues significantly exceed the income from tax payments paid by enterprises.

Market conditions of business require fundamentally new requirements for managers and specialists of various levels and profiles and change their functions. First of all, the change in the manager's functions takes place in the direction of the development of entrepreneurship, which in the conditions of a free market ensures the success of the enterprise, that is, the practice sets the task of transition in agricultural education from the traditional training of narrow specialists to the training of specialists in market professions, entrepreneurs. New professions and types of activities related to marketing, management, product sales, processing, storage, and transportation are emerging at enterprises.

The formation of a harmonious work team depends on the psychological attitude of each of its members. As a result, responsibility for the state of land use and property has increased in the collective of JV "Nibulon" LLC (agro-industrial concern). For the formation of the owner's psychology, a preliminary complex work is required to justify the rational dimensions and specialization of units and farms, the management system, property relations and new intra-economic relations. Fundamental changes in the functioning of commodity-money relations should take place, commercial calculations should be carried out in all production and service divisions of the agricultural enterprise [202, p.114,102].

In order to increase the responsibility of employees of collectives, it is necessary to increase the level of self-management, when the employee's sense of responsibility will dominate when the distribution of relations is carried out by another person. Under such circumstances, the feeling of the owner cannot arise, but only alienation from the results of work is manifested. A person will start working in full force only if he is sure that what he earned by honest work belongs to him. A capable owner also needs the inviolability of personal property, and the feeling of its insecurity is a tangible brake on the way to improving the efficiency and quality of work. This cannot but affect the formation of the social psychology of workers, particularly peasants.

The introduction of progressive forms and methods of labor organization and payment, full state accounting, strengthening of the dependence between the final results of activity and the size of the

optimal remuneration, fair standards of labor payment contribute to the formation of such qualities of the employee as responsibility, efficiency, entrepreneurship. Therefore, the psychology of people is rapidly changing in those labor collectives, where relations are skillfully rebuilt due to the introduction of more advanced forms of organization and work stimulation.

The main areas of personnel management improvement are:

- to reform the management system of structural units (departments, branches, separate legal entities that are part of the association, while clearly defining cost centers and profit centers;
- make changes to the system of payment and work motivation;
- normatively distinguish the competences of the main specialists of the central office and branch directors, as well as the principles of their motivation;
- create an internal recruiting service;
- to optimize the number of personnel, taking into account the different intensity of production of agricultural products during the year;
- introduce the positions of marketer, logistics manager, auditor and organize work in the relevant areas;
- to reform the labor remuneration system, based on the quantity and quality of the products produced;
- conduct personnel evaluation, including certification of management personnel;
- organize a training module for branch directors and training of employees who keep primary records.

The main directions of improvement of personnel policy:

- determination of the main requirements for personnel, taking into account the forecast of the internal and external situation, prospects for the development of the organization;
- formation of new personnel structures and development of procedures for personnel management mechanisms;
- formulation of the concept of remuneration, material and moral stimulation of personnel, taking into account the business strategy;
- selection of ways of selection, use, retention and release of personnel, assistance in mass layoffs;
- development of social relations;

- determination of ways of personnel development, training, professional development or mass retraining, which is connected with the transition to new technologies, promotions, stimulation of early retirement of persons who do not meet the new requirements and are unable to master new technologies and work methods;
- improvement of the moral and psychological climate in the team, participation of ordinary employees in the process of managing the organization.

### **3.2. Methodological foundations of budgeting development**

The market economy requires the improvement of the system of management, planning and analysis of economic processes in the context of modern transformations in the agricultural sector that have taken place in the relations of ownership, management and labor and the substantiation of scientific and practical recommendations on this basis, which would take into account the previously accumulated domestic experience.

Such domestic scientists as V.H. Andriichuk, V.I. Drobot [180], O.V. Krysalnyi, M.Y. Malik [166], V.Ya. Mesel-Veseliak [176], V.M. Nelep [191], M.I. Pugachev, P.T. Sabluk [258], G.V. Fokin and others. The theoretical and practical foundations of this issue are reflected in the works of foreign management scientists and practitioners, D. McGregor, F. Taylor [290], A. Fayol, and others.

At the same time, there is a need to study the peculiarities of the functioning of intra-economic economic relations in agricultural enterprises and to build a new system of management and cost planning, which will be subject to control and quick adaptation to changes in the external economic environment and will allow the realization of the company's strategic development goals.

The modern stage of the development of the agricultural economy determines high requirements for evaluating the effectiveness of the functioning of economic systems at various levels. The enterprise is a primary, independent branch of agriculture that creates specific economic benefits. The specificity of agricultural production determines the need for continuous attraction of additional working capital and control over their rational use. This issue becomes

especially important for large agrarian associations (companies, holdings) with powerful private capital, which have in their use significant land massifs, territorially located in different regions, which complicates the management process and requires the involvement of progressive systems and methods of their management.

In these conditions, the financial and economic service of the enterprise is faced with the task of forming a unified economic policy in the areas of planning, rationing, motivation and comprehensive economic analysis of the production and economic activity of the enterprise as a whole and separate divisions in particular, determining ways to increase the efficiency and profitability of production; strengthening control over the implementation of the resource and energy saving policy; application of highly effective technologies, equipment, structures, materials, compliance with general economic and industry norms. One of the main ways to solve these problems is to develop a budgeting system and draw up a production and financial plan of the enterprise and control its implementation during the reporting periods.

Budgeting is a technology of financial planning, accounting and control of income and expenses from the activities of the enterprise (company, holding) at all levels of management, which allows analyzing the forecasted and received financial indicators for each of the financial accounting centers within the approved financial structure of the enterprise. Budgeting is an integral part of the production and financial plans of the enterprise.

The goal of introducing a budgeting system is: maximizing profit by formulating goals and ways to solve them, strengthening cost control, increasing the efficiency of using available resources, developing the most effective areas of economic activity, increasing the financial validity of management decisions, optimizing cash flows, rational redistribution of resources between different types of activities.

The budget (production and financial plan) is a financial plan in monetary terms that covers all aspects of the enterprise and the financial accounting centers that are part of it for a specific period of time. It defines the probable income and expenditure of funds, the procedure for making settlements with suppliers and customers, the dynamics of assets and liabilities. The budget is the initial document for

substantiating before banks the receipt of a loan for the production of a specific type of product or the implementation of a commercial project. The structure and type of budget for each enterprise is individual.

Budgeting is a quantitative reflection of goals and the development of ways to achieve them. This is a motivated model of actions, created on the basis of a conjunctural forecast of the economic environment and a set goal, a system of measures developed in advance, which provides for goals, content, balanced interaction of resources, volume, methods, sequence and deadlines for the production and sale of products or the provision of services . The plan allows the enterprise to assess: how real the achievement of the set goals is, what helps and what hinders their achievement [38].

The budgeting system is based on the following principles: unification of all budget forms by main articles and budget periods for all financial accounting centers, regardless of the specifics of their activities; formulation of financial goals in the form of planned indicators in advance for all structural subdivisions; the continuity of the budgeting procedure, which involves regular revision and adjustment of previously made forecasts for a new period, without waiting for the end of the current one; accounting of income and expenses, receipts and write-offs of cash in time-comparable accounting amounts.

The development and preparation of a production and financial plan includes the following stages.

Preparatory - at this stage, the collection and processing of accounting information is carried out, checking the correctness of the display of economic transactions in analytical information and accounting accounts; development and approval of the register of norms for the use of fuel, fertilizers, fodder, seed material, as well as forms and norms of labor payment.

Approval - involves the discussion of budget indicators, the development of draft budget forms, tables, types and structure of budgets depending on the direction and structure of the enterprise's production and their approval in accordance with the plan-schedule of execution.



Approval is the process of acceptance by the heads of financial accounting centers and the management of the holding of prepared and agreed budgets, which become directive, that is, approved for implementation both at the level of a separate unit and the enterprise as a whole.

The control system is a set of measures to analyze and evaluate the effectiveness of management of resources, expenses and obligations of the enterprise during the budget period, periodic monitoring of current activities, comparison of the amount of expenses with budget standards and prevention of overtime expenses.

The production and financial plan is drawn up for 12 months with monthly details. Each service of the enterprise must disclose in it the vision of the development of the enterprise according to its profile: agronomic service - a production program for crop production (structure of sown areas, sowing in blocks by subdivisions, fertilization and plant protection system, planned yield, technological maps); engineering - a plan for updating equipment, a plan for repairs and material and technical support of production; zooengineering - a program for the development of animal husbandry (herd turnover, the need to provide own and purchased fodder). At the same time, the reliability, completeness and correctness of the display of information about these processes in accounting and management accounting are mandatory. The Chief Economist is a consultant for all specialists involved in budgeting.

- conducts indicative planning - current input of actual data for the 1st, 2nd and 3rd quarters into the initial plan for the purpose of forecasting financial results;

- deals with labor rationing, pricing of completed works, forms the "Unified Timekeeping Base of Production and Fuel Consumption Standards";

- determines the number and composition of primary divisions, forms of organization and remuneration, develops the "Uniform Regulations on Labor Compensation";

- studies the market situation – demand for specific types of products, channels and terms of their sale, price forecast;

- improves management accounting in order to obtain correct and reliable reporting, which will allow making the right decisions and implementing long-term development programs;

- analyzes the cost of production and the correctness of cost allocation.

The scheme of the production and financial plan of the enterprise is shown in Fig. 3.4.

The annual budget for the following year begins to be developed after the end of the harvest and ends in December of the current year. During the planning year, indicative planning is carried out, which provides for the adjustment of the budget taking into account the actual indicators of the production process. Budgets are developed for the organization as a whole and for each financial accounting center in particular. Protection of budgets is carried out at the balance commission by directors of branches and heads of departments. If the company includes several subsidiaries or branches located territorially in different regions, then a consolidated budget is prepared for the consolidation of budgets of all levels with details by financial accounting centers. The effectiveness of the budget depends on the joint work of the managers of all structural divisions of the enterprise (economist, engineer, agronomist, veterinarian,

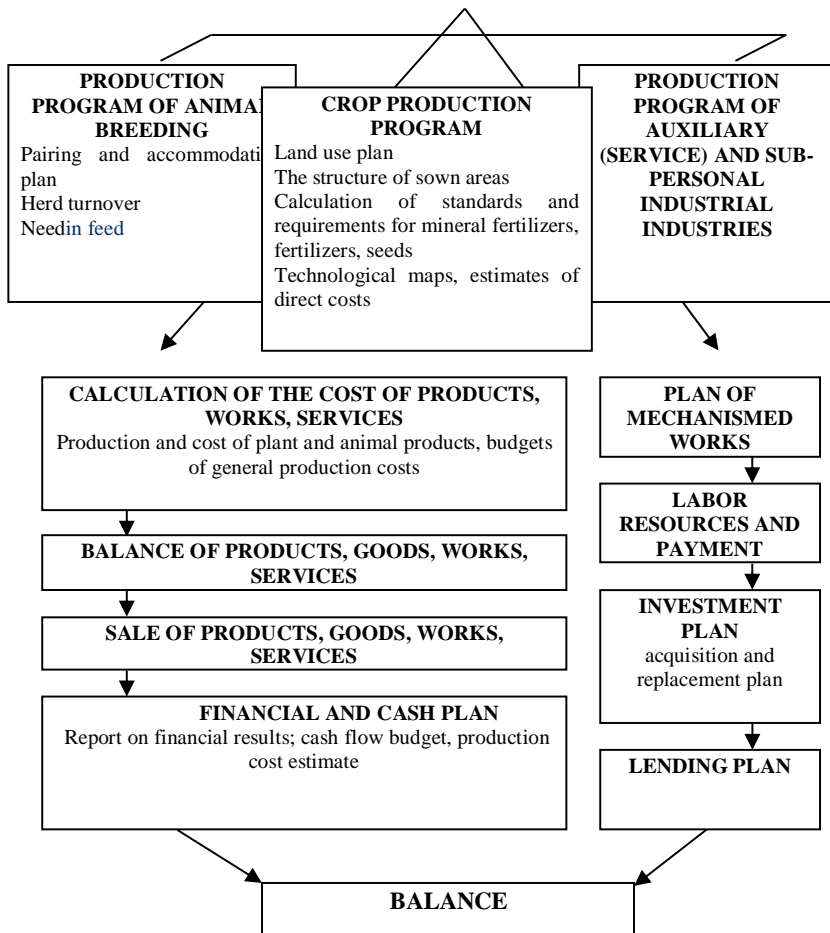


Fig. 3.4. Scheme of the production and financial plan  
Source: author's research.

The production and financial plan of the agricultural holding consists of separate sections.

The plant production production program includes tables characterizing: land use plan - composition and area of land, total amount of land owned and used; the structure of sown areas - the areas sown of agricultural crops and the specific weight of each of them (in percentage). Based on the given areas of crops in crop rotations, the need for seeds,

fertilizers and plant protection agents for each crop is planned in natural and cost terms, both for the entire area of its sowing and per unit area. Depending on the amount of costs incurred and natural and climatic conditions of the region, the yield of agricultural crops is planned.

The next step in planning is the summarization of data from previous tables in technological maps of growing agricultural crops, based on which a monthly estimate of direct costs in crop production is formed - a summary table that allows you to plan the need for funds that will be spent directly on crops. It is the starting point for drawing up the following table - a consolidated plan of production and cost of production - where information about the collection of products and its cost in terms of individual crops and cost items is presented in a consolidated form. At the same time, the distribution of each crop between types of products (grain, grain waste, by-products) according to official methods is displayed. Costs are given on the basis of 1 ton of products and 1 hectare of area.

According to the results of compilation and analysis of various options of technological maps:

- the profitability is evaluated and the expediency of the use of technologies, the use of material and technical resources, the conduct of one or another line of activity is determined;

- economically beneficial agrotechnical, technical and organizational methods of production are distinguished;

- measures aimed at improving production indicators of economic activity and obtaining competitive products are being developed;

- intra-farm value of various types of plant products is determined;

- ways to reduce labor costs and resources are determined.

The production program for animal husbandry includes information for determining the availability and number of average annual livestock by individual species and groups of animals, the mating plan and the arrival of offspring, a summary plan for the production and cost of animal husbandry products. Planning and distribution of costs is carried out in the section of separate articles for each type of livestock production. The planned level of efficiency of the livestock industry is evaluated in natural and value indicators, the need for fodder and its cost is determined, and the cost of livestock products is calculated.

Cost planning for auxiliary (service) and auxiliary industrial productions includes a system of budgets for the plan of freight transportation and hourly work of motor vehicles, the plan for the repair of machinery and equipment, the plan for the need for fuel and lubricants, the production program for cargo vehicles, machine-tractor and combine fleets, electricity, water and heat management. Cost planning is carried out in terms of individual items, and their total amount is further distributed by various types of products, works and services and forms their cost price. The final stage of planning is the determination of the unit cost of services: ton-kilometer (truck fleet), 1 hour (passenger and special fleet), 1 conditional hectare (machine and tractor fleet), 1 kW. hours (electricity),

Budgets of general production costs are formed from costs that cannot be directly attributed to a specific type of production, for budgeting purposes it is appropriate to form a budget: general production costs of crop and animal husbandry and general economic costs; plan of amortization deductions for fixed assets; the budget for spending money on property rental and leasing in terms of subdivisions; land lease plan and land rent calculation, which includes information on the number of land lessors, its monetary value, terms and forms of rent payment.

Labor resources and wages - the available labor resources and their need to ensure a continuous production process are assessed, the staffing of the company's employees in the planning period is determined, the tariff grid is developed and the wage fund is calculated in terms of production branches and areas of the enterprise (planning the amounts of deductions, leave, alimony, bonuses, incentives, taxes), based on generally accepted norms.

Depending on the actual planned sources, revenues and tasks for the production of products, the available material and technical base and the possibility of its modernization due to repair work, replacement, purchase of new equipment, construction of new production facilities are evaluated. At the same time, the total amount of capital investments and their structure are planned: own funds, investor loans, long-term bank loans.

Estimate of production costs - consolidated estimate of costs for the main production - a summary summary table of the production plan,

in which the consolidated costs of production are calculated, by elements and articles, it is the starting point for drawing up a financial plan.

The balance of receipt and use of plant products is the primary calculation table of the financial plan, in which the distribution of products is carried out by the period of production and the period of sale. Its data are the starting point for the calculation of the implementation plan, the information from which, in turn, is displayed in the cash flow table, where the arrival and departure of cash is planned on a monthly basis, and their surplus or shortage in certain periods is predicted. This table does not take into account the cost of seeds, planting material and other products of own production, which is included in the cost of final products, but does not have a monetary form, as well as depreciation of fixed assets and other non-current assets. The identified lack of own funds is provided by short-term bank loans.

Calculation of profit, gross and net income is a result table for determining the planned results of production and financial activities in the planned period. Includes tables to determine administrative, financial, and selling expenses covered by profit. In particular, the VAT plan, the plan for the finishing of products at the elevators, the calculation of costs for the organization of production and management, the amount of interest on bank loans, other expenses and income (operational, financial, other ordinary, extraordinary).

The balance sheet (form No. 1) is the final table of the production and financial plan, the purpose of which is to check its correctness, it accumulates all budget data: assets, liabilities and equity capital of the enterprise. Requirements for its form and content are described in P(S)BO 2 [244]. The sum of assets on the balance sheet must equal the sum of liabilities and equity.

Profit is the main economic indicator of the enterprise's activity in market conditions. It depends on the consumable part, which means on the attention of each specialist at the workplace. In order to prevent overtime expenses during the budget period, periodic monitoring of the current activity of the enterprise is carried out by comparing the amount of expenses with budget standards. This happens at the balance commission, which is held after the end of the reporting period (quarterly) or after the completion of the main types of work (spring field work, harvest, sowing of winter crops). Based on the results of the

implementation of budgets, the management of the enterprise, using the information obtained as a result of the analysis and evaluation of the efficiency of individual branches and the enterprise as a whole, manages the production process, makes decisions on streamlining financial documentation,

Achieving significant organizational changes and strategic results is possible only if the head of the budget process at the enterprise has a strategic vision of business development, experience in motivating staff, the ability to determine priorities and the ability to attract the necessary employees in accordance with the tasks that need to be solved. At the same time, it is important to implement a personnel strategy at the enterprise, which will include the creation of a corporate culture, the development of motivational schemes, and a training and development program for specialists.

The development of a unified financial system of enterprise management through budgeting can have an effect within the framework of large agricultural holding structures, where each branch will function as a profit center with a complete production and technological process. At the same time, functional services are created within the central office to serve all divisions. A similar mechanism has been implemented in such large companies as: "Astarta", "Rise", "Privat", "Ukragrobusiness" and others.

The implementation of the budgeting system is a perspective for the development of large agricultural associations, as it allows: to formulate the goals of the organization's development and assess the practical possibilities of their achievement; ensure rational use of material and labor resources; optimize costs and strengthen control over production. An integral component of this system should be strengthening the role of management in the process of financial recovery of rural production and establishing work on training and development of employees and their proper motivation.

### **3.3. Organization of rationing and work motivation in integrated structures**

The creation of a regulatory framework for planning is the basis of rational organization and planning of the activities of agricultural holdings. The specificity of the formation of a single base is determined by the need to determine the minimum amount of resource use to achieve an economic effect.

The normative method of planning is one of the methods of justifying plans, which is used in the course of economic analysis of the results of economic activity and determining the need for various types of resources. It is based on economic norms and regulations - scientifically based values that characterize the quantitative and qualitative measure of the expenditure of working time, materials and money [4].

Norms are the maximum permissible value of the absolute consumption of raw materials, materials, fuel, energy, and labor costs for the production of a unit of production (or performance of work) of the established quality in the production conditions of the planned year.

Norms are indicators that characterize the relative value (degree) of the use of tools and labor items, their cost per unit of area, weight, volume.

Norms and standards must be reasonable, progressive, dynamic and cover the entire set of used resources. Norms, regardless of the costs of which element they determine, must have a systemic nature and ensure the rational use of living and embodied labor.

In integrated structures, depending on the specifics of production, a single base of norms is formed, which in the vast majority includes norms for consumption of stocks, raw materials, materials, fuel and energy; costs of labor resources and wages; the use of production capacities and the duration of their development; capital investments and capital construction; finance; production costs.

Labor rationing is carried out by establishing production standards, service standards and time standards on the basis of current



standard standards and standards determined by timekeeping observations and approved by company order. The chief economist of the branch is obliged to ensure the organization of labor rationing and approval of standards.

Labor rationing in crop production is carried out by the chief economist of the branch with the participation of specialists from agronomic, engineering, economic and accounting services. Responsibility for the quality of rationing is distributed between them personally in the following amount:

- the chief agronomist of the structural unit - for technological parameters (depth of cultivation, speed of movement of the unit, etc.), for costs of material resources related to technology (sowing rate, rate of application of fertilizers, fertilizers, etc.);

- the chief engineer of the structural unit - for technical parameters (operational equipment, regulation of fuel equipment, engine revolutions, filling of the fuel tank), for costs of material resources related to technical parameters (rates of consumption of fuel, lubricants, etc.);

- the chief economist of the structural unit - for the correct application of formulas and coefficients in economic calculations; for the correctness and completeness of registration of observation letters and acts of timing observations, their transfer to the central office for approval; for compliance with the approved norms of production and consumption of fuel when filling out accounting sheets and other primary documents.

- accountant - for the correctness of measurements of the volumes of work performed, the length of runs, etc.

An important element in the motivation of labor in agricultural holdings is the payment of labor. The basis of its formation is the tariff grid. Tariff rates are determined on the basis of the minimum wage. Hourly tariff rates are the basis for determining piece rates in accordance with the established norms of time, production, and service. The categories of work by categories of employees are determined according to the tariff and qualification guides.

For example, the wages of tractor-machinists on mechanized work in crop production are calculated for the actually performed amount of work of the appropriate quality, and the wages on tractor-transport works are calculated piecemeal, in accordance with the typical rates of production provided for such works, or the rates of production established on the basis of timing observations.

For the purpose of additional stimulation of tractor-drivers on mechanized field work in crop production, a quality management mechanism is being introduced.

For the actually performed work, in accordance with the established norms of production, wages are charged at the rate of 100% of the tariff rate. Then the chief agronomist of the branch, after determining the quality of field work, issues a quality assessment in the field card: "satisfactory", "unsatisfactory" or "rejected".

Work performed with violation of the technological process, of low quality, which in the future will lead to a decrease in productivity, is evaluated as "unsatisfactory". An unsatisfactory rating deprives the employee of the quality bonus.

Work that needs to be done anew (reseeding, plowing, etc.) or for the elimination of deficiencies of which it is necessary to make changes in the technological process and for the execution of which additional material resources are spent is considered "marriage". The work, which turned out to be defective due to the employee's fault and, accordingly, was rated as "rejected", is not paid.

For work recognized as high-quality, an additional payment for quality is made at the rate of 60% of the tariff rate.

The quality assessment of soil cultivation and moisture sealing is carried out immediately after the completion of these works. The assessment of the quality of sowing, introduction of organic fertilizers and fertilizers is carried out after germination, the manifestation of the effect of plant protection products and mineral fertilizers.

The amount of additional payment for quality can be reduced in case of violation of labor and production discipline by the mechanic, in particular, for each individual day - in case of being late for work - in the amount of 50%, non-fulfillment of the production norm due to the fault

of the mechanic - in the amount of 100%, and for a month - in case of appearing at work in a drunken state - in the amount of 100%, failure to comply with the manager's economic order - in the amount of 50-100%.

Additional payments for work in conditions of increased health risk (harmfulness) are made in the amount of: 24% of the tariff rate - when working with poisonous chemicals; 12% tariff rate – when working with fertilizers, poisoned seeds.

Provided that the production task on the productivity of a separate agricultural crop is fulfilled by at least 100%, tractor drivers receive a premium supplement to the earnings received during the year from growing this crop.

The premium fund is calculated according to the percentage of the production task (100% or more). If the task is completed less than 100%, no additional payment is made.

Workers' wages for manual work in crop production, which are performed by such workers independently (regardless of the work of the main unit - seeder, sprayer, fertilizer spreader, etc.) are calculated piecemeal, according to typical standards of production for the volume of work actually performed. In works that are not provided for by standard standards, production standards are established on the basis of time-keeping observations.

Workers' compensation for manual work in crop production, who perform maintenance of the main unit (seeder, sprayer, fertilizer spreader, etc.), is calculated in the amount of 60% of the basic salary of a tractor-machine operator for the actual production rate. The chief economist of the branch is obliged to ensure labor rationing and reasonable calculation of labor costs.

The staff list for certain categories of employees, in addition to the basic salary (postal salary), may set a monthly additional salary in the amount of up to 25% of the postal salary.

The basis for withdrawing additional wages in whole or in part is the employee's violation of labor, production discipline or other actions that are contrary to the corporate culture of the enterprise. A request for full or partial withdrawal of additional salary is submitted to the general

director (director of the branch) by a line manager or a manager under whose functional authority this employee is.

For certain categories of managers (chief specialists and specialists of the central office and branches), in addition to the current one, under the condition of profitable operation of the enterprise, incentives based on final results are established.

The source of incentive costs based on final results is part of the net profit of the enterprise (for employees of the central office), part of the net profit of the branch (for employees of branches).

The premium fund is calculated based on the percentage of execution of the planned net profit. For example, if the profit plan is fulfilled by 120%, a factor of 1.2 is applied. If the profit plan is fulfilled by less than 100%, the bonus based on the final results is not calculated.

Managers, chief specialists and specialists of the company's central office are awarded a bonus on the condition that the company fulfills the plan.

The bonus for the performance of the production task and the profit plan for chief specialists and branch managers is calculated by multiplying the average monthly salary by the bonus factor for each position (determined by the wage regulation) and by the factor of fulfillment of the profit plan.

The average monthly salary is determined by dividing the income of the employee in the company in the current year, for which the bonus is calculated, by 12 (twelve) months.

The amount of the accrued individual bonus of managers, chief specialists and specialists of the central office and branches of the company may be increased in proportion to the performance of the profit plan.

The use of such a system of payment and labor incentives had a positive effect on labor results: employees who worked better and more efficiently began to receive higher wages; the straight-line dependence of the payment of the bonus on the performance of the variable norm had a positive effect on the reduction of non-productive costs of working time, and thus, the increase of labor productivity; the obvious

dependence of the payment of the bonus on the quality of work contributed to the efforts of specialists to improve their qualifications; the dependence of the payment of the premium on the quality of work, which was evaluated, for example, by the condition of crops, led to a decrease in theft of seeds and plant protection products; the fairness of assigning bonuses for high-quality work, which can be clearly seen, has led to a reduction in staff turnover; the increase in variable production rates had a certain effect on the optimization of staffing; reducing theft,

At the same time, the implementation of this system of material labor incentives showed some shortcomings.

First of all, the implemented labor incentive system in production, where the final result depends on the collective work of many workers (soil preparation, sowing, fertilizing, pest control, protection and harvesting) over a fairly long period of time (six or more months), does not quite clearly provides for collective responsibility and collective reward.

Secondly, the direct connection of the bonus with the fulfillment of the variable norm, more precisely, the non-payment of the bonus in case of non-fulfillment of the variable norm, led to attempts to justify the reduction of the variable norm.

Thirdly, non-fulfillment of the variable norm in many cases is connected with ill-conceived managerial decisions of specialists and middle managers, who, in turn, do not always take into account the fulfillment of the variable norm when calculating the bonus.

Fourth, the existing wage system does not sufficiently control the size of the wage fund, and this weakens budgetary discipline, increases the amount of work not foreseen in the budget, and other expenses, which reduces the amount of profit and skepticism among many employees about the possibility of fulfilling the profit plan and, accordingly, receiving a bonus for fulfilling the profit plan.

A system of rationing and premiums in animal husbandry has been developed. It provides for the payment of livestock workers, who are constantly engaged in the maintenance of animals, to be made piecemeal at the established rates for a unit of production or one head of animals.

Estimates are calculated on the basis of the wage fund of a separate category of employees of the animal husbandry division and the planned volume of production.

Auxiliary workers who serve livestock are paid according to tariff rates and piece rates for the actual time worked, the amount of work actually performed on the corresponding types of work.

The source of funds for payment of labor is part of the income received from the sale of products.

The wage fund is established on the basis of typical standards of service by categories of workers, taking into account the peculiarities of keeping animals on each livestock farm and tariff rates for livestock workers.

The remuneration fund for the personnel involved in the management and organization of production processes in the field of animal husbandry is determined by the staff list of the enterprise, approved by the general director.

The volume of production is determined on the basis of established service standards and the planned level of productivity, taking into account the difference in summer and winter periods.

Distribution of the wage fund of individual categories of employees between different types of products (works):

Substitute workers are paid according to the established rates, increased by 10%.

The staff list for all categories of employees, in addition to the basic salary (postal salary), may set a monthly additional salary in the amount of up to 40% of the postal salary.

The basis for the withdrawal of additional wages in whole or in part is a violation by the employee of labor and production discipline or the commission of other actions that contradict the corporate culture of the enterprise (implementation of actions that may cause material damage to the enterprise, appearing at work in a drunken state, theft, arbitrary use in equipment and company property for their own purposes). A request for full or partial withdrawal of additional wages from an employee is submitted to the general director (director of the

enterprise) by a line manager or manager under whose functional authority this employee is.

In dairy farming, the following groups of animals have been formed: dairy cows, first-born cows, heifers. Service rates and prices are calculated separately for each of the indicated groups of animals. When calculating wages, accounting for products and performed work is carried out separately for each of the specified groups of animals at established rates.

The main unit on the farm is a group of cows and calves, which determines the salary of all workers on the farm (Fig. 3.5). The entire team of the farm should be interested so that the hope or growth of the group is as high as possible, since their wages directly depend on it. On the farm, everything should be done in order to create all the conditions for the work of the milking machine, the calf house and to obtain the maximum productivity of the animals.

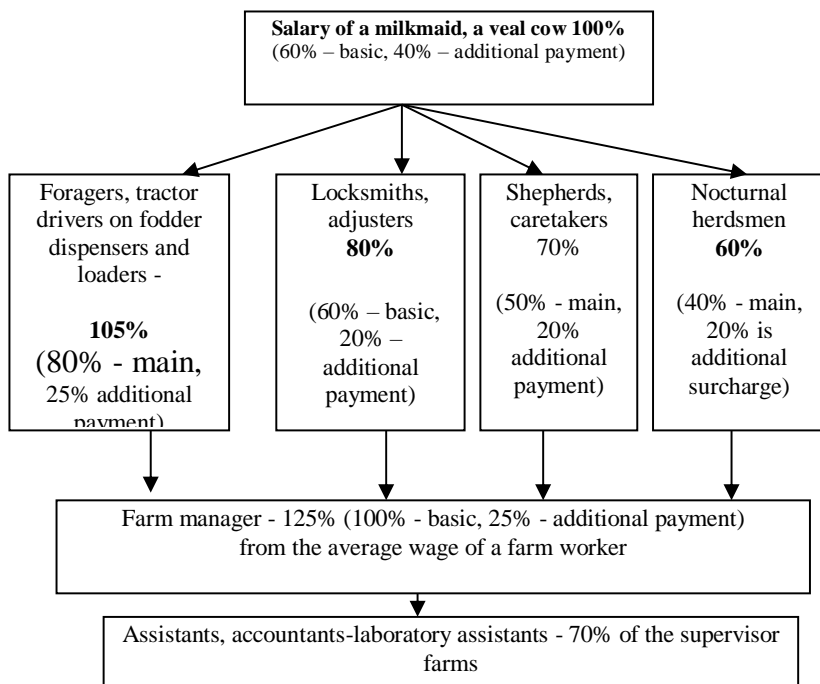


Fig. 3.5. Payment of labor in animal husbandry by

Source: author's research.

The salary of the machine milking operator depends on the volume of milk and prices for 1 ct of milk and is determined as follows: the price for 1 ct of milk for the agricultural holding is calculated based on the specifics of payment in each farm, taking into account the productivity and breed of livestock and its quality parameters; the price is differentiated taking into account the summer and winter period; payment for livestock care for one head in a group; charging for the calf's gain up to 21 days at the rates of the prophylactic period; for taking turns during the day between milkings; for receiving a calf and transferring it to the senior group; the price for 1 ct of milk from first-born cows increases by 20% (provided that they are in special groups and not distributed by group).



### **3.4. Organization of work with personnel and its improvement based on the example of Rise-Agro CJSC**

In May 1999, the subsidiary company "Rise-Agroproduction" was created in the structure of CJSC "Rise", which included one Ulyanovsk branch of the Kherson region. The Sumy branch was established in November 2000, and the Ternopil branch in March 2001. In September 2001, SE Rise-Agroproduction was reorganized into CJSC Rise-Agro, to which SE Rise-Tavria was joined in December 2001, and in September 2003, the Lubensk branch of the Poltava region was established.

The central office of the company is located in Kyiv. The general director of the enterprise, the main specialists, organized and carried out practical management of agricultural production on the ground, provided production with credit funds.

The holding has implemented a classic approach to personnel management, which is characterized by treating people as "cogs" in the overall production process. This approach is focused on the authoritarian style of leadership, the desire to minimize the costs of encouraging employees, improving the qualifications of personnel, and solving social issues. With strict labor regulations, the management aims to focus personnel services exclusively on "paperwork", which does not go beyond the scope of recording the processes of hiring, transfer and dismissal, planning of personnel needs in accordance with the tasks of production plans. All management under such conditions is concentrated in the personnel department and aimed at ensuring the presence of the right people in the right place at the right time and getting rid of unnecessary ones[61].

Research shows that there are a number of issues that agricultural holdings have to solve in the field of labor resources when forming structural units. This is, in particular, the formation of the optimal number of employees in accordance with the needs of production, because the number of structural units significantly exceeded the staff list. Workers were hired to maintain infrastructure and equipment that

was not used in production, and middle managers saw staff expansion as a way to ease the work of managing divisions - two fitters, two drivers, etc., who could handle the work more easily than one. The existing family and household ties between employees influenced the expansion of staff and the calculation of wages.

The laxity of work with personnel and the practical lack of control of personnel, violations of labor laws, high turnover of personnel - the consequences of which were fines for violations of labor laws, dismissed employees filed lawsuits, unresolved labor conflicts led to spontaneous rallies, the tension of which was managed to be relieved only by the owners of the company.

Work motivation was not related to the implementation of the production plan and the profitability of the grown (manufactured) products. Insufficient attention was paid to the study of the issue of attracting funds from the state budget for the maintenance of kindergartens, school canteens, and clubs. Work on employment of disabled workers at the enterprise was carried out not clearly enough and without taking into account the requirements of the current legislation. Additional vacations for employees were accrued incorrectly (at a loss) for the company.

The lack of clear job instructions led to "manual management", and as a result - losses (mixing of seeds, theft of plant protection products, etc.). There were cases when the deficiencies in the work of branch specialists led to conflict situations (arrival to work, refusal of certain works).

Insufficient attention was paid to the certification of managers and specialists of the enterprise. Work on the organization of training and professional development of specialists is not systematized. The mechanism for submitting and resolving appeals, complaints, proposals and statements was inefficient. Conflicts that could have been resolved in a working order turned into court cases.

The lack of personnel planning objectively caused by the needs of production leads to an increase in the number of employees, and this, in turn, to an increase in the wage fund, the amount of mandatory taxes from the wage fund, and also increases the costs of material resources

with the help of which the employee performs his duties: defective tractor, car, cart, working horse, etc.

Scattered infrastructure, in addition to increasing the number of employees, leads to unnecessary expenses for the maintenance of farms, tractor crews, workshops, etc. (electricity, repairs, operation of equipment, etc.).

Family (neighborly) ties lead to the fact that employees are given any work that is not provided for by technological cards for receiving wages.

An inflated staff increases the costs of providing workplaces (medical examinations, certification of workplaces, technical inspections, labor protection costs, etc.) and material values (fuel and lubricants, spare parts, fodder).

To eliminate these phenomena, it is advisable to carry out effective personnel work, which involves optimizing the number of employees according to the needs of production, developing and implementing a collective agreement, instructions on the procedure for considering proposals, statements and complaints.

At the same time, as practice shows, staff optimization causes opposition from the grassroots management and employees, and it is not always immediately possible to carry it out to its full extent, since, mainly, the administrative reduction of employees was planned; insufficient attention was paid to the social factor regarding the adaptation of laid-off employees, an individual approach to their possible employment in other positions, etc.; the work of the personnel department and the crop production and mechanization departments, the animal husbandry department and the planning and analysis department was insufficiently coordinated; there was a lack of transparency between staff reductions and salary increases for other categories of employees; the farm calculation, which would link the staff, wages and profitability of the workers' work, was not implemented effectively enough.

Therefore, it is advisable to introduce work motivation in production units, which will provide bonuses for quality work and

performance of production tasks. In the provision of payment, provide incentives and bonuses for the implementation of the profit plan.

In personnel work, the main attention was paid to the training of employees in working with personnel, the implementation of uniform standards in personnel accounting, and the preparation of personnel records. For this purpose, meetings with personnel inspectors and individual classes are held, as well as a 100% audit of all personnel documents and the elimination of identified deficiencies. In the responsibilities of personnel inspectors, additional responsibilities of recruiting, work with personnel and this position, renamed to the position of "personnel manager" with the corresponding salary, were introduced.

The effort to provide work to all those who want it in the village disperses the wage fund, when highly qualified professionals receive wages almost at the level of workers who perform non-mechanized manual work. The prestige of work is falling, unqualified personnel do not ensure high productivity of machinery and equipment. Costs not directly related to production are increasing, in particular, costs for medical examinations.

The above increases the cost of production, reduces motivation for efficient work, leads to the outflow of highly qualified specialists, slows down the processes of introducing new technologies in production.

CJSC "Rise-Agro" has implemented a linear and functional organizational structure of management. Normative documents provide for five levels of management.

Functional line of management: directors of departments of CJSC "Rise" company - directors of departments of CJSC "Rise-Agro" - chief specialists of branches (Fig. 3.6).

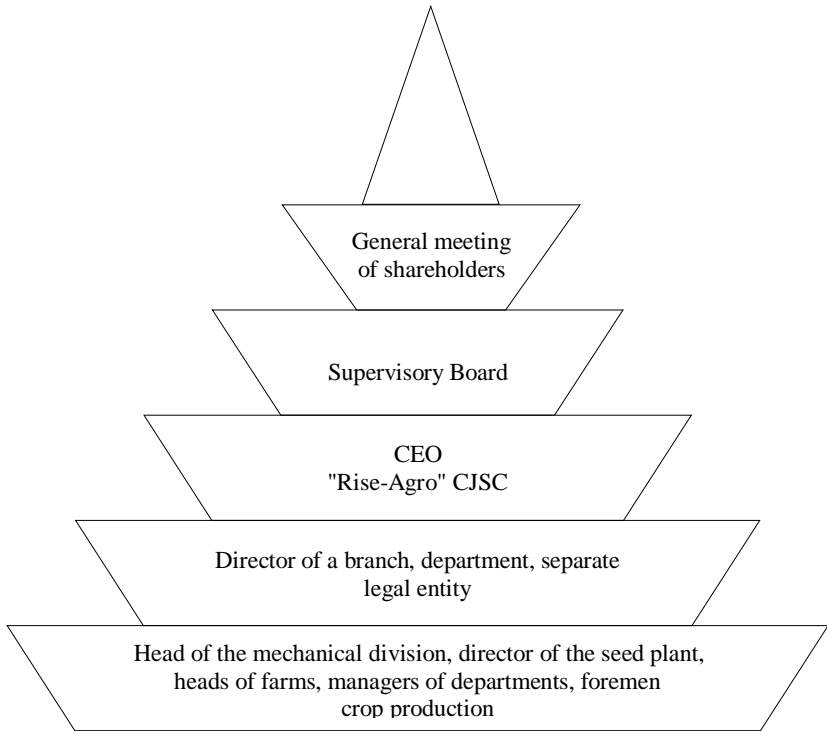


Figure 3.6. Management scheme of agricultural holdings

Source: author's research.

The top manager of the company directs efforts to create a single management center for the holding as a whole, but the lack of relevant management bodies (personnel, legal advisors, marketing, etc.) in subsidiaries, as well as regulatory regulation of this issue, does not give the appropriate effect, promptness and efficiency are lost administrative efforts. Yes, the holding has a personnel management department. The structure of the department and its place in the management structure of Rise CJSC are shown on the example of personnel management (Fig. 3.7).

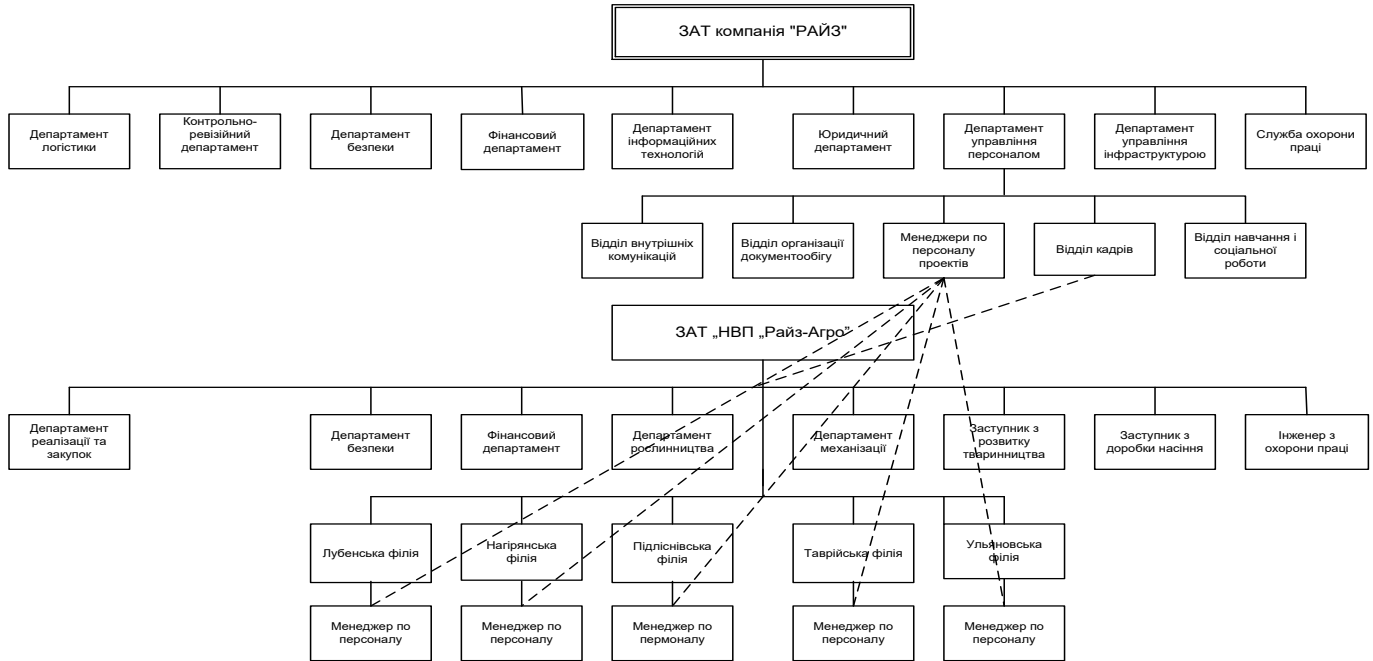


Fig. 3.7. Functional structure of personnel management of CJSC "Rise"

Source: author's research based on [61].

Dashed lines on the diagram show the most "effective" ways of administrative influence. The personnel manager (deputy director of the personnel management department for agricultural personnel issues), as the former director of the personnel department of CJSC "Rise-Agro", performs personnel management duties by inertia, has direct influence on the personnel managers of the branches in the organization of personnel work on the enterprise.

Personnel administration and accounting of employees of the central office, directors and chief specialists of the company's branches is carried out by the personnel department of the personnel management department of the holding. His duties include:

- to organize and personally carry out the work of providing the enterprise with employees of the necessary professions, specialties and qualifications;

- to organize the preparation of draft orders from personnel, and after signing, to deliver them to employees, to control the introduction of changes to personnel records documents;

- systematically study the business qualities of agricultural production workers in order to select personnel to fill positions and create a personnel reserve;

- to participate in the organization of advanced training of employees enrolled in the reserve and their preparation for work in managerial positions;

- to organize and participate in the certification of managers and chief specialists of agricultural production; organize timely registration, acceptance, transfer and dismissal of employees in accordance with labor legislation; to carry out methodical management of the work of personnel managers of branches of CJSC "Rise-Agro", to monitor the execution of orders and orders and other regulatory and legal documents on issues of personnel work by heads of divisions; organize timesheets, drawing up and executing vacation schedules, develop measures to improve labor discipline, reduce working time costs;

- to ensure the preparation of personnel accounting reports;

- to develop, together with the planning and economic department of the financial department of Rise-Agro CJSC, a system

of payment and financial incentives for employees; to organize the work of the social insurance commission of the company.

The management structure of Rise-Agro CJSC is shown in fig. 3.8. Dotted lines depict connections and functions provided by the holding company's divisions.

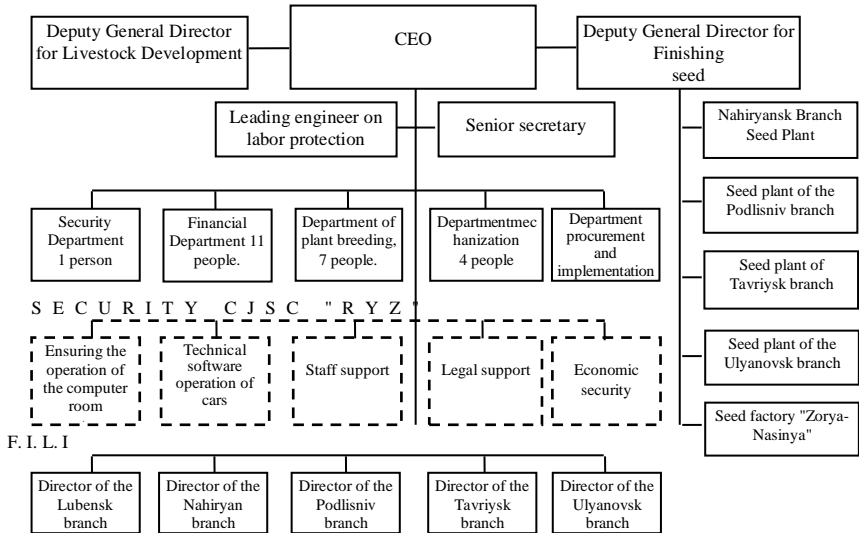


Fig. 3.8. Management structure of Rise-Agro CJSC

Source: author's research based on [61].

The principle scheme of branch management is presented on the example of the Tavriysk branch of the company (Fig. 3.9).

In the branch, the production site (cost center) includes: crop rotation, seed plant, livestock farm. If in the primary production area - a seed plant, a livestock farm - there are direct supervisors, then in crop production, the normative fixation of crop rotations by direct supervisors is not defined, therefore, a "conveyor" industry method of production can be traced here, according to which each specialist performs tasks in the field according to the sectoral direction of work (machine operator, seed agronomist, plant protection agronomist, head of security service, etc.), and there is no person responsible for a specific field. Crop rotation costs are not controlled, that is, they are not



amenable to detailed analysis. Motivation and implementation of the production plan in specific fields are not related.



Fig. 3.9. Branch management structure CJSC "Rise-Agro"

Source: author's research based on [61].

Functional managers, especially agronomists, issue orders regarding changes to technology that are associated with an increase in the volume of work and material costs. Such orders are not fixed, the expediency of such changes is not analyzed.

The analysis of personnel needs planning shows that the actual number of personnel exceeds the needs. In addition, the market nature of production requires the use of innovations and the introduction of intensive forms of production, therefore, even within the same enterprise, the latest forms are used differently. To compare the effectiveness of the use of intensive technologies, an analysis of personnel is carried out according to the following indicators: the amount of land cultivated by one worker (in conditional hectares); quantity livestock served by one employee engaged in animal husbandry (conventional unit of livestock). The analysis of economic activity of Rise-Agro CJSC for 2005-2010 is given in the table. 3.1.

Table 3.1

**Indicators of economic activity in agricultural enterprises of Ukraine and Rise-Agro CJSC**

Indicator	Rise		Ukraine		
	2005	2010	2005	2009	2010
The area of the village land, thousand ha	24.0	163.7	16254.3	18225.1	18453.8
Total employees on average, people.	1402.0	5063.0	798630.0	535147.0	518178.0
It belongs to rural areas. land per worker, ha	17.1	32.3	20.4	34.1	35.6
Labor compensation fund, million hryvnias	10.6	156.2	3356.5	5962.0	6806.8
Average ZP, thousand UAH (annual)	7.5	30.8	4.2	11.1	13.1
Revenue from the sale of products (goods, works, services), UAH million	78.6	1531.3	26877.2	61183.1	75590.7
Revenue from the sale of products (goods, works, services) per 1 ha, thousand hryvnias	3.3	9.4	1.7	3,4	4.1
Produced products (goods, works, services) by one worker, thousand hryvnias	56.1	302.4	33.7	114.3	145.9
Production cost, million hryvnias	64.9	1051.3	24639.0	53972.1	62608.6
profit received million hryvnias	13.7	480.0	2238.1	7211.0	12982.1
Earned profit per employee, thousand hryvnias	9.8	94.8	2.8	13.5	25.1
A profit has been made per 1 hectare land, UAH	571.9	2932.4	137.7	395.7	703.5
ZP in the structure of gross costs, %	24.9	17.6	14.4	9.7	9.1

Source: author's research based on[61].

The dynamics of the personnel of Rise-Agro CJSC is presented in fig. 3.10.

person

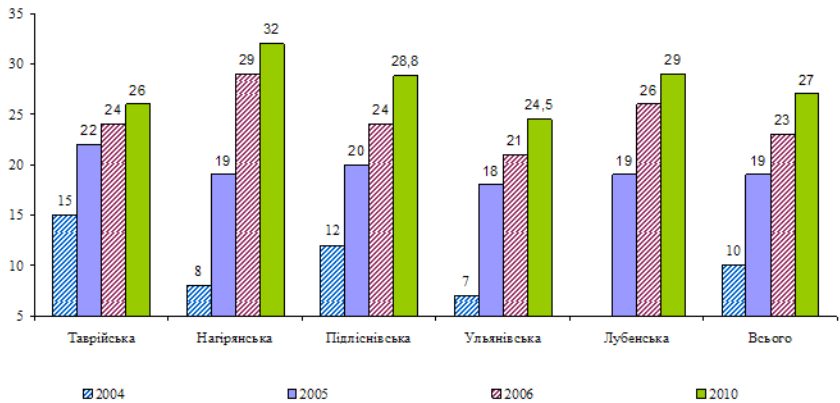


Fig. 3.10. Personnel dynamics of Rise-Agro CJSC

Source: author's research.

For clarity, a comparative analysis is shown: by the amount of land cultivated by one mechanized operator (Fig. 3.11), by the amount of livestock serviced by one employee engaged in animal husbandry (Fig. 3.12).

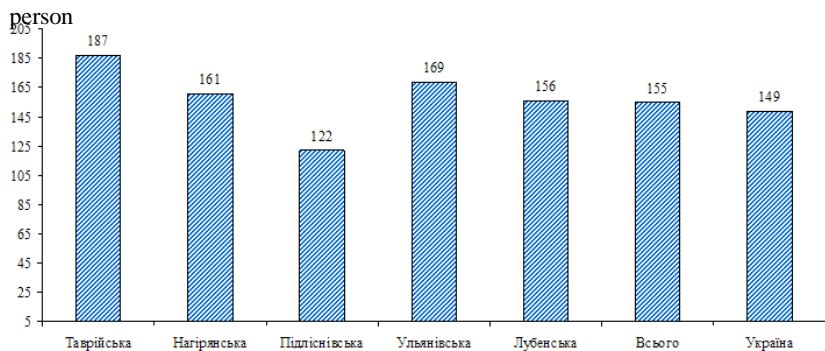


Fig. 3.11. Land security based on one machine operator

Source: author's research.

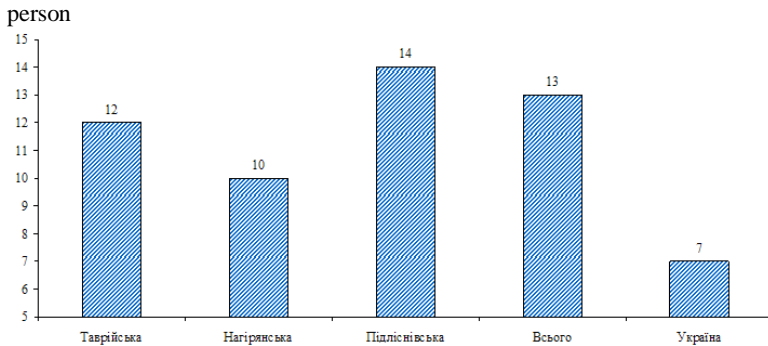


Fig. 3.12. The number of livestock (U.S.) per employee employed in animal husbandry in the companies of the agricultural holding CJSC "Rise-Agro" and in Ukraine

Source: author's research.

The analysis of the use of working time confirms that staffing is not optimized, branch directors keep staff with the prospect of involving them in the periods of the greatest production load during sowing and harvesting. However, during the off-season, such employees are also provided with work that is not caused by production necessity.

This is due to the lack of a regulatory document on the final accounting of working hours, which forces branch managers to take into account the unworked off-season working time and accordingly pay it with the prospect of not taking it into account during the period of a sharp increase in seasonal field work for overtime worked. If from a moral point of view it is possible to explain it to the majority of employees, then it is harmful for labor productivity, because the direct connection between the time worked, the work performed and the corresponding payment is lost.

This situation is confirmed by the analysis of the use of working time by branches in January 2006. It should be noted that January is the month of the lowest production load, mass vacations of employees. Work is being carried out in animal husbandry and seed factories. However, due to low temperatures, the seed factories did not work for

about 10 days. From the analysis, it can be seen that, for example, 256 employees went to work at the Podlissiv branch every working day (a six-day work week is used), although the share of employees employed in animal husbandry is 89 people, and about 25 people are employed in seed factories.

Evaluation (attestation) of personnel, training and work with personnel reserve are important conditions of organizational work in an agricultural holding. A career is a subjectively understood, defined, own judgment of an employee about his working future, the ways of self-expression and job satisfaction that he hopes for. This is the movement of an employee along the steps of the service hierarchy or a consistent change of occupations both within a separate organization and throughout his life, as well as a person's perception of such stages.

The planning and control of a business career consists in the fact that from the moment of employment in the organization until the possible dismissal of the employee, it is necessary to organize systematic horizontal and vertical movement of him according to the system of positions and workplaces. An employee must know not only his short-term and long-term prospects, but also what results he must achieve in order to expect a promotion [61].

Transfers improve the moral and psychological climate, because long-term communication between managers and subordinates contributes to the disappearance of formality in the relationship between them, the weakening of discipline, the emergence of pan-fraternity, and therefore, the reduction of work efficiency.

Personnel management services plan the scheme of possible transfers taking into account the expected vacancies and stimulate personal career planning: promotion or demotion in the position with expansion of the range of duties and rights; an increase in the level of qualification, which is accompanied by the assignment of more complex tasks, an increase in wages, but the preservation of the position; a change in the range of tasks and responsibilities without a promotion and salary increase, i.e. rotation.

The career development program should ensure an increase in the level of interest of employees, identification of persons with high potential. The organization needs a constant analysis of career development opportunities and regular filling of forms reflecting work

performance, evaluation of qualifications, knowledge, professional skills, etc.

In accordance with the Regulation on the formation of the personnel reserve of Rise CJSC, the personnel reserve is a specially formed group of employees from among managers and specialists who show high results in work according to the assessment of the immediate supervisor or according to the results of certification, which are recommended by the heads of divisions for nomination, and expressed a desire to be in the reserve.

Filling vacant positions with full-time employees is one of the priorities of personnel policy.

The replacement of management positions by employees who are in the personnel reserve is designed to create favorable conditions for both their professional and personal growth.

The entire responsibility for the formation of the personnel reserve is entrusted to the heads of divisions.

Organizational and methodological management of the process of formation and functioning of the personnel reserve, as well as the process of its training and development, is carried out by the personnel management department.

Annually, heads of units compile lists of candidates for the personnel reserve (based on the results of personnel evaluation or attestation) and submit them to the personnel management department.

According to the results of work with candidates, as well as based on the results of the evaluation, candidates are selected for the personnel reserve. The list of personnel reserve is approved by order.

Employees enrolled in the personnel reserve draw up career development plans, which must include: self-study and professional development in the job profile; temporary performance of duties for the position for which the employee is enrolled in the personnel reserve; internships and participation in joint working groups, quality circles, etc.

The approved personnel reserve list is the main source of nomination of candidates to fill vacant positions, provided they are sufficiently prepared at the time of the selection and according to their wishes.

Optimizing the number of personnel makes it possible to eliminate unprofitable production, transfer the social sphere to the balance of local authorities, and increase labor productivity. Thus, if at the beginning of 2004 one employee of the enterprise cultivated 10 hectares of land, then in 2005 - 19 hectares, and the plan for 2010 foresees - 27 hectares. With the introduction in 2004-2010 of modern forms of personnel management in the company, it became more structured, managed and effective.

It can be seen from Figures 3.13 and 3.14 that labor productivity (volume of sales revenue per employee) in the agricultural holding increased by 85% in 2010 compared to 2004, and the specific weight of wages in the cost structure increased by only 0.5%.

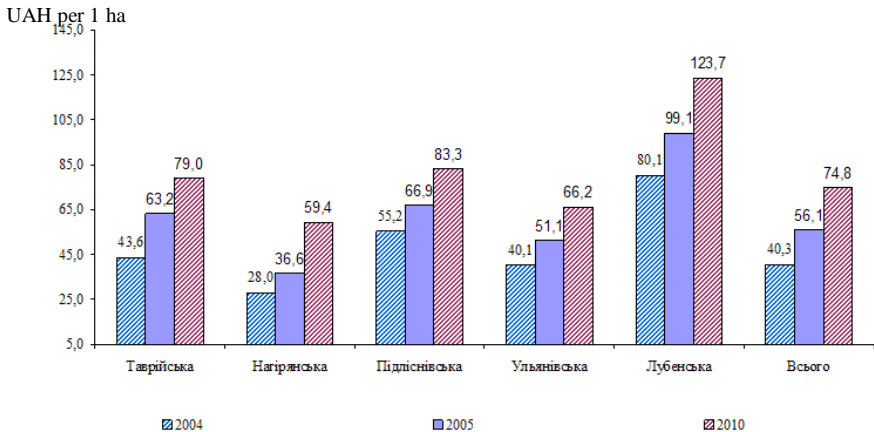


Fig. 3.13. Labor productivity of one employee in 2004, 2005, and 2010 at Rise-Agro CJSC

Source: author's research.

The average monthly salary at the company "Rise" in 2010 was 2.3 times higher than in agricultural enterprises of Ukraine, and amounted to UAH 2,508.

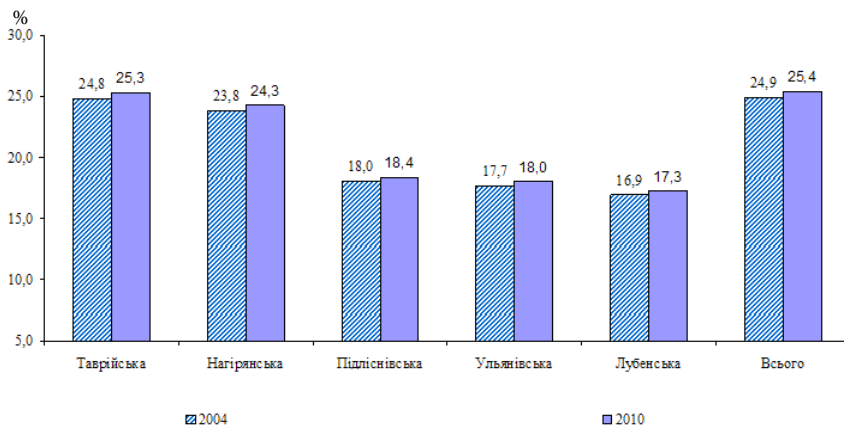


Fig. 3.14. The specific weight of wages in the structure of gross costs in 2004, 2010 in agricultural holding companies CJSC "Rise-Agro", %  
Source: author's research.

The study of organizational work with personnel in the company highlights some problems that reduce the effectiveness of personnel management. Due to the absence of a single management center for the enterprise, as well as the holding as a whole, as well as relevant management bodies (personnel management, legal advisors, marketing, etc.) in subsidiaries, the regulation of this issue does not give the appropriate effect, the efficiency and effectiveness of administrative efforts are lost.

At the enterprise, the competences of the main specialists of the central office and directors of branches are not defined by regulations. Decisions regarding production planning are made by the main specialists of the central office, and branch directors are responsible for the results.

In crop production, the "conveyor" industry method of production can be traced: each specialist performs tasks in the field (on the production site) according to the industry direction of work (machine operator, seed agronomist, plant protection agronomist, head of the security service, etc.), and there is no person responsible for a



specific field . Crop rotation costs are not controlled, at least not subject to detailed analysis.

Attempts to eliminate the remoteness of those responsible from the production area by increasing security, when the security guard seals the fuel tank, protects plant protection products when they are applied to the soil, accompanies the grain transported from the field to the field, etc., are ineffective.

The effectiveness of personnel management is worsened by the administrative influence of the owner, a higher-level executive body on economic decision-making. It also makes it impossible to determine the efficiency and profitability of an individual enterprise, and has a negative impact on staff motivation.

The presence of old equipment that is not used in production, the presence of family ties, and the desire to provide work for all employees affect the increase in the number of employees. Thus, during the off-season, employees are provided with work that is not caused by production necessity. Long distances between branches, lack of qualified personnel, lack of funds for the provision of social and living conditions for living of young professionals weakens the possibilities of attracting promising personnel in the village.

Salary and staff motivation, which are components of the social block, affect the climate in the team. The wage fund is formed "from the bottom up" based on the fact of "performed" work or accounting of "working" time without sufficient control from the middle and higher management levels in terms of volume, quality of work and quantity of products produced [61].

Motivation is affected by a certain conflict between the owners and employees of the enterprise, when employees are motivated by profit, and owners purchase fixed assets, thereby withdrawing funds from profit, increasing depreciation deductions. These fixed assets, as a rule, are purchased with credit funds, which means that interest on servicing loans increases, which also affects the amount of profit.

Evaluation of labor activity is performed inefficiently, while 26% of specialists do not have special education, which does not meet the qualification requirements of the position they hold. The work on the organization of training and advanced training of specialists and

specialists - economists, personnel managers, accountants, agronomists, heads of mechanical units, farm managers, etc.) is not systematized. Specialists and specialists do not feel the need for training, do not see their inadequacy with the position they hold, but put forward demands for payment of overtime time spent at work and their bonuses for it.

The mechanism for submitting and resolving appeals, complaints, proposals and statements is ineffective. Conflicts that could be resolved in a working order turn into court cases. Socio-political changes in society form a new employee who is aware of his rights and puts forward certain demands on labor protection and compliance with other norms of the current labor legislation before the owners. It is not uncommon for an employee to go to court to protect his rights.

So, as the analysis shows, from the point of view of management and production, the land area of the structural subdivision within 5 thousand hectares is optimal. At the same time, the optimal number of workers who can ensure the cultivation of these areas should be within the limits of one worker per 45 hectares of arable land. And the number of workers in animal husbandry should be determined from the load of 17 conditional heads per worker. The experience of livestock development shows that it is effective to consolidate small livestock farms up to 1,000 conventional heads on one farm. In order to optimize the losses of employees of canteens, grain mills, and sawmills, it is necessary to transfer them to self-supporting methods of work. With seasonal workers, the conclusion of fixed-term contracts should be actively implemented, with the remaining workers, for seasonal work. The amount of wages must be linked to productivity,

## SECTION 4

### EFFICIENCY OF USE OF PRODUCTION RESOURCES OF INTEGRATED STRUCTURES

#### 4.1. The efficiency of the use of production resources in the conditions of corporatization

Development of integration processes in agriculture is determined by purposeful reproduction of it on a new technological, organizational and economic basis and improvement and effective use of production resources. The study of the nature of these processes is an important component of achieving an effect in production.

Researches of well-known domestic economists V.G. Andriichuk, V.G. Bilskoho, O.A. Bugutskyi, C.I. Demyanenko, I.I. Lukinova, V.Ya. Mesel-Veselyaka, V.M. Nelepa, V.M. Oliynyka, O.M. Onishchenko, B.Y. Paskhavera, H.M. Podlisetskyi, A.M. Stelmashchuka, V.V. Rossokh, P.T. Sabluka, V.V. Tarasova, V.M. Trehobchuk At the same time, the specificity of agricultural production necessitates the formation of a comprehensive approach to the problems of formation and effective use of resource potential at market enterprises and in the context of corporatization.

Resources are elements of the production potential that the system has at its disposal and that are used to achieve specific goals of economic development [7, p. 206]. In practice, natural, economic, technical, technological, personnel, spatial, temporal, structural-organizational, informational, financial, and intangible resources are distinguished. By origin, all resources are divided into two large groups: natural and economic, in terms of production - into functioning and potential, according to the nature of use - into production and non-production.

Production resources are a complex of interdependent elements of productive forces functioning in the process of production of

material goods within the limits of a historically defined system of production relations.

Increasing the level of supply of production resources, improving their quality composition and the degree of use contributes to the growth of production results. There are land, labor, material (equipment and labor items) and financial resources. Each type of considered production resources has its own differences, characteristic features unique to it. Land resources are the first prerequisite, natural condition and material basis of production in agriculture; labor resources are the main driving force and the most powerful productive force; material resources - the material conditions of live labor, the material basis of production; financial resources - mediate the movement of material resources and ensure the circulation of means of production; management - organizational levers of influence on people's actions, use of various resources [287].

Between all production resources functioning in the production process, there is a relationship, interaction and interdependence. The human factor is the most active, and fixed and working capital are passive factors of production. In the production process, they all function together in a relationship and interdependence. The absence of each of them makes the production process impossible, which is not a mechanical combination of production resources, but their organic unity, the decisive factor of which is a person with his labor activity.

The agriculture of Ukraine has undergone significant structural changes. The processes of reorganization of collective enterprises were accompanied by the fragmentation of land masses and property complexes, which inhibited the use of the mechanisms of economic laws: the advantages of specialization and production concentration; compliance of industrial relations with the level and character of productive forces; increase in labor productivity; socialization of labor and production, etc.

In order to study the influence of factors on the formation of production efficiency on the production data of 75.8% of agricultural enterprises of Ukraine, which are reported in the form of 50 s-g for the

years 2007–2009, a sample of 8,920 farms that conduct production on leased land was formed.

The analysis showed that there is a close relationship between the growth of land availability and production costs and indicators of the economic efficiency of agricultural production. The calculations shown in Table 4.1 show that with an increase in costs per unit of area and land availability per worker, there is a tendency to increase sales revenue, gross output, and crop profit per 1 hectare of arable land. At the same time, there is a direct relationship between the size of enterprises and indicators of economic efficiency. Thus, for a group of enterprises with an average size of 20,000 hectares, the profitability of production is 20.2% against 10.9% for a group with an average size of 750 hectares.

The objective technical and economic advantages of agricultural holdings over small enterprises are: a higher level of labor productivity; lower costs per unit of production; savings in capital and operating costs per unit area; greater opportunities for rational organization of production, use of technology, achievements of science and progressive practice; storage and sale of products in better terms and of higher quality.

With the help of groupings, the dependence between the amount of expenses, land availability and output of gross products, revenue and profit per unit of area was established. However, for a more detailed analysis and study of the degree of influence of the factors, we conducted a correlation-regression analysis. The dependence of the production of gross crop production (Y1), revenue from the sale of crop production (Y2) and profit (Y3) per 1 hectare of arable land on the influence of factors, the amount of production costs per 1 hectare of arable land, UAH (X1) and the amount of arable land per one worker in crop production, ha (X2).

Table 4.1

**Efficiency of agricultural production in enterprises depending on production costs and land availability in 2007–2009. in Ukraine**

Groups of enterprises by arable land area, ha	Number of enterprises in the group	Costs in plant cultivation per 1 ha, hryvnias	The amount of arable land per person working on the farm, ha	Gross crop production per 1 ha, UAH	Revenue from the sale of crop products per 1 ha, hryvnias	Profit from crop production per 1 ha, UAH
		X1	X2	Y1	Y2	Y3
750	902	1548	34	1155	1432	170
1000	771	1611	38	1221	1506	225
1250	811	1691	42	1246	1662	315
1500	637	1709	46	1259	1669	311
1750	528	1747	47	1301	1720	322
2000	484	1764	45	1297	1735	300
2250	380	1736	46	1305	1716	306
2500	341	1817	49	1338	1793	308
2750	279	1740	47	1309	1818	348
3000	236	1856	46	1367	1860	351
3500	347	1893	48	1375	1880	340
4000	251	1827	50	1306	1886	308
4500	190	1857	54	1313	1829	305
5000	132	1944	49	1362	1993	310
5500	92	1984	51	1409	2089	444
6000	76	2034	54	1372	1977	260
6500	50	2099	54	1468	2122	338
7000	38	2116	59	1456	2140	346
8000	65	2433	48	1692	2630	531
9000	41	2406	45	1596	2329	342
10000	34	2170	64	1843	2611	757
11000	21	2583	67	1846	2613	528
12000	16	2533	52	1592	2635	501
15000	27	2648	57	1724	2665	438
20000	23	2863	61	1769	2980	580

Source: author's research.

For this, the parameters of the equation, which has the form:

$$Y = a_0 + a_1 X_1 + a_2 X_2$$

Based on the results of the calculations, the relationship between productive characteristics and production costs and land availability is expressed by linear regression equations:

$$Y_1 = 247.25 + 0.3984 X_1 + 7.6508 X_2;$$

$$Y_2 = -408 + 1.0095 X_1 + 8.3062 X_2;$$

$$Y_3 = -287.4 + 0.1403 X_1 + 7.4815 X_2.$$

All coefficients regression equations have a positive sign, which indicates a direct relationship between the variables.

The coefficient of multiple correlation (R) is  $R_1 = 0.9353$ ,  $R_2 = 0.9758$  and  $R_3 = 0.7798$ , which characterizes the relationship between the values of the function and independent variables as close. The coefficient of multiple (cumulative) determination ( $R^2$ ) is 0.8749, 0.9521 and 0.6081. This means that the variation in the amount of gross production, revenue from the sale of products and the profit of crop production by 87.5, 95.2 and 60.8% in the conducted study is caused by an increase in the size of production costs and land availability. According to Fisher's test, the equations are statistically significant: estimated value of Fisher's coefficient  $F_1 = 76.9$ ;  $F_2 = 218.7$  and  $F_3 = 17.1$  more than the table value of the coefficient with a probability of 0.95  $F_{gr} = 3.44$ .

Regression coefficients are prone to fluctuations in small samples, so they should be checked for significance in the case of a linear relationship. We check the significance of the regression coefficients using t-criterion of the Student. Tabular value of Student's coefficient with probability  $P = 0.95$ ,  $T_{gr} = 2.07$ . According to the conducted research, the value of t-statistics for:  $Y_1$  by factor  $x_1 = 6.7737$ , by factor  $x_2 = 2.7393$ ; for  $Y_2$ , respectively,  $x_1 = 13.3117$ ,  $x_2 = 2.3065$ ; for  $Y_3$  –  $x_1 = 2.1444$  and  $x_2 = 2.4072$  and exceeds the critical value of the Student's t-test, which means that the coefficients of the equation with X variables are statistically significant.

So, we can conclude that with an increase in costs per unit of area and an increase in land availability, indicators of the economic efficiency of agricultural production improve, in particular, with an increase in costs per unit of area by UAH 1, the gross production of

crops will increase by UAH 0.39/ha, revenue from the sale of products crop production - 1.0 UAH/ha, profit from the production of crop production products - 0.14 UAH, and an increase in land availability by 1 ha will lead to an increase in gross production by 7.6 UAH/ha, revenue from the sale of crop production products - 8.3 UAH/ ha, profit - 7.5 UAH relative to the average level.

The tools that will contribute to the effective use of resource potential are: the introduction of a system of planning and budgeting of production processes; establishment of rational proportions between land use, productive assets and labor force availability; establishing management of production processes.

Ensuring the sustainable development of production should be achieved by harmonizing the balance between economic activity and the ability of the earth to reproduce. When forming land massifs, the company must be guided by the principle of economic rationality, which will allow to obtain the maximum profit with a minimum of costs.

Increasing the efficiency of agricultural production under market conditions requires fundamentally new approaches to the organization of its management. In this connection, a number of important issues have arisen that need to be resolved, in particular: development of mechanisms for attracting investments in agriculture; formation of effective management of production processes; use of corporate rights as collateral; technical renewal and modernization of production; leveling of risks associated with the renegotiation of short-term lease agreements; formation of optimal sizes of enterprises; professional development; control over soil quality and the expediency of using certain tools in order to increase yield and stabilize it in the long term; introduction of new technologies; the formation of added value through the minimization of intermediary influence on the processes of production and sale of products through the creation of integrated structures with a closed production cycle and delivery of products to the final consumer; conquest of new product sales markets.

These issues are covered to some extent in the works of many domestic scientists, in particular, V.G. Andriichuk, O.V. Borodina,



M.Ya. Demyanenko, P.T. Sabluka, V.Ya. Mesel-Veselyaka, M.Y. Malika, B.Y. Paskhavera, M.M. Fedorova, V.V. Yurchyshyn and others. However, the formation of a market economy requires further, in-depth study of new approaches to the production organization system.

The main risk factors in rural production include: weather conditions; a long and complex technological cycle of production - from 6 to 18 months (from cultivation of land to sale of finished products); human factor; significant price disparity for agricultural products and material and technical resources of industrial origin.

One of the reserves of increasing production efficiency there are frames. Improving the qualifications of specialists, creating an appropriate climate in the team, implementing social issues is a necessary condition for effective production. Practice shows that, all other things being equal, only the manager and his team depend on the efficiency of the enterprise and the well-being of the people living in this area. Staffing is especially relevant for agriculture, where a significant number of qualified workers have been laid off for various reasons over the past 20 years. Under market conditions, personnel determine the company's competitive advantages, and the formation of a team of specialists capable of ensuring the effective functioning of the business is a strategy for its development. Every dollar invested in skill development can bring thirty dollars in profit [57].

In order to restore broken inter-industry ties, large companies took over the functions of agricultural production management, which at one time was carried out by the state through logistical support, sales adjustment, and protectionism. In matters of management, this was reflected in the construction of a hierarchical management system, which in the vast majority consists of two control centers: financial and production. The basis of the organization of economic activity is the planning and budgeting of processes with the control of the use of funds during the reporting periods. The technological process of growing agricultural products is reflected in technological maps, where all operations during the period of growing agricultural crops are provided.

This is the primary document in the planning process. Effective cropping plan,

The development of agricultural holdings takes place in the direction of expanding production, strengthening vertical integration and improving an effective business model due to the accumulation of unique experience and the introduction of innovative technologies. Ensuring the sustainable development of production is achieved thanks to the harmonization of the balance between the size of the resource potential and the ability of the land to reproduce its fertility.

As a result of establishing control over the entire production chain and logistics capacities in companies, additional value is concentrated and control over product quality is strengthened, profitability increases. Companies invest funds in the construction of new and modernization of already existing elevator complexes, seed factories, sales network, develop logistics and technical bases. For example, in animal husbandry, only the construction of a slaughterhouse and the sale of meat in the form of half-carcasses allows you to increase the sale price by 20% and bring the industry to the minimum level of profitability.

If we consider the economy of agriculture as a whole, the production of vegetables, fruits, milk and meat is concentrated in households and farms. The specialization of structural divisions of large companies is formed based on the main type of activity of the parent company (sugar, grain, milk), while the focus is on the formation of highly specialized, highly industrialized production with a clear export orientation.

The sizes of structural divisions of agricultural associations are usually determined by the boundaries of agricultural enterprises, where jointing was carried out with their subsequent consolidation at the expense of neighboring enterprises. The decisive factor here is the formation of such an array, which will allow the most effective use of the advantages of wide-angle technology. At the same time, its size is influenced by the peculiarities of natural and climatic conditions, the presence of livestock, proximity to processing plants and elevators. Short-term lease holds back the possibility of long-term investments in

agriculture, therefore, the preferred term of concluding lease agreements is more than 10 years.

The use of powerful foreign-made machinery allows to reduce the costs of maintaining the machine-tractor park (due to the increase in the load on the unit of machinery and the reduction of its absolute number); Fuel and lubricants; seeds (due to accurate sowing). Depending on the type of soil and the structure of the cultivated areas, companies use different types of tillage: zero tillage technology, minimal tillage and traditional tillage.

Methods of minimizing tillage, aimed at energy saving, are introduced into the production. This technology makes it possible to obtain a higher yield of agricultural crops, increase labor productivity by 20-25%, and reduce costs for fuel and lubricants by 18-20% with lower costs of means of production.

CJSC "Rise" is one of the first agricultural companies in Ukraine, which switched to "minimum technologies" of soil cultivation.

The transition to systematic tillage without turning the plow helps to restore self-regulation of soil fertility, increase the productivity of their use (by 30-40%) and increase the humification coefficients of manure, straw and other post-harvest residues by one third. If under the conditions of normal plowing, the rate of leaving the humus without a deficit balance is 12 t/ha of manure on average in Ukraine, then when cultivating the soil without rotating the scythe, it is 8 t/ha.

Under the influence of soil protection technologies, the structure of soils is improved, their density is reduced, water permeability is significantly improved, a soil crust does not form on the surface, and soil carbonates are pulled close to its surface, and the anti-erosion resistance of soils is increased. Disadvantages of mechanical tillage are the spread of wind and water erosion. Thus, in March 2007, as a result of soil cultivation in Ukraine during a drought, a cloud of dust with a mass of more than 3 million tons was formed, which reached the shores of Great Britain [24].

Soil conservation agriculture contributes to obtaining high and stable harvests, protection of the natural environment, and increasing the profitability of production.

One of the new technologies introduced by agricultural holdings and which corresponds to the principles of soil-protective agriculture is No-till - a production system based on the absence of mechanical cultivation, crop rotation and the preservation of plant cover on the soil surface, which contributes to the rational use of the main resources of the agricultural system: soils, water, air, and biological factor without harming the environment. The technology is used on 95 million hectares around the world, including 50% - in Latin America and Argentina. In Ukraine, in 2006, about 60,000 ha of crops were cultivated using No-till, or 0.1% of the total land area [352].

Advantages of No-till: reduces mineralization and provides an increase in the amount of nutrients in the periods of their greatest need, especially during the formation of the early grass stand; contributes to the increase of organic mass, which is used at later stages of the crop's life cycle and restrains the leaching of organic substances from the soil; forms a new ecosystem, stops soil degradation and, as a result, increases humus content [24].

An important element of the technology is the preservation of energy costs for the production of products and the localization of crop rotations. Depending on the specialization of production, crop rotation is formed. As a rule, it includes five main cultures. This allows you to reduce costs for moving, to exercise more precise and complete control over the process of cultivation of areas and their condition, not to draw up an annual plan for the placement of crops, but to work in accordance with the crop rotation.

To obtain consistently high yields, it is necessary to establish control over the content of nutrients in the soil, which requires attention to the stimulation and protection of biological processes in the soil, ensuring the accumulation of biomass and biological nitrogen fixation in order to achieve reserves of soil energy and nutrients sufficient to

maintain a high level of biological activity and formation of soil cover. According to Amir Kassam and Theodor Friedrich, "fertilizers should be applied rather for the soil, not for the crop" [129].

For the rational use of mineral fertilizers, the amount of fertilizers is determined by the difference between the removal of nutrients by the crop and the availability in the soil, an analysis of the NPK content in each field is carried out using the precision agriculture system (GPS). It is determined by the amount of nutrients in crop residues, taking into account the precursor, the level of provision of mobile forms of phosphorus and potassium. To balance the need for nutrients, microfertilizers (Vuxal, Nutrivant) are used, which contain a complete set of microelements, and wide use of growth regulators. A vivid example of this is the activity of Rise-Maximco (Table 4.2).

One of the important aspects is the creation of an agrochemical examination laboratory, which allows for an individual approach when applying technologies to a specific field.

*Table 4.2*

**Economic efficiency of production of agricultural crops in 2009**

Indicator	CJSC "Rise-Maximco"			Agricultural enterprises of Ukraine		
	winter wheat	corn for grain	sugar beets	winter wheat	corn for grain	sugar beets
Productivity, t/ha	5,6	7.3	44	3.3	3.3	31.3
Production cost of 1 ton, UAH	859	560	212	682.1	640.8	296.5
Full cost 1 ton, UAH	1 076	805	237	751	716	305.2
Sale price of 1 ton, hryvnias	1380	1230	300	794.5	870	418
Net income per 1 ha, UAH	1702	3100	2780	142	847	3537
for 1 t	304	425	63	43	154	113
Profitability, %	28	53	27	5.7	21.5	37

Source: author's research.

Organization of the logistics of the equipment park with the maximum load during field work is an important task of the engineering and technical service. Only under such conditions is it possible to realize the genetic potential of agricultural crops, because the implementation of all technological operations is strictly regulated in time and requires high quality of the main technological operations - tillage, sowing, application of fertilizers and pesticides, harvesting, etc. Taking this into account, companies are updating their technical park with modern agricultural machinery, which allows them to be used around the clock. The main production unit for performing field and mechanized work, which is entrusted with the production task, is the mechanized squad. In order to increase the efficiency of work, the fields of crop rotation are consolidated. The main load on the fields is made from autumn.

The classic system of basic tillage is replaced by no-till tillage (JSC "Rise"), which allows you to save fuel in the range of 5-7 l/ha, increase the productivity of aggregates by 7-8%, and reproduce the activity of soil-forming microorganisms.

Row drills with anchor coulters are replaced by modern high-performance precision seed drills with disc coulters, equipped with a computerized seed sowing control system, which allows, due to the uniform density of plants on the field and uniform seeding depth, to increase the yield of corn by 9–10 t/ha, sunflower by 4–5 c/ha; carry out sowing around the clock; at the same time, one seeder provides sowing on an area of 250 hectares, which is equivalent to eight domestic seeders; to reduce the costs associated with the transportation of aggregates to the place of work and back and the number of service personnel, compared to domestic planters. Changing this segment of technology allows you to increase productivity by 20–40%, depending on the crop (sunflower, corn, soy).

One of the activities of agricultural holdings is the testing of the newest regional varieties and hybrids of agricultural crops that have a high yield potential and are resistant to pests and diseases. Sowing is carried out only with poisoned seed material with modern wide-grip seed drills, a balanced system of plant nutrition and protection is followed, seed processing is carried out at our own seed factories.

An important element of cost reduction and improvement of the quality of manufactured products is the introduction of modern methods of automated production control and management by holdings. Complex automated information and control systems based on "precision farming" technologies allow obtaining reliable information about the terrain, the nature of land use and its regime; on the basis of cartographic material, determine the exact dimensions of fields and the area of land use; create thematic maps (soil, yield, relief, road, legal, accumulation of water flows) and form a passport of the field and the land massif as a whole on this basis; increase the efficiency of using agricultural machinery due to the reduction of costs for soil cultivation due to the exclusion of skips and zones of double cultivation; to reduce costs in the operation of technical means due to the optimization of movements, control over the location and fuel consumption, quick detection and elimination of problems; by using GPS-technologies, namely: technologies of differentiated application of fertilizers and plant protection products, to reduce the need for their use by up to 30%.

An important component of the modernization of the production process is the creation of a dispatch center, which allows you to optimize accounting, minimize the human factor in the preparation of primary documentation, accurately and remotely carry out planning, accounting and control of all business operations, in real time to receive objective operational reports on the progress of those or other field work and make timely and correct decisions and implement them in practice.

An important component of rational management is the revival of the livestock industry. The main direction of development in animal husbandry is raising livestock with maximum concentration, investing in improving the genetic potential and building new complexes, introducing new approaches to the system of feeding and keeping animals. Solving the protein problem by planting soybeans and lupine. It is necessary to fundamentally change the attitude to perennial grasses, to restore the practice of scientifically based crop rotations, to increase the yield of fodder crops.

To increase the productivity of livestock, as well as stable control over the milking process, keeping automated records of milk

production, individual monitoring of the health of animals, a new technology is needed, equipped with software with automated recognition of cows, individual records for each milking for each animal.

One of the priority tasks is the development of animal husbandry based on the use of the most modern fermentation technologies, the use of probiotics, mycotoxin adsorbents, orientation to the maximum use of plant waste, the use of bunker feeders and "dry" feeding technology in pig farming. This is evidenced by the construction of two new milking parlors at OJSC "Nasinneve" for the maintenance of 2,000 dairy herds, reconstruction of livestock farms (pigs, cattle) in the holding's agrarian enterprises. The holding's plans envisage the increase of livestock and the construction of new livestock complexes. The holding is engaged in breeding business, which is developed on the basis of the breeding farm "Chervony Veleten" and the breeding farms of "Agrofirma "Naukova" LLC, LLC named after "Michurina" and LLC named after Postmitny

Complete and balanced diets are introduced in agricultural holdings to support and improve the productive qualities of farm animals, including poultry. The quality of the fodder base directly depends on the increase in livestock and the increase in its productivity, which, in turn, determines the rate of growth and the level of production of poultry products. The production of fodder is of exceptional importance for the development of the industry. Thus, the productivity of poultry depends on 50–80% of environmental factors, the most important of which is feeding.

It is possible to solve the issue of energy self-sufficiency of rural areas through the use of modern technologies for the processing of by-products available for obtaining electricity (about 24 million tons per year, and peat - about 0.6 million tons per year). According to scientists' calculations, biomass can provide about 5.3% of Ukraine's total primary energy needs. For example, in Europe, the share of biomass in the total consumption of primary energy carriers is on average more than 3%. Individual countries significantly exceed this indicator: Finland - 23% (world leader), Sweden - 18%, Austria - 12%, Denmark - 8%, Germany - 6%.



The restoration of production will contribute to the realization of the competitive advantages of Ukraine as an agrarian state and the solution of economic and social issues, conservation and rational use of land, development and development of rural areas on this basis.

Considerable attention in agricultural holdings is paid to the development of energy-saving technologies. The main trend of the synthesis of technologies and means of mechanization of agro-industrial production of plant products today can be characterized by the concept of resource conservation. It prompts deep differentiation of agricultural machinery depending on soil and climatic conditions and the needs of cultivated crops and represents a complex complex problem. Accordingly, the main areas of development of mechanization of crop production in Ukraine are:

- complex provision of crop production with efficient energy means (tractors and combines of the required standard sizes);
- transition to resource-saving technologies for growing the main agricultural crops and the corresponding machine complexes;
- creation of new technologies and technical means for the use of certain agricultural crops for energy purposes.

In the technological aspect, an important evidence of the development of the resource conservation process is the minimization of the main tillage, which consists in improving the quality of plowing through the use of row and rotary plows and expanding the use of non-shelf tools to the level of 50-55% of cultivated areas. Combined multi-operation tillage units for pre-sowing tillage and multifunctional tillage-sowing complexes are being implemented, which reduce the number of passes on the field by 2-4 times, by 20-30% of labor costs and fuel and lubricants, significantly reducing the time of mechanized works. The acreage of energy-intensive row crops on sloping lands is shrinking, accounting for 1/3 of all acreage in Ukraine.

CJSC "Rise" uses by-products (straw, chaff, stalks) as organic fertilizers. It was determined that one ton of post-harvest residues with nitrogen deficiency compensation (8–10 kg of active nitrogen substance) is identical to 5 tons of half-rotted manure in terms of its effect and effect on the harvest and on the accumulation of humus in the soil. This is a significant reserve of organic fertilizers under the

conditions when, as a whole, manure application across the country decreased from 8.3 t/ha in 1990 to 1.5 t/ha in recent years.

The presence of mulch from post-harvest residues on the surface of the soil ensures an increase in soil temperature in the cold period of the year and a decrease in it in the summer heat, which brings the thermal regime of the soil to the optimum and reduces non-productive moisture losses due to evaporation.

Soil conservation agriculture is aimed at increasing profitability and obtaining high and stable yields while preserving the environment. Its basis is the increase of natural biological processes in the arable layer of the soil. At the same time, for example, mechanical processing is reduced to an absolute minimum, and nutrients of mineral or organic origin are applied within the limits of need. Soil conservation agriculture is based on the principles of minimal disturbance of the top layer of the soil during the entire production cycle and covering the soil with organic matter.

The group of agricultural enterprises "Agro-Alfa" uses modern technologies for growing agricultural crops, the main of which is surface tillage, which includes a shelfless method with elements of deep loosening of the soil. The advantages of this technology are a 20-25% increase in labor productivity, a 18-20% reduction in fuel and lubricant costs, and a 20-24% reduction in the total energy consumption of the main processing. This is achieved due to the use of such equipment as Case 9300 in a complete set with a Kello Vill deep loosener.

In order to popularize the introduction of soil protection technologies, based on the combination of efforts of science and private initiative, it is necessary to activate the state policy in the field of building scientific and technical potential for the study of this issue.

The introduction of new technologies makes it possible to apply systems of precision agriculture, in particular, the introduction of a system of precise management and a system of applying differentiated rates of mineral fertilizers, based on the actual provision of each field with elements of mineral plant nutrition; the introduction of crops in crop rotation that allow maximizing the protein content even with low fertility; the use of phosphorus-mobilizing bacteria for finishing seeds in order to reduce the standards of phosphorus fertilizers; the use of

nitrogen-fixing bacteria in order to obtain additional doses of biological nitrogen; the use of microfertilizers in order to optimize the mineral nutrition of plants; widespread use of growth regulators.

#### **4.2. Provision of agricultural production with material and technical resources**

An important component in the process of production of agricultural products is material and technical support of enterprises.

The analysis shows that over the past 9 years, the level of equipment of agricultural enterprises of Ukraine decreased by 47.2%, grain harvesters - by 60%, corn harvesters - by 46.8%, beet harvesters - by 60.8%, potato harvesters - by 64.8 %, trucks – by 69.5% (Table 4.3).

*Table 4.3*

#### **Availability of tractors and agricultural machines in agricultural enterprises in 2000-2009, unit**

Indexes	Year					2009 until 2000, %
	2000	2005	2007	2008	2009	
Tractors of all brands	318927	216875	186767	177401	168532	52.8
Planters of all kinds	131972	96970	85155	81810	77807	59.0
Potato planters	7116	4037	3207	2885	2664	37.4
Harvesters:						
grain harvesters	65240	47150	41032	39091	36783	56.4
corn harvesters	7874	4750	3637	3174	2857	36.3
feed mills	24939	14627	11300	9978	8967	36.0
flax harvesters	1685	1032	820	716	631	37.4
potato harvesters	3574	1947	1547	1360	1257	35.2
Beet harvesting machines	12982	8478	6583	5774	5083	39.2

Source: calculated according to the data of the State Statistics Committee of Ukraine

It is also necessary to take into account the dynamic process of deterioration of the quality and quantitative composition of the entire material and technical base of the agrarian sector of the economy. Almost no new equipment arrives, while the wear and tear of fixed assets and machinery and tractors in most farms has reached 75%.

During 2000–2009, the load on one available harvester increased from 202.6 to 250.3 hectares (by 23.5%). At the same time, it should be emphasized that the calculations were made based on the number of available machines at the end of the corresponding year, that is, without taking into account the actually working equipment that could participate in harvesting. For comparison, we note that the average number of harvesters per 1,000 hectares of grain crops is: in the USA – 15; Great Britain - 14; France – 16; Denmark – 21, while Ukraine has 3.2.

An increase in the load on a unit of equipment leads to an extension of the duration of the harvesting period, and therefore to an increase in its losses. According to experts' calculations, crop losses due to shedding due to the extension of the harvest period in 2010 amounted to about 7.5 million tons, or about 20% of the grown crop [219].

At the same time, part of the equipment that is on the balance sheet of agricultural enterprises is not fully loaded, since agrotechnical service services are not directly related to the final results of agricultural production, and the farms themselves do not have sufficient financial resources for the purchase of expensive spare parts, renewal of the machine and tractor fleet etc.

During 2009, agricultural enterprises purchased only 59% of the equipment needed, and disposal of fixed assets exceeded their receipt three times (Table 4.4). In agriculture, there is an extremely unfavorable situation with the provision of resources for almost all spheres and organizational forms of management in the agricultural sector. The production and resource potential constantly loses its reproductive capabilities, wears out and is constantly reduced.

Academician I. I. Lukinov drew attention to the fact that if the material and technical situation does not improve in the near future, then work in agricultural production will have to be done by horses and by hand, provided that the horse population and horse stock are restored. In his opinion, "Farmings (collective and farm) can turn from high-commodity to subsistence, with extremely low labor productivity and the same high production costs, under which there can be no question of competitiveness"[160].

Such a state with the provision of equipment negatively affects the indicators of the economic activity of enterprises, does not allow to perform agricultural work in full and optimal terms, causes a violation of production technology. Currently, the situation in agriculture is such that existing farms of all forms of ownership must be strengthened with appropriate material and technical resources, because otherwise the labor costs for the production of a unit of plant and animal products and its losses will be significantly higher, and as a result, economic activity will be economically unprofitable.

*Table 4.4*

**Basic funds for production purposes in agricultural enterprises,  
million hryvnias**

Indicator	Year						2009 to 2000, +, -
	2000		2005		2009		
Total fixed assets	87763.8	100	46851.7	53.4	58292.8	100	-29471
Buildings, constructions	53607	61.1	20415.8	23.3	26368.3	45.2	-27239
Mashand equipment	11532.8	13.1	10145.9	11.6	22967.9	39.4	11435.1
Vehicles	3548.9	4	3286.1	3.7	5432.7	9.3	1883.8
Working and productive cattle	1711.1	1.9	653.1	0.7	470,232	0.8	-1240.9
Perennial plantations	1150.4	1.3	1058.8	1,2	518,812	0.9	-631.59
Others	16213.6	18.5	11292	12.9	2534.86	4.3	-13679

Source: calculated according to the data of the State Statistics Committee of Ukraine.

The analysis of the data in Table 4.5 indicates low indicators of the economic efficiency of the use of the main production assets and an insufficient level of mechanization of agricultural production. At the same time, revenue per employee and per hectare of agricultural land has been increasing over the years, which indicates an increase in the efficiency of resource use.

Table 4.5

**The efficiency of the use of the main production assets  
in agricultural enterprises**

Indicator	Year					2009 to 2000, +,-
	2000	2005	2007	2008	2009	
Fund return, hryvnias	0.30	0.72	0.70	0.85	0.79	0.49
Capital capacity, hryvnias	3.31	1.39	1.43	1.17	1.27	-2.04
Fund security, thousand UAH	293.7	211.8	240.5	267.0	279.4	-14.3
Funding, thousand hryvnias	41.0	46.8	60.2	70.5	79.5	38.5

Source: calculated according to the data of the State Statistics Committee of Ukraine.

A feature of recent years is the consolidation of agricultural enterprises, the creation of integrated formations that carry out the production of products, their partial or full processing and sale, due to the attraction of investment funds and the use of modern technology and equipment. Integrated structures conduct production on a new technological, organizational and resource basis. Thus, on average, in 2005–2009, their capital adequacy was 14% higher compared to other agricultural enterprises (Table 4.6). At the same time, in contrast to agricultural enterprises, in which the main specific weight (44.5%) in the composition of fixed assets is occupied by buildings and structures, i.e. their passive part, in integrated structures more than 41% falls on machines and equipment. That is, the most active part of fixed assets,

In holding companies, a complex of technological machines is being formed on the basis of new imported agricultural machinery. Such trends are caused by market requirements for the production of competitive agricultural products. The market of imported agricultural machinery is increasingly providing agricultural production with the necessary technical means. Domestic agricultural engineering is gradually losing its position on the technical equipment market, and agricultural machinery is less and less able to compete with foreign

agricultural machinery in terms of technical characteristics and manufacturing quality.

*Table 4.6*

**Comparative analysis of the availability of fixed assets for production purposes in agricultural enterprises for 2005-2009.**

Indicator	Ukraine			Group of agricultural holdings			Deviation	
	Basic funds							
	million hryvnias	%	per hectare, thousand UAH	million hryvnias	%	per hectare, thousand UAH	%	per hectare, thousand UAH
The main tools:	52,617.9	100.00	2.41	217.6	100.00	2.74	h	0.33
buildings and structures	23,392.1	44.46	1.07	48.4	22.24	0.6	-22.22	-0.46
Machinery and equipment	16,556.9	31.47	0.76	90.7	41.70	1.1	10.24	0.38
vehicles	4,359.4	8.29	0.20	52.6	24.19	0.7	15.91	0.46
working and productive cattle	529.0	1.01	0.02	25.2	11.58	0.3	10.57	0.29
perennial plantations	630.0	1.20	0.03	0.1	0.02	0.0	-1.17	-0.03
other basic means	7 150.5	13.59	0.33	0.6	0.26	0.0	-13.33	-0.32

\*Average annual cost of fixed assets in rural areas. enterprises, million hryvnias

Source: author's research.

As a result, the return on investment in integrated enterprises for the years 2005-2009 is almost 3 times higher compared to other agricultural enterprises (Table 4.7).

The use of powerful foreign-made machinery allows agricultural holdings to reduce the costs of maintaining machinery (due to increasing the load on a unit of machinery and reducing its absolute quantity), fuel and lubricants, and seeds (due to accurate sowing).

Table 4.7

**The efficiency of the use of the main production assets in agricultural holdings and agricultural enterprises**

Indicator	Ukraine	Group of agricultural holdings	Deviation, %
Average annual capital funds of the rural and urban areas. enterprises, million hryvnias	52617.9	217.6	h
The number of people employed in agricultural enterprises, thousands of people	861.9	2.6	h
Land belongs to one employee, ha	25.3	30.7	h
The area of the village land, million ha	21837.0	79.5	h
Fund return, UAH (gross production per UAH 1 of fixed assets)	0.8	2,3	306.0%
Fund capacity, UAH (funds per UAH 1 of gross production)	1.3	0.4	32.7%
Fund security, UAH thousand (funds per 100 hectares of agricultural land)	241.0	273.7	113.6%
Fund resources, UAH 000 (funds per average annual employee)	61.0	67.3	110.3%

Source: author's research.

A significant economic effect when using new grain-harvesting equipment is achieved due to the quality of harvesting (grain losses during threshing are 50-60% lower than domestic equipment) and due to high-quality grinding and uniform distribution of residues on the field, which contributes to the enrichment of the soil with organic matter. So, the Case 7088 harvester can harvest an average of 40–45 hectares per working day, and 70–80 hectares when working around the clock. Its grain harvester is equipped with a system of automatic copying of the soil relief, which allows you to minimize the height of the crop cut - an important point when harvesting soybeans. Case 7088 combines are equipped with modern engines, due to which diesel fuel savings are achieved - 5-7 l/ha. Compared to domestic analogues, when the load per unit of equipment is 3,500 ha per season, the fuel savings is 90–120 thousand UAH.



The technical characteristics of the new tillage and sowing equipment allow it to be used around the clock. At the same time, a John Deere planter (24-row) sows 250 hectares of corn or sunflower per day - equivalent to domestic planters, it replaces 9 units. Due to the improvement of sowing quality (uniform distribution of seeds in the row, absence of micro-sieving, uniformity of seed planting depth, the possibility of observing the planned density of plants per hectare, etc.), compared to domestic technology, the yield of corn increases by an average of 8–9 t/ha, sunflower - 2–3 t/ha, which allows the company, due to the use of the two specified planters, to additionally obtain an average of 250 tons of sunflower and 4,500 tons of corn per season. The John Deere 637 disc harrow tractor performs high-quality soil cultivation. Fuel economy, compared to traditional tillage, is 8–9 l/ha. Based on the production characteristics of the John Deere 8430 tractor, it should be noted that it replaces 3 T-150 tractors (cultivation 60–70 ha/day) and about 6 MTZ-80 tractors (sowing 35–50 ha/day) during operation.

The main advantages of new imported harvesters over domestic analogues: reduction of losses during grain harvesting - 150-350 kg/ha; reduction in the number of personnel - reduction of the wage fund; fuel economy – 5–7 l/ha; preservation of grain quality, absence of excessive grain admixture of grain; exclusion from the technological chain of soil mulching operations; grinding straw of early cereals and working it into the soil.

At a high level, in agricultural holdings, the organization of the logistics of the equipment park during the period of field work has been established. Research shows that if the work is organized in three shifts, 5 tractors are enough to cultivate 10,000 ha, including: Case MX 310 – 3 pcs., Case MX 180 – 2 pcs., Case 530 deep looseners – 2 pcs., Kello Bilt disc harrows – 2 pcs., Horsh ATD 12.30 cultivators – 2 pcs., GP 4000 seeder – 1 pc., Kinze 24-row seeder – 1 pc., Kinze 8-row seeder – 1 pc., mounted sprayer GP 1090 – 1 pc., JD self-propelled sprayer – 1 pc., and two Amazone mineral fertilizer spreaders.

However, despite the technical security of agricultural holdings, the agricultural production of Ukraine needs a technological update with domestic efficient, energy-saving and reliable technical means. To solve this problem, a comprehensive state approach to the reproduction

of technical potential to the level of technological needs and state support for the development and production of modern domestic technical means for the agro-industrial complex is necessary.

The current state of technical support for producers of agricultural products has approached a critical limit. About 80% of the technical means remaining in the farms have exhausted their normative resource. Due to wear and technical failure, up to 25% of them are not used at all. A decrease in the number of equipment and a decrease in the level of its technical readiness led to an increase in the load by 1.5-2 times, which significantly lengthens the period of work, violates the requirements of agricultural machinery and increases crop losses.

Foreign equipment used by agricultural holdings has a number of advantages over domestic equipment, namely: reduction of losses during harvesting; reduction in the number of service personnel; fuel economy; preservation of product quality; increased maneuverability. Due to the full provision of technical means, integrated formations are able to obtain better indicators of economic activity, increase the level of competitiveness of their own products. However, the technical support of most manufacturers is insufficient.

The formation of integrated structures takes place in difficult conditions. Since the 90s, the cost of fixed assets in the process of operation and use has undergone a constant reduction, the pace of which has become quite rapid in recent years. The resources, financial and material and production, which remained during the times of the former Soviet Union and were replenished after decollectivization, have practically been exhausted. A combination of objective reasons (difficult transformational conditions, inflationary processes, uncertainty of the operating environment) and subjective factors (unbalanced economic policy, lack of a depreciation fund) led to the fact that neither the extended replenishment of fixed assets in absolute terms, nor their qualitative improvement, there is practically no simple reproduction.

The degree of wear and tear of the main production assets exceeds half, due to which the productivity of their use is significantly lower than potentially possible. This causes an increase in the cost of manufactured products and low quality and profitability, problems with

its further implementation, since there is a discrepancy between the "stated price" and "product quality" parameters.

Based on the fact that there is a market for both domestic and foreign agricultural machinery in Ukraine, it is advisable to focus on the specifics of its use.

With the advent of combined multi-operational tools, it became possible to carry out a whole set of activities related to leveling, cultivation and rolling in one work pass. Thanks to this, a significant saving of working time and money is achieved. Today, domestic agricultural machinery manufacturers offer a large number of competitive machines of this class with a working width from 3.0 to 7.2 m (Table 4.8).

*Table 4.8*

**Multi-operational combined units for pre-sowing tillage**

Brand	Working width, m	Processing depth, cm	Recommended working speed, km/h	Productivity, ha/h	Weight, kg	Traction class for aggregation
KNK-3	3.0	3–15	10	3.0	850	1.4
AK-3	3.0	4–12	7–10	3.0	n/a	1.4
APOG-4	4.0	3–16	until 10	3.45	2480	2
AK-4,4	4.4	4–12	7–10	4.2	n/a	2
KAPP-6	6.0	2–15	until 10	5.4	3050	3
AG-6	6.0	3–16	until 10	6.02	3050	3
AP-6	6.0	3–16	8–10	5.4	3200	3
APOG-6	6.0	3–16	until 10	5.93	3890	3
KKP-6	6.0	2–15	8–10	4.8–6.0	3900	3
APC-6	6.0	3–16	8–10	5.4	n/a	3
AMO-7,2	7.2	4–10	7–8	6.2	4100	5

Source: author's research.

The appearance on the market of disk tillage tools deserves special attention. Due to the special geometry of the installation of discs, new machines (compared to plows and disc harrows) carry out soil cultivation with lower energy consumption (Table 4.9).

Compared to technologies based on plowing or disking, the introduction of soil-protecting energy-, resource-, and moisture-saving technologies allows to reduce the consumption of fuel by 2-4 times, mineral fertilizers by 2 times, pesticides by 5-8 times, working time by 3 times and have a moisture-accumulating effect of up to 50 mm of productive moisture.

*Table 4.9*

**Comparative performance indicators of tillage units**

Indicator	Composition of the unit		
	disk aggregate AGD-2.3 + MTZ-82	plow PN-3-35 + MTZ-82	disk harrow BDT-3.0 + MTZ-82
Processing depth, cm	12.5	20.2	9.0
Working width, m	2,3	1.05	3.0
Productivity, ha/h.	1.4	0.88	2.1
Fuel consumption, kg/ha	6–7	17–18	7–9
Specific energy consumption, kW. h/ha	21.4	34.8	22.3
Quality of soil crumbling, lumps up to 50 mm in size,%	71.5–86.5	72–94	94
Wrapping of plant remains, %	50–95	100	56.7
Field ridge, see	1.7–3.5	3.6–5.0	4.1

Source: author's research.

In contrast to foreign machinery, the vast majority of the domestic system of machines has a smaller working width, and hence - an increase in fuel consumption. It should be noted that foreign equipment consumes less fuel per hectare: during cultivation - 1.5 times, during spraying - 2.4 times, during harrowing - 1.3 times, during sowing - approximately 1.8 times .

A further promising direction in the development of resource-saving technologies is the introduction of "zero" tillage, i.e. sowing in unprepared soil, when all cultivation operations are limited to sowing crops with simultaneous application of fertilizers, application of chemical plant protection agents and harvesting. At first glance, the economic effect of the introduction of "zero" processing, compared to

a complex of traditional operations, has a very tempting appearance (Table 4.10).

*Table 4.10*

**Analysis of the economic effect of various technologies**

Operation	Storage unit	Fuel consumption, l/ha	Productivity, ha/h	Labor costs, person-hours/100 ha
Traditional technology				
Shelling	T-150+LDH-15	4.0	16.5	6
Plowing	T-150+PLN-6-35	15.0	1.5	66.7
Harrowing	DT-75+21 BZSS-1	1.0	22.7	4.4
Cultivation	T-150+2KPS4	3.7	7,8	12.8
Sowing	DT-75+3C333C3-3.6	2,2	14.4	98
Rolling	MTZ-80+3KKSH-6	3.0	6.5	15.4
In total per 100 hectares		2890		203.2
Direct sowing				
Sowing	T-150+Great Plains-4.5	10	4.1	24.4
Total for 100 hectares		1000		24.4
The economic effect of the implementation of "zero" tillage				
On 100 hectares		1890		178.8

Source: author's research.

But the transition to this technology directly from the traditional one is impossible. "Zero" cultivation is effective only on non-compacted soils and under conditions of perfectly leveled fields. In addition, straw and other plant residues left on the surface of the field contribute to the transmission of diseases and pests. To prevent this, it is necessary to organize the crop rotation system very clearly. The problem of dealing with a significant amount of weeds and the

seedlings of the predecessor lost during the collection of seeds also becomes particularly acute. This issue is solved by using herbicides of continuous action or by sowing intermediate sidental crops.

Harvesting grain crops is the final stage in the entire grain production process. Every year, in the forest-steppe zone, about 60% of all sown areas are allocated to cereals, legumes, cereals, corn and sunflower. To collect them in the optimal time, it is necessary to have a suitable fleet of modern grain harvesting equipment.

A significant economic effect when using new grain harvesting equipment is achieved due to the quality of harvesting (grain losses during threshing are 50-60% lower than domestic equipment) and due to high-quality grinding and uniform distribution of organic crop residues on the field, which contributes to the enrichment of the soil with organic matter and nitrogen .

For comparison, in the table 4.11 shows the main technical and economic indicators of grain harvesters of domestic and foreign production.

In terms of the availability of grain harvesters per 1,000 hectares of planted area, Ukraine lags behind the USA, Germany, and France by 3-4 times. Not so long ago, grain harvesters were not produced in Ukraine. Therefore, in a short time, grain harvesters "Lan" and "Slavutych" were developed, tested and put into production, with a throughput of 7–9 and 9–12 kg/s. The "Lan" grain harvester is designed for harvesting grain crops, legumes, various technical crops, corn, grass seeds.

*Table 4.11*

**The main technical and economic indicators of grain harvesters of domestic and foreign production**

Model	Engine power, kW/hp. with.	Productivity, t/h	Specific fuel consumption, kg/t
Case 525	140/190	11.0-12.7	1.7-2.2
Don-1500	164/220	10.5-11.0	2.3-2.8
Lan-001	195/265	1 1.0-14.0	2.8-3.0
Lan-101	134/180	8.0-10.03	1.5-2.5

KZS-9-GSlavutych	185/250	10.5-14.0	2.4-2.7
John Deere 9500	160/215	11.0-13.5	1.7-2.3
Claas 208 Mega	172/235	12.0-14.0	1.4-2.4
Case 2166 AF	160/215	11.0-13.5	2.4-2.9

Source: author's research.

The intensification of agriculture, its transition to an industrial basis involves the rearmament of production and the introduction of new forms of work organization.

To correct the situation, a systemic state approach is needed to restore the technical potential of the agro-industrial complex to the level of technological needs and state support for the development and production of modern domestic technical means. The further effective development of agricultural production will largely depend on the radical technical re-equipment of the structure of the machine and tractor fleet of farms. Since the wear and tear of agricultural machinery in 2001 reached 71%, and the number of certain types of machines, in particular, stogomets, sugar beet thinners, forage harvesters, tractor-trailers, is on the verge of complete write-off. Thus, 89% of tractors, 90% of harvesters, 95% of livestock farm equipment have completed their depreciation period.

Bringing the quantitative and qualitative composition of the machine-tractor fleet to the scientifically based technological need, in which all operations will be performed in the best agrotechnical terms with high quality and low costs of funds and material and technical resources, is an important task of agricultural production.

Research results show that the directions of state support for the development of agricultural enterprises should be: restoration of the solvency of the producer in the countryside, creation of a full-fledged machinery market, improvement of technical service and the repair and maintenance base and its structures, effective forms of machine use. To do this, it is necessary: to develop the leasing market, to attract extra-budgetary sources of financing, to provide for the participation of commercial banks in the issue of long-term lending, to create specialized machine-technology stations in the form of serving

agricultural cooperatives, to invest in the development of domestic agricultural machinery; to reduce the receipt of imported equipment as much as possible; establish an equivalent exchange between realized agricultural products and material and technical resources of industrial origin; introduce progressive energy-saving technologies into production.

### **4.3. Development and efficiency of use of labor potential**

The current state of most regions of the country is characterized by the constant reduction of the rural population, its aging and worsening of the demo-reproductive situation, deformations in the labor market, slow growth of agricultural labor productivity, qualitative and quantitative indicators of the living standards of the peasants. This leads to the urgent need for a theoretical and practical solution to the problems, substantiation of the new state demographic policy in the countryside, aimed, first of all, at increasing the natural increase of the rural population, forming rational employment, reducing unemployment, increasing the productivity of agricultural labor and, on this basis, agro-industrial production as a whole. increasing the incomes of peasants, raising their standard of living.

The labor potential of rural areas is an important socio-economic category that reflects the capabilities of society and serves as an assessment of a person's labor activity. Without studying the problems of this issue, the further functioning of new organizational and legal forms of management and the implementation of a constructive agrarian policy are difficult. Labor potential is formed under the influence of socio-psychological, socio-economic, demographic and other factors. A reliable assessment of the labor potential of the agrarian sector of the economy is possible, but it requires the improvement of the organization of statistical observations, the development of methodological problems of statistical accounting of labor and its movement in market conditions, as well as the wide application of



methods of multidimensional statistical analysis of the specified factors and conditions.

The problems of state policy in the field of labor potential are highlighted in the works of V.B. Aver'yanov, V.D. Bakumenko, V.M. Knyazev and others. Scientific works of Ukrainian and foreign scientists are devoted to the study of the problems of formation and development of the labor potential of the agrarian sector of the economy: D.P. Bogyni, O.G. Bulavky, P.I. Haydutskyi, O.D. Gudzinsky, Yu.M. Krasnova, G.I. Kupalova [149], E.M. Libanova, P.M. Makarenko [164], L.I. Mykhailovoy, P.T. Sabluka [260], O. M. Petroye [228], V.K. Tereshchenko [292], K.I. Yakub [341] and others. Their works evaluate the qualitative and quantitative characteristics of the labor potential and human capital of the agrarian sphere, industry conditions and factors of its reproduction, peculiarities of the labor market and employment in the agricultural sector, elements and mechanisms of state regulation of the demographic situation, ensuring employment and social development in the countryside.

Under capitalism, labor is transformed into a commodity. This happens under two conditions. First, its owner must be able to freely dispose of his ability to work, his personality. In the market, both he and the owner of the money act as legally equal persons. Secondly, the owner of labor power must be deprived of the means of production, as a result of which the only source of his existence will be the labor power that exists in his living organism and which he must sell as a commodity [168, p. 45,46].

Labor resources are characterized as a qualitative set of producers who create material and spiritual values, services and other benefits for the entire nation and are considered from three positions: as a socio-economic category, as a planning and accounting category, and as a category of national economic importance. As a socio-economic category, labor resources express the social-production relations of planned extended reproduction of the collective worker and comprehensive harmonious development of the individual in the process of creating life benefits. As a planning and accounting category, labor resources are a set of people capable of work. In the national economic sense, labor resources are considered as the totality

of the population of working age and the population of retirement age, as well as adolescents aged 12–15 years who participate in social production [155].

The labor potential in quantitative terms characterizes the number of the working-age and non-working-age population employed in production for the current period; the number of unemployed people who are effectively looking for work; unemployed and not looking for work; on training, long-term treatment; potential demographic opportunities; labor supply for the current period and for the future (in days, years).

Qualitative characteristics of labor potential include: general state of health and level of work capacity; average life expectancy; middle age; sex-age structure; level of general education; level of professional training and qualification, professional and qualification composition; work experience, experience, work skills; level of labor activity; the level of ideological, political and social maturity, political culture (value orientations, interests, needs, etc.); psychological characteristics: level of consciousness, organizational skills, etc.; level of morality; the level of culture and upbringing; mentality, national and ethnic composition; potential predicted demographic qualitative characteristics. Underestimation of the qualitative side of labor potential is, of course, expressed in distrust in the possibility of its measurement. However, the term "potential" in any case indicates that this value is more or less measurable and includes both the possibility of increase and decrease. If, for example, such an indicator of potential as the level of professionalism cannot be accurately measured, then this, to a large extent, depends on the complexity, novelty of the task and the imperfection of the means of measurement [228].

A particularly important component of labor potential is the qualification of employees, which is determined by the level of general and special training, necessary production skills. Agriculture also places increasingly high demands on the qualifications of employees. Work in unpredictable weather and economic conditions requires a variety of knowledge in the fields of technology, agronomy, animal husbandry, etc. They should correspond to the evolution of agricultural work, which in the near future will become more meaningful compared to other branches of the economy. However, now domestic agriculture has a much lower average educational and qualification level of

employees. This circumstance is already hampering its development, given the rather low technical equipment of production.

Scientific studies in the field of labor potential have proven that its qualitative characteristics influence the increase of labor productivity more than quantitative ones, the basis of the formation of labor potential is the field of social infrastructure and that their development contributes to the increase of labor productivity.

The category "human factor" was defined as "a set of characteristics of human activity (memory, perception, knowledge, skills, experience, skill, physical strength, creative energy, initiative, entrepreneurship, interest, responsibility, etc.) that are manifested in specific conditions in their coordinated functioning with the material elements of productive forces and ensure the achievement of certain final results" [153].

Theoretically, it was justified that the introduction of the category "human factor" in combination with material factors of productive forces on the basis of public ownership of the means of production provides conditions for the harmonious, comprehensive physical and spiritual development of a person, his abilities and talents, and their effective use for the benefit of all society.

The conditions for the activation of the human factor in agro-industrial production were recognized as follows: the completion of the transition of agriculture to an industrial basis and the related improvement of working conditions, the reduction of manual labor to a minimum, the arrangement of the regime of work and rest, the improvement of collective forms of labor organization, the widespread introduction of collective contracting, development of democratic principles of management of labor collectives, fundamental improvement of the living conditions of the rural population.

Thus, the category "human factor" was considered from the standpoint of the economic efficiency of the reproductive processes of man and society, however, along with this, it reflected the active role of man in production, since the very concept of "factor" means an essential circumstance in a process or phenomenon, in particular, in a product - prostration, its driving force [153].

The worker ceases to be simply a carrier of labor power, but is recognized as the owner of a special type of capital capable of self-

growth and production of an additional product. The peculiarity of human capital is that its ownership cannot be transferred. Employees are recognized as co-owners of the production in which they invest their specific capital.

Labor potential is a generalizing value, and the categories "human capital" and "workforce" are its main components and are characterized by such features as abilities, health, education, professionalism, morality, creative potential, activity, organization, working time resources.

The size of human capital is of decisive importance for the formation of the labor potential, which, on the one hand, reflects the growing possibilities of obtaining various types of effects, and on the other hand, creates a basis for ever more complete satisfaction of needs and the formation of a higher level of human development.

Labor potential depends on the total number of labor resources, their composition by gender, age, level of education, qualifications, territorial and professional mobility, as well as labor activity. That is, labor potential is characterized by quantitative and qualitative aspects.

Under modern conditions, the most effective means of influencing labor behavior is strengthening a positive attitude to work, increasing its quality, productivity and effectiveness due to increased motivation among employees [40].

The main economic and social conditions that caused a decrease in the efficiency of the use of labor resources in the countryside are: the imbalance of demand and supply of labor on the labor market; low level of wages, pensions and benefits; the decline of social infrastructure in rural areas; ineffective public assistance and unsatisfactory informational support for employment. These circumstances require the development and implementation of an organizational and economic mechanism for the development of the labor potential of rural areas, which can be the basis of practical actions aimed at radically improving the state of affairs in this area.

A necessary condition for improving the mechanism of labor potential formation in the agrarian sector of the economy is the creation of economic, organizational, legal and social foundations for its preservation, reproduction and development, aimed at ensuring

conditions for improving the natural base of labor force formation; obtaining professional and technical and higher education, professional services for training, retraining and upgrading the qualifications of workers in accordance with public needs; ensuring full productive employment, preventing mass unemployment; improvement of working conditions, reduction of the risk of loss of health and life of workers in production; ensuring social protection of the employed and unemployed population of the country; strengthening of reproductive, stimulating and regulatory functions of wages; growth of real incomes of the population;

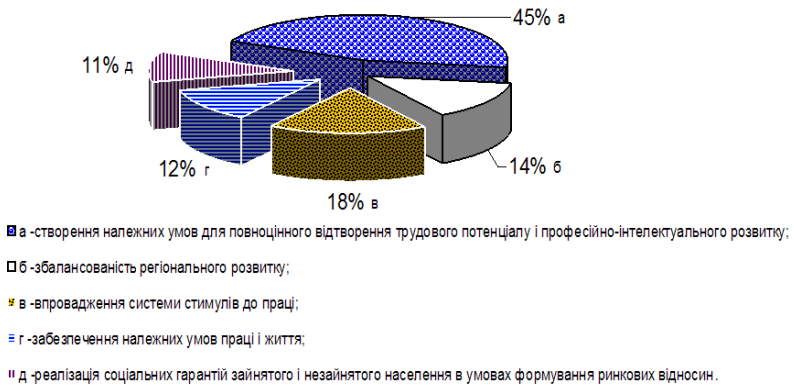


Fig. 4.1. Scientifically based directions of further development labor potential of the village

Source: author's research.

The labor potential, as a component of the production potential, plays a decisive role in the development of the country's national and economic complex. The pace of economic development, growth of economic potential, and improvement of the standard of living and well-being of the population depend on the completeness and efficiency of the use of the labor potential of the population.

In the post-reform period in the agrarian sector of the economy, the issues of formation and effective use of labor potential are

becoming increasingly important and require the creation of effective incentives and the restructuring of existing mechanisms for activating the potential of individuals and social work. Therefore, sources of formation and use of labor potential in rural areas deserve special attention.

The substantiation of the organizational and economic mechanism of the development of the labor potential of rural areas requires taking into account all aspects of its functioning and interaction with many components, which ultimately determine the structure of the labor potential and the directions of the reproductive processes taking place in it. Labor potential is characterized by the following indicators:

- demographic (characterize the primary conditions and factors of reproduction of the labor potential of the village and include indicators of the natural and mechanical movement of the population, its health and mode of reproduction, territorial location and settlement network, etc.);

- socio-economic (characterize mainly the external conditions of reproduction and functioning of the labor potential of the village and include indicators of forms of ownership, organization and production techniques);

- socio-psychological (characterize the internal, moral side of the labor potential of the village and include indicators of upbringing, outlook, education and professional training, social and creative activity, adaptation to new conditions, innovations, social maturity, responsibility, mentality, etc.) [228].

In the macroeconomic plan, the demographic, economic and social factors of rural population reproduction influence the trends of population dynamics by age groups, which characterize the data on the dynamics of the working-age population.

The necessary conditions for increasing the level of utilization of labor potential at agricultural enterprises include: ensuring their effective functioning; production of competitive products that are in demand on domestic and foreign markets; attraction of investments for technical re-equipment of production; creation of new jobs; increase in labor productivity and other indicators characterizing the formation of

productive employment; raising the wages and standard of living of workers as a necessary condition for the reproduction of the labor force.

The labor market is formed under the influence of regional, demographic, production-innovation, socio-economic and organizational factors.

The labor potential from the quantitative side expresses the possibilities for attracting a certain part of the population to participate in work, and from the qualitative side - the possibility of realizing in production all personal qualities and features formed in the population by socio-economic and political relations, cultural environment, system of qualification training.

Physical, intellectual and socio-psychological elements of labor potential are distinguished. Physical potential - characterizes the energetic ability to perform work. Its main characteristics: labor activity, life expectancy, the amount of time worked per able-bodied person, the average age of those employed in social production. Intellectual - characterizes the spiritual and mental ability of labor resources, determined by the level of general and special education, work experience, professional and qualification training for the performance of specific work and a certain degree of natural giftedness. Socio-psychological potential is determined by the system of motivational and value orientations, the level of social maturity, the system of ethical and cultural interests, the type of person (attitude to work, ability to self-development, mobility,

The main factors influencing the formation of labor potential in agriculture are: land as the main means of production; the presence of one's own farm; sectoral character of use and territorial factor of formation; seasonality of production.

Land remains the main means of production. Being a gift of nature, unlike others, it is an unchanging, permanent means of production and when used correctly, it not only does not deteriorate, but on the contrary, improves. The land redistributes the application of labor on areas of different quality, and labor costs can vary greatly.

Depending on natural and climatic conditions, labor productivity is not stable over the years. The variety of soils implies unequal return on additional investments of resources and labor. The need for labor costs of agricultural enterprises depends not only on natural and

economic conditions, but also on the structure of the sown area, the system of agrotechnical measures, and the level of mechanization of production processes.

The presence of one's own subsidiary farm provides socio-economic conditions for the reproduction of the labor force, the forces spent on its management, mutual relations with the public farm (competition, mutual assistance, neutrality).

The use of labor resources has a sectoral nature, and their formation is territorial, the natural desire to have a permanent job near home, in its general effect, transforms the labor potential into a regional category.

The seasonality of production of an agrarian enterprise is determined mainly by the specifics of agriculture. The difference between the production time and the working period leads to the fact that at different stages of production, the need for labor costs fluctuates sharply. The seasonality of production creates the possibility of combining professions among workers, extending working hours during the period of seasonal work.

It is important to note the demographic factors of the formation of labor potential in rural areas. Studying the dynamics of the population during 1991–2009, it is possible to trace its downward trend. If the number of the population in 1993 reached its maximum value (52.2 million people), then already in 1994–2005 its number decreased. At the beginning of 2005, the population was 47.3 million people, i.e. 91.7% of the 1991 level, in 2006–2009 it continued to decrease and on January 1, 2010 it was 45,987 thousand [278, c. 360].

An integral component of human potential is youth potential, which determines its future. During 1991–2008, the number of youth in Ukraine increased from 10.7 to 10.9 million people, and its specific weight increased during this time from 20.7 to 23.1%, which is a consequence of the so-called demographic waves. According to the results of the forecast of the number and composition of the population of Ukraine for the period until 2026, carried out by the demography department of the Institute of Economics of the National Academy of Sciences of Ukraine, the population aged 15–29, which numbered 11.1 million people at the beginning of 2006, may decrease according to the



average option forecast to 10.89 million in 2010 and 10.0 million in 2011 [ 278, c. 361].

Labor migration of the rural population is a peculiar form of self-organization of society, its reaction to unfavorable economic conditions that cause it. However, Ukraine provides labor force with high-quality educational, qualification, and age characteristics. Theoretically, external migration movements should contribute to improving the qualifications of workers, however, working mainly in unskilled jobs, they lose their qualifications, which ultimately worsens the country's human potential. In general, it should be noted that Ukraine does not have a national model of migration policy that would solve the mentioned problems.

The redistribution of the labor force is due to growing dissatisfaction with the conditions of the organization and especially wages, which force workers to look for more attractive jobs in enterprises of new forms of ownership outside agricultural production.

In the conditions of market relations, the level of employment of the population by branch is regulated by the average branch size of profit and wages, the direction and constructiveness of social state policy and its interpretation on the ground. With instability and disproportion in the growing economy, the current stage of development of the country and regions is determined, employment regulation is in the sphere of action of a large number of factors that manifest themselves spontaneously and are very weakly amenable to assessment and regulation.

It should be noted that in the agricultural sector of the country as a whole, a far from rational socio-demographic and professional qualification structure of employees in agricultural enterprises is being formed. The main cause of irrational employment and the growth of negative trends in these enterprises is not the organizational and economic measures that are implemented in the course of reforming the agrarian labor market, but the decrease in the volume of production (and accordingly, work), financial resources of entities that manage under modern crisis conditions of development branches, the break of vertical and horizontal economic ties.

The formation of the labor market in agriculture has its own characteristics, determined both by the above-mentioned demographic

and social factors, as well as by the degree of development of the spheres of work, the level of placement of young people in agricultural enterprises after graduating from educational institutions. Until that time, the main field of work of the rural population in the village was and remains agriculture. There is a trend of increasing employment in other branches of the rural economy. This indicates that there is an extremely low level of division of labor, which narrows the already limited choice of work areas.

Research results show that due to the underdevelopment of the job market in the countryside, the reduction in the volume of work and the decline in production, young people are forced to engage in primitive, low-skilled work, which naturally entails social degradation and the loss of professional qualifications.

Unattractive conditions at most workplaces of agricultural enterprises poorly motivate the influx of young people here, make agricultural enterprises uncompetitive compared to other enterprises and sectors of the economy.

Further deformation of ethical orientations in work continues under the influence of a sharp exacerbation of labor conflicts with redistribution of property. Youth turned out to be the least protected part of the labor collectives of enterprises and in this connection more strongly feel the typical forms of social discrimination.

The process of redistribution of youth from the sphere of material production to the sphere of distribution and circulation continues. The number of young people engaged in intermediary activities and providing various kinds of services increases in proportion to the scale of its outflow from agricultural enterprises. This trend, which reflects the peculiarities of the transition period, contains the threat of future social tensions. Young people hardly participate in the management of distributive relations. Not having initial capital and access to the distribution of fixed assets, the vast majority of young people found themselves in the least favorable conditions during the redistribution of property. They are mainly included in the distribution and exchange infrastructure.

#### **4.4. Efficiency of economic activity agrarian formations**

The transformation of property relations and organizational and legal forms during 1994–2000 contributed to the transformation of state and collective ownership into private ownership and created conditions for attracting investment in agricultural production. The concentration of capital found its expression in the creation of associations of agricultural enterprises in the form of holdings, associations, corporations, concerns, which assumed the functions of management, material and technical support, organization of production and sales of products. Their creation contributed to the restoration of broken inter-industry ties and the minimization of intermediary influence on the development of the industry.

The most attractive tool for the formation of holdings are business associations, as evidenced by the growth of their size, physical and value indicators of activity. The analysis of Tables 4.12 and 4.13 shows that in them, productivity increases dynamically, milk yield per cow, and production volumes increase.

The result of the development of economic structures in agricultural production are stable trends of increasing its efficiency. For example, in the period 2001–2009, compared to 1996–2000, their gross output increased from 917.4 to 1,646 UAH/ha, or by 52%, and the profit from crop production increased almost 18 times (respectively, from 35.1 to 1080.6 UAH/ha).

An important indicator of the effectiveness of the use of arable land is the yield of agricultural crops. In agricultural enterprises, both in Ukraine as a whole and in natural economic zones, there is a trend of growth in their productivity for the periods 2000–2004 and 2005–2009, compared to 1999. Thus, the yield of grain crops increased by 21.8 and 44.0%, respectively, and sugar beet - by 29.8 and 105.0%.

*Table 4.12*

**Natural indicators of the efficiency of management of agricultural enterprises of Ukraine**

Form of management	Yield of grain crops, tons/ha			Milk yield from one cow, kg		
	2004	2008	2009	2004	2008	2009
Business associations	29.9	39.1	34.0	2488	3527	4071
Private enterprises	29.2	34.8	29.4	2534	3135	3662
Agricultural production cooperatives	27.3	32.3	26.5	2246	2890	3385
Others	30.5	30.9	32.8	2241	3798	4003
State enterprises	30.2	33.1	26.8	2990	3586	4198
Peasant farms	30.7	34.6	27.7	2491	3116	3489
In total	29.5	37.1	31.9	2473	3065	3889

Source: data of the State Committee of Statistics.

In agricultural enterprises, there is a trend of growth in the profitability of crop production. If in 1999 it was 8%, then in the following years, respectively: 2000 – 30.8%, 2006 – 11.3%; 2007 – 32.7%, 2009 – 16.9%.

The highest rate of gross output, based on 100 hectares of agricultural land, was obtained in economic societies - UAH 300,000, which is 1.9 times more compared to farms, and 1.7 times compared to state enterprises and agricultural production enterprises cooperatives.

Table 4.13

**Economic efficiency of economic activity of agricultural enterprises of Ukraine for 2001, 2009**

Indicator	Gospodarski-t-va	Private penins-ula	S.-g. produc-tion cooper-atives	Others, includin-g inter-sleepers	State penins-ula	Farmer s' farms	Ukraine
<b>2001 year</b>							
Number of farms	6970.0	2577.0	2165.0	435.0	283.0	390.0	12820.0
Received, based on 100 hectares of arable land, thousand hryvnias:							
of gross production	147.5	135.3	139.5	167.6	165.6	132.6	144.9
commodity products	73.1	66.2	65.5	81.5	87.2	68.2	71.3
profit	11.0	12.1	7.5	11.7	19.8	13.3	11.0
Received per employee, thousand UAH:							
of gross production	17.0	15.2	13.2	20.7	16.8	16.1	16.0
commodity products	8.4	7.5	6.2	10.1	8.8	8.3	7.9
profit	1.3	1.4	0.7	1.4	2.0	1.6	1,2
Profitability of production, %	17.7	22.4	13.0	16.7	29.4	24.2	18.3
<b>2009 year</b>							
Number of farms	5017.0	2227.0	629.0	304.0	275.0	797.0	9249.0
Received, based on 100 hectares of arable land, thousand hryvnias:							
of gross production	299.9	180.7	177.0	272.4	179.3	154.7	253.3
commodity products	394.9	272.3	229.9	371.0	208.8	242.6	343.0
profit (with subsidies)	63.4	45.7	26.0	65.1	12.3	56.2	56.0
Received per employee, thousand UAH							
of gross production	93.0	69.7	39.0	76.6	35.9	87.8	81.2
commodity products	122.4	105.0	50.6	104.3	41.8	137.7	109.9
profit (with subsidies)	19.7	17.6	5.7	18.3	2.5	31.9	17.9
Profitability of production, %	18.3	19.2	12.0	20.0	5.8	28.7	18.6

Source: author's research based on 50 s.-g.

The analysis of indicators of economic activity of agricultural enterprises shows that in the period of 2001–2009 there was a tendency to increase the efficiency of production.

Studies show that in order to increase production efficiency, it is necessary to: remove low-yielding arable land from cultivation and ensure sustainable land use; implement scientifically based technologies for growing agricultural crops; increase the amount of organic and mineral fertilizers, chemical meliorants due to more complete use of domestic phosphorites, potash ores and carbonate rock deposits; attract alternative sources of replenishment of organic matter by increasing the planting of siderates, perennial grasses and leguminous crops; apply recommended crop rotations taking into account the specialization of farms;

This can be achieved, first of all, through the development of integration and cooperation, further improvement of property relations for land and means of production; real protection of domestic producers, improvement of market mechanisms of price regulation, credit and financial system and tax policy, directing investments to restore, strengthen and modernize the resource potential of agricultural enterprises; mastering the latest resource-saving technologies for the production of ecologically clean agricultural products; implementation of a purposeful state scientific and technical policy regarding the agricultural sector, improvement of scientific, informational and personnel support for agricultural production, development of selection and seed production of agricultural crops and selection and breeding in animal husbandry and fish farming;

The completion of the land reform, the settlement of land issues and the formation of optimal agricultural structures from the point of view of management and production, and the solution of socio-economic issues on this basis are important tasks of agrarian science.

During the period of reforming the agrarian sector of the economy, there were changes in the structure of cultivated areas of agricultural enterprises, which is connected with the country's transition to market relations. Both in Ukraine as a whole and in natural and economic zones, the specific weight of grain and technical crops in the structure of crops has increased, while forage crops have sharply

decreased. If in 1999, cereals occupied 48.9% of the cultivated area, then in 2009 - 63.9%, in the Forest Steppe, respectively, 49.1% and 65.3%. In the group of industrial crops, the specific weight of sugar beet decreased, in Ukraine - from 21.3 to 5.3%, it decreased sharply in the Forest Steppe - from 43.2 to 11.4%. It should be noted the decrease in the specific weight of sunflower crops in the Steppe and its increase in the Forest Steppe and Polissia. In recent years, the expansion of rapeseed crops, especially in Polissia, has been characteristic of all areas of Ukraine, from 7.3% in 1999 to 48%

*Table 4.14*

**The structure of sown areas in agricultural enterprises of Ukraine, %**

Groups of cultures	Ukraine		Steppe		Forest steppe		Forested	
	1999	2009	1999	2009	1999	2009	1999	2009
<b>Cereals and legumes - everything</b>	48.9	63.9	49.8	61.8	49.1	65.3	45.3	68.0
including								
wheat	44.8	45.4	49.5	50.6	44.4	42.1	30.1	36.7
Technical - everything	16.4	28.7	20.9	33.6	15.1	26.2	6.2	16.1
including:								
sugar beets	21.3	5.3	5.7	0.4	43.2	11.4	47.4	14.0
sunflower	63.2	59.6	84.0	77.4	37.5	40.5	4.5	9.7
rapeseed	1.3	18.7	0.5	12.3	1.8	23.6	7.3	48.4
Vegetable towers and								
potatoes - everything	1.0	0.4	1.5	0.5	0.5	0.3	0.8	0.8
vegetables	44.6	50.2	45.4	57.7	52.9	55.3	24.3	23.0
potato	12.5	30.4	1.6	12.3	23.1	33.8	60.4	75.2
Forage - everything	33.7	7.0	27.8	4.2	35.3	8.2	47.7	15.2

Source: data of the State Committee of Statistics.

An important indicator of the effectiveness of the use of arable land is the yield of agricultural crops. In agricultural enterprises, both in Ukraine as a whole and in natural economic zones, the trend of its growth for the periods 2000–2004 and 2005–2009 compared to 1999 is noted. Thus, the yield of grain crops increased by 21.8% and 44.0%, sugar beet - 29.8 and 105.0%, potatoes - more than 2 times (Table 4.15).

Table 4.15

**Yield of the main agricultural crops in agricultural enterprises of Ukraine, ts/ha**

Groups cultures, cultures	Ukraine			Steppe			Forest steppe			Forested		
	1999	2000–2004	2005–2009	1999	2000–2004	2005–2009	1999	2000–2004	2005–2009	1999	2000–2004	2005–2009
Cereals and legumes	9.3	23.5	27.8	20.0	23.2	24.8	19.6	4.8	31.7	15.7	20.2	26.5
Winter wheat	23.1	27.4	30.4	23.4	27.6	28.0	23.3	28.3	34.7	20.4	22.7	28.7
Sugar beets (factory)	147.8	191.7	303.5	105.3	166.5	241.1	152.7	195.6	308.8	147.8	200.6	317.1
Sunflower	10.0	10.6	14.3	9.9	10.3	13.4	10.7	11.5	17.4	6.3	8.0	14.2
Vegetables	75.1	91.5	190.5	79.4	95.7	207.0	60.7	77.1	163.5	80.1	96.3	169.4
Potato	56.6	114.9	179.3	50.1	89.8	146.1	48.6	122.1	188.2	63.1	116.2	192.7
Corn for silage and green fodder	95.6	128.7	163.2	64.8	91.4	106.4	117.0	151.9	190.5	149.1	163.3	205.4

Source: data of the State Committee of Statistics.

The efficiency of the use of arable land is characterized by the indicators of gross output and profit from crop production, based on the unit of its area.

Thus, in the agricultural enterprises of Ukraine for the period 2005–2009, compared to 1996–2000, the output of gross production per 1 ha from crop production increased by 86.1%, respectively, in the Steppe - 78.5, in the Forest Steppe - 86, 8, Polissi – 98.9% (Table 4.16).

There is also an increase in profit without subsidies from one hectare of arable land. In 2009, compared to 1999, it increased 27 times.

Compared to other zones, higher profits were obtained in the farms of the Forest Steppe. Here it increased by 26 times compared to 1999, and in the Polissia zone, where the loss in 1999 was 7.2, respectively, to 294 hryvnias in 2009, which is mainly due to a significant increase in rapeseed crops in farms, from 7.3 thousand hectares in 1999 to 48.4 thousand hectares in 2009 (Table 4.16).



Table 4.16

**Gross production and profit of crop production in agricultural enterprises of Ukraine (without subsidies), UAH per 1 hectare of arable land (in comparable prices of 2005)**

Zone	Gross production crop production			Profit from crop production (without subsidies)			
	years						
	1996– 2000	2001–2004	2005– 2009	1999	2007	2008	2009
Steppe	660.2	846.9	1178.6	20.3	280.8	355.3	395.8
Forest steppe	830.0	931.5	1551.1	16.3	440.3	354.0	427.2
Forested	586.3	665.7	1166.4	-7.2	324.4	294.2	359.2
Ukraine	712.9	857.4	1327.2	14.9	344.4	346.2	404.7

Source: data of the State Committee of Statistics.

In agricultural enterprises, there is a trend of growth in the profitability of crop production compared to 1999. If in 1999 it was 8%, then in 2009 it was 16.9% (Table 4.17). Its highest level was reached in 2003 – 41.7%.

Table 4.17

**The level of profitability of crop production in agricultural enterprises of Ukraine, %**

Years						
1999	2000	2001	2003	2007	2008	2009
8.0	30.8	35.8	41.7	32.7	19.6	16.9

Source: author's research.

Research has established that the growth of production profitability is largely determined by the activities of agricultural holdings, large-sized enterprises with an area of agricultural 100,000 hectares of land on average. Occupying about 3 million hectares, they produce 22% of agricultural products. At the same time, the profitability of some of them is in the range of 30–50% (Fig. 4.2), and the profit before taxes, interest and depreciation (EBITDA) from one hectare is up to 315 dollars. USA. Unlike small farms, they get high yields and have the opportunity to develop infrastructure. If on average in Ukraine, according to the results of 2008, the yield was 3.5 tons of

grain per hectare, then in agricultural holdings - up to 5.6 tons per hectare [76; 87].

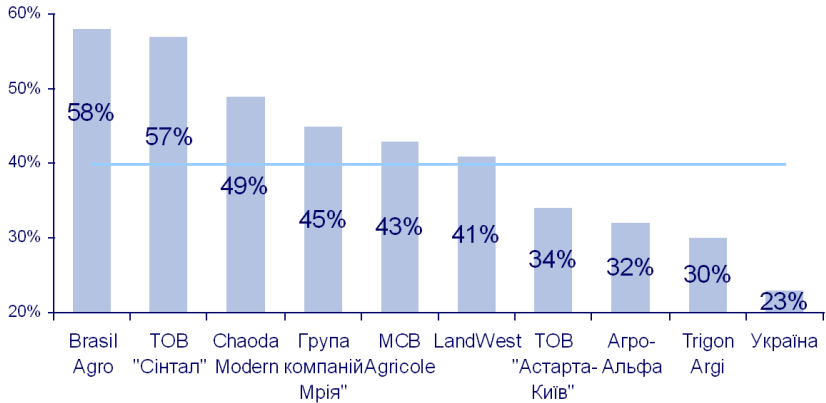


Fig. 4.2. Profitability of production in agricultural holdings, %

Source: author's research.

The main factors that ensured the growth of production and economic indicators of the economic activity of agricultural holdings are the concentration and specialization of production and the combination of production, processing and sale of finished products in a single closed economic environment.

The creation of agricultural holdings is a kind of response of the agrarian economy of Ukraine to market requirements and is aimed at restoring broken inter-branch connections and eliminating the price disparity between sold agricultural products and material and technical resources of industrial origin, restoring a self-sufficient credit system.

This process takes place in an evolutionary way and does not have wide publicity and is a fundamentally new approach to the organization of agricultural production. The results of the creation of agricultural holdings are: increased competition in the land rental market and an increase in rent; investment attraction; increasing labor productivity; strengthening the competitiveness of domestic production.

The activity of large agrarian associations in agriculture creates wide opportunities for the development of agrarian business in Ukraine and ensures the competitiveness of domestic agricultural products.

During 2007 and 2010, agricultural holdings expanded the area of land use and the volume of production of agricultural products, which contributed to the growth of sales (Fig. 4.3). At Lfndkom they increased by 260%, at Agro-Alfa and Sintal by 150%. In 2010, compared to 2007, sales in the researched group of agricultural holdings increased by 2 times, which indicates stable trends in the formation of a new organizational and legal form of management.

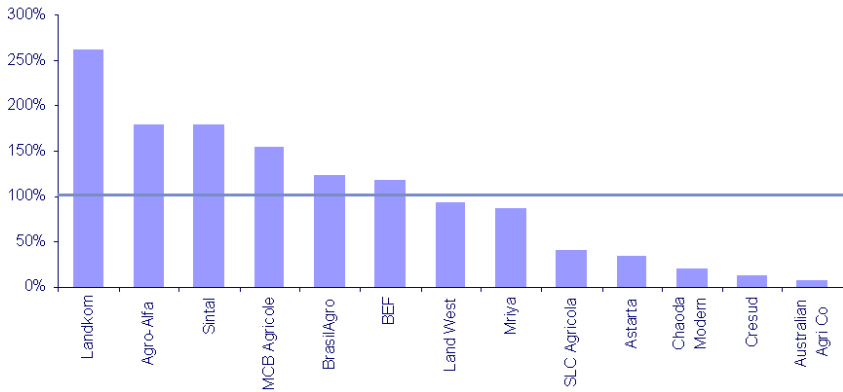


Fig. 4.3. Sales growth for 2007 and 2010, %

Source: author's research.

The use of innovative technologies and methods of production organization allows agricultural holdings to obtain high profits. So, the profit before taxes, interest and depreciation (EBITDA) from one hectare is 315 dollars on average. USA, and in the company Sintal - 451 dollars. USA, while for agricultural enterprises this indicator is at the level of 98 dollars. USA (Fig. 4.4).

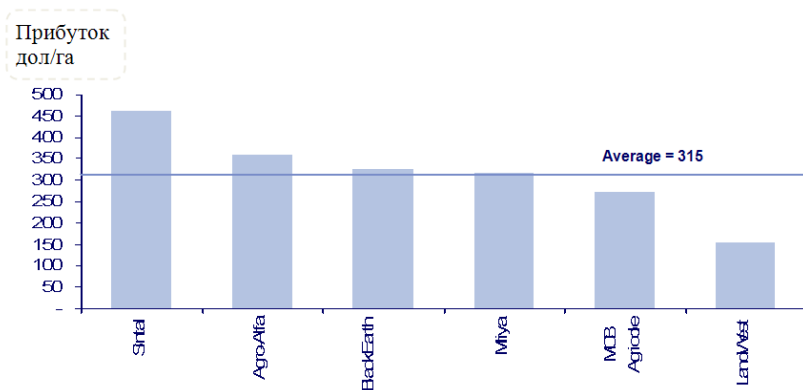


Fig. 4.4. EBITDA 2008 (Operating profit before depreciation, interest and taxes), USD USA / ha

Source: author's research.

The general economic indicator - the level of profitability - in agricultural holdings in 2008 was 35%, while the average in agricultural enterprises was only 12%.

In all zones and in Ukraine as a whole, there is a tendency to increase the yield of agricultural crops, but the use of modern production methods allows agricultural holdings to obtain higher yields, compared to other forms of farming. Thus, in 2009, the yield of the researched group of agricultural holdings was: winter wheat - 3.9 t/ha, rapeseed - 2.6, barley - 3.0 and corn - 5.4 t/ha, which is 18% higher, respectively, than in agricultural enterprises (Fig. 4.5-4.8).

t/ha

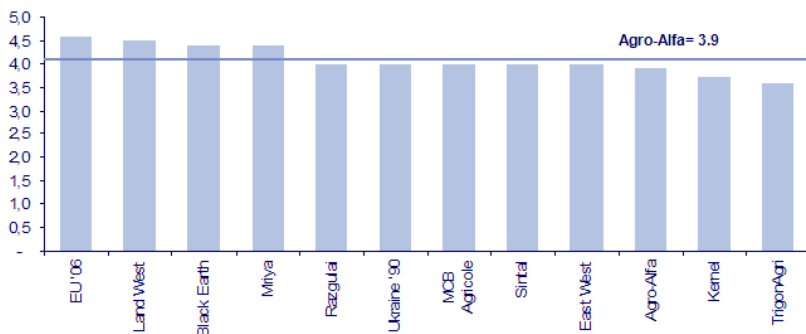


Figure 4.5. Wheat yield in 2009, t/ha

Source: author's research.

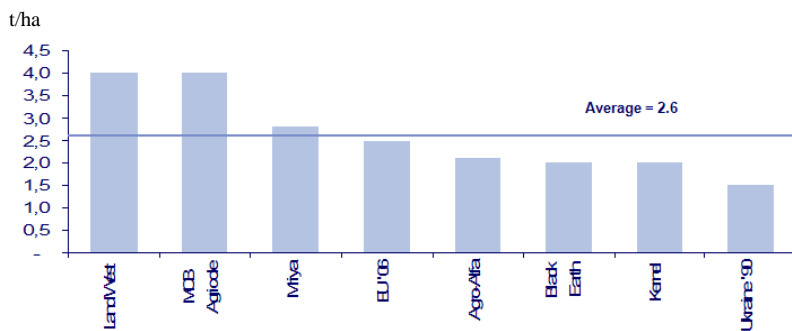


Figure 4.6. Rapeseed yield for 2009, t/ha

Source: author's research.

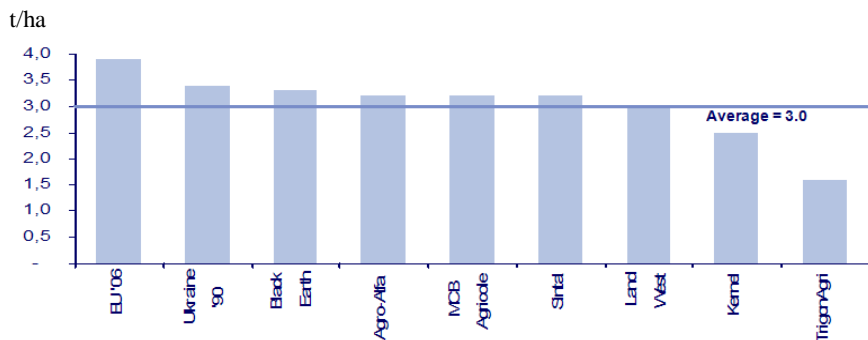


Figure 4.7. Barley yield in 2009, t/ha

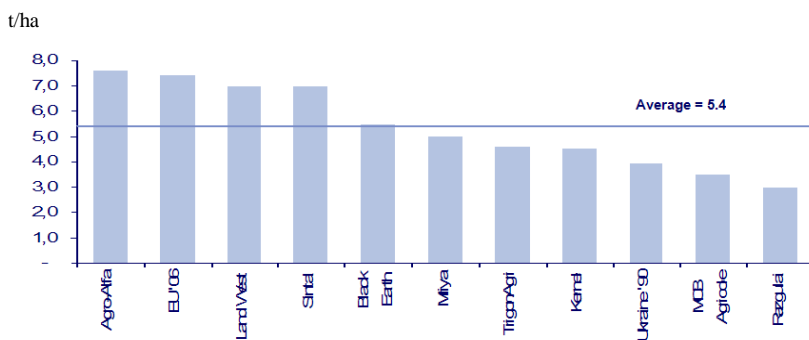


Fig. 4.8. Maize yield in 2009, t/ha

Source: author's research.

In 2010, agricultural holdings, in contrast to the rest of agricultural enterprises and households, in which production volumes decreased by 7.2 and 2.5% compared to 2009, increased production volumes by an average of 4.3%. At the same time, the share in the production of agricultural products of crop production was only twenty main companies: grain - 13%, technical crops - 12.7%, sugar beet - 43.7% (Table 4.18).

The use of scientifically based technologies allows agricultural holdings to obtain higher, compared to other agricultural enterprises,

indicators of economic activity. Thus, grain yield in the main companies in 2010 was 38.7 t/ha compared to 26.1 t/ha in other agricultural enterprises; sugar beets - 297.6 and 268.6 t/ha.

*Table 4.18*

**The specific weight of production of the main types of crop production by farm category in 2010, %**

Indicator	Plant growing								
	Cereal crops—everything	including			Oil crops	including			sugar beet
		wheat	barley	corn		sunflower	soy	rapeseed	
All categories of enterprises:	100	100	100	100	100	100	100	100	100
s.-g. enterprises	62.8	70.4	60.3	61.8	73.9	75.7	75.9	77.6	48.7
agricultural holdings	13.0	8.6	4.7	17.4	12.7	6.8	20.0	17.3	43.4
economy of the population	24.2	21.0	35.0	20.8	13.3	17.5	4.1	5.1	7.9

Source: author's research..

The years 1995 and 1996 were decisive in the creation of integrated structures, when private companies began to export grain and were given the opportunity to privatize enterprises of the bread products system. In 2000, they effectively supplanted state operators. Major multinational companies such as Topfer, Kargil, WJ Ukraine and others became the main players. Having access to cheap long-term credit resources, they began to invest them in agricultural production

and to form their own raw material bases. Among the domestic agricultural holdings that took leading roles in the export of grain, we can single out "Nibulon", "Kernel", "Sarna", "Myronivskiyi Hliboproduct" and "Rize". In 2010, the 10 largest agricultural holdings accounted for 12% of the volume of grain production in terms of agricultural enterprises.

If in 2010, compared to 2009, the volume of grain and leguminous production in all categories of farms decreased by 15%, then in agricultural holdings there was an increase of 13%. According to the results of 2010, the largest producers of grain and leguminous crops, among the holdings, include the companies "Myronivskiyi Hliboproduct" (801.8 thousand tons), "Rize" (535.4 thousand tons) and NCH Capital (478.8 thousand tons) (Table 4.19). The profitability of grain production increased to 13.7% in 2010, while in 2009 this figure was 7.3%, and in 2007 it was 28.7%. Export of grain in 2010 amounted to 13.9 million tons worth 2.47 billion dollars. USA, which is 26.1% more than in 2007. It should be noted that in 2010, the average grain yield in all categories of farms was 26.9 t/ha, and in agricultural holdings - 42 t/ha.

According to the results of 2010, ten agricultural holdings accounted for 10.9% of the total production of wheat, almost 22% of corn and more than 7% of barley. The largest producers in this category, according to the results of 2010, were "NCH Capital" and "Myronivskiyi Hliboproduct" (Table 4.20).

From 1990 to 2008, the production of oil crops increased 3.7 times. In 2010, compared to 2009, the production of oil crops increased by 6.3% and amounted to 10.03 million tons (Table 4.21).



Table 4.19

**The specific weight of agricultural holdings in the production of grain crops in 2010**

The company name	Collected area, thousand ha	Yield, tons/ha	Production, thousand tons	Specific weight of production, %
<b>Total in s.-g. enterprises</b>	<b>10778</b>	<b>27.6</b>	<b>29779.3</b>	<b>100</b>
<b>Including in main agricultural holdings</b>	<b>1316.4</b>	<b>38.7</b>	<b>5099.6</b>	<b>17.4</b>
"Myronivskiyi Bread product"	126.9	63.2	801.8	2.7
"Rise"	123.8	43.2	535.4	1.8
"NCH Capital"	148.2	32.3	478.8	1.6
"Nafcom"	111.1	25.8	286.5	1.0
"GC Ilyich-Agro"	103.5	27.3	282.1	0.9
"A.T.K."	36	74.7	268.8	0.9
"Astarte"	76.3	33.9	258.9	0.9
"Ukrainian Agricultural Investments"	73.3	27.1	199	0.7
"Agroproinvest"	50.8	39.1	198.5	0.7
"Privat Agro Holding"	55	35.8	197.1	0.7
"Valars Agro"	71.9	27.2	195.4	0.7
"Nibulon"	42.2	44.3	187.1	0.6
"Glencore International"	48.2	34.9	168.4	0.6
"Stiomi Holding"	50.7	32.7	166	0.6
"Clean Well"	24.1	67.4	162.4	0.5
"Kernel"	45.9	33.6	154.2	0.5
"Svarog"	23.7	63.9	151.5	0.5
"Ukrland Farming"	44.2	31	137	0.5
"Dawn"	31.8	42.6	135.4	0.5
"Land and Will"	28.8	47	135.3	0.5
<b>Total for other agricultural enterprises</b>	<b>9461.6</b>	<b>26.1</b>	<b>24679.7</b>	<b>82.6</b>

Source: according to "APK-inform" and the author's research.

Table 4.20

**The specific weight of agricultural holdings in the production of the main grain crops (wheat, corn, barley) in 2010**

The company name	Collected area, thousand ha	Yield, tons/ha	Production, thousand tons	Specific weight of production, %
Wheat				
<b>Total for rural areas enterprises</b>	<b>4930.6</b>	<b>27.0</b>	<b>13314.8</b>	<b>100</b>
<b>including on the main agricultural holdings</b>	<b>458.6</b>	<b>31.8</b>	<b>1457.1</b>	<b>10.9</b>
"NCH Capital"	92	29.7	272.8	2.0
"Myronivskiyi Hliboprodukt"	49.4	44.4	219.3	1.6
"GC Ilyich-Agro"	70.2	29.3	205.6	1.5
"Nafcom"	56.8	23.9	135.7	1.0
"Valars Agro"	46.7	28.1	131.2	1.0
"Ukrainian Agrarian Investments"	42	27.5	115.3	0.9
"Agroproinvest"	26	40.6	105.8	0.8
"Astarte"	31	32.8	101.7	0.8
"Rise"	21.5	43.4	93.5	0.7
"Agroton"	23	33.1	76.2	0.6
Corn				
<b>Total for rural areas enterprises</b>	<b>2014.6</b>	<b>47.0</b>	<b>9463.5</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>364.4</b>	<b>57.0</b>	<b>2078.3</b>	<b>21.96</b>
"Myronivskiyi Hliboprodukt"	67.4	82.8	558.1	5.9
"Rise"	89.9	45.0	404.1	4.3
"Agrarian Technological Company"	34	76.5	259.7	2.7
"Nafcom"	50.1	28.6	143.5	1.5
"Clean Well"	19.4	73.1	141.8	1.5
"NCH Capital"	22	59.3	130.3	1.4
"Land and Will"	27	48.2	130.1	1.4
"Stiomi Holding"	24.2	47.9	116	1.2
Barley				
<b>Total for rural areas enterprises</b>	<b>2794.2</b>	<b>19.7</b>	<b>5513.9</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>165.7</b>	<b>23.8</b>	<b>395</b>	<b>7.16</b>
"NCH Capital"	28	23.4	65.8	1.2
"Agroproinvest"	15	36	54.1	1.0
"Astarte"	21.1	24.8	52.3	0.9
"GC Ilyich-Agro"	23	22.6	52	0.9
"Glencore International"	16.5	27.7	45.6	0.8
"Ukrros"	21.8	17.1	37.2	0.7
"Privat Agro Holding"	13	24.5	31.8	0.6
"Ukrainian Agrarian Investments"	15.6	18.1	28.3	0.5

Table 4.21

**The specific weight of agricultural holdings in the production of  
oil crops  
in 2010**

The company name	Collect ed area, thousand ha	Crop capacity ,c/ha	Production, thousand tons	Specific weight of production, %
<b>Total for rural areas enterprises</b>	<b>5584.1</b>	<b>15.6</b>	<b>8696</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>680.9</b>	<b>18.8</b>	<b>1277.0</b>	<b>14.7</b>
"NCH Capital"	143.9	17.9	257.4	3.0
"Myronivskyi Bread product"	37.1	26.2	97.3	1.1
"Ukrainian Agrarian Investments"	51.0	16.2	82.4	0.9
"Privat Agro Holding"	42.5	18.3	77.9	0.9
"Astarte"	41.9	16.6	69.7	0.8
"Agroton"	42.5	15.7	66.6	0.8
"Kernel"	35.5	18.6	65.9	0.8
"Freedom Farm"	25.6	25.4	65.0	0.7
"Valars Agro"	34.8	17.2	59.9	0.7
"GC Ilyich-Agro"	38.9	14.5	56.6	0.7
"Agricole Ukrzernoprom"	29.3	19.0	55.6	0.6
"Agrarian Technological Company"	23.3	20.0	46.4	0.5
"Lendcom"	18.4	24.5	45.0	0.5
"Trigonagri"	23.7	17.2	40.8	0.5
"Glencore International"	20.8	19.1	39.6	0.5
"Svarog"	13.9	23.8	33.0	0.4
"KSG Agro"	16.6	19.5	32.4	0.4
"Prodexim LTD"	11.3	26.2	29.5	0.3
"Nibulon"	14.1	19.6	27.6	0.3
<b>Total for other villages and towns. enterprises</b>	<b>4903.2</b>	<b>15.1</b>	<b>7419.0</b>	<b>85.3</b>

Source: according to "APK-inform" and the author's research

The main production is concentrated in agricultural enterprises, namely - 86.7%, or 8.7 million tons of the total gross collection of this crop. At the same time, twenty agricultural holdings on 12.2% of the area produced 1.27 million tons, or 14.79%, of products. According to the results of 2010, the largest producers of oil crops were the holdings "NCH Capital" (257.4 thousand tons) and "Myronivskiy Hliboproduct" (97.3 thousand tons). The profitability of sunflower production in 2010 was 64.5%, while in 2009 it was 41.4%, and in 2007 it was 75.9%.

The main production of oil crops is sunflower, the production of which in 2010 was 6.8 million tons, or 67.5% of the total gross harvest. According to the results of 2010, ten agricultural holdings accounted for 8.3% of the total production of sunflower, while in the production of rapeseed this figure was 18.2%, and soybean - 20.9% (Table 4.22). The main companies producing sunflower in 2010 were "Myronivskiy Hliboproduct", "NCH Capital" and "Kernel", which in 2010 gained control over one of the largest producers of crude sunflower oil in Ukraine - the company "Allseeds Group".

In 2009, the profitability of sunflowers increased to 41.4%, soybeans to 34.1% (this level was the highest in recent years), while the rate of rape decreased to 23.8%. According to the results of 2010, the profitability of sunflower increased slightly - to 64.7%, rape - to 26.6%, and soybean - decreased to 16.4%.

The main factors that had a positive effect on the growth of productivity:

- increasing the application of mineral fertilizers under crops. In 2010, 33 kg of active substance was applied to 1 ha of sown area, which is twice as much as the same indicator in 2005, in agricultural holdings this indicator reached 180–230 kg;

- gradual transition to the use of hybrid varieties of seed material, mainly imported, oriented to intensive cultivation technologies with increased yield and oiliness of seeds;

- renewal of the park of agricultural machinery with new modern tractors and combines;

- development of wholesale production.

Table 4.22

**The specific weight of agricultural holdings in the production of the main oil crops (sunflower, soybean, rapeseed) in 2010**

The company name	Collected area, thousand ha	Productivity, c/ha	Production, thousand tons	Specific weight of production, %
Sunflower				
<b>Total for rural areas enterprises</b>	<b>3620.6</b>	<b>15.4</b>	<b>5585.6</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>259.5</b>	<b>17.8</b>	<b>461.9</b>	<b>8.3</b>
"Myronivskiyi Hliboprodukt"	27.6	25.8	71.1	1.3
"NCH Capital"	40.8	17.2	70.1	1.3
"Agroton"	39.4	14.6	57.4	1.0
"GC Ilyich-Agro"	37.4	13.6	50.8	0.9
"Privat Agro Holding"	24.4	18.3	44.6	0.8
"Valars Agro"	22.9	17.3	39.8	0.7
"Kernel"	16.4	22.1	36.3	0.6
"Ukrainian Agrarian Investments"	19.8	17.4	34.4	0.6
"KSG Agro"	15.7	19.3	30.3	0.5
"Agricole Ukrzernoprom"	15.1	17.9	27.1	0.5
Soy				
<b>Total for rural areas enterprises</b>	<b>992.8</b>	<b>16.2</b>	<b>1611.5</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>197.3</b>	<b>17.1</b>	<b>336.8</b>	<b>20.9</b>
"NCH Capital"	55.1	15.3	84.1	5.2
"Agrarian Technological Company"	23.1	20.0	46.2	2.9
"Freedom Farm"	17.1	27.0	46.1	2.9
"Astarte"	26.4	14.5	38.4	2.4
"Svarog"	10.5	24.9	26.1	1.6
"Kernel"	16.9	13.7	23.2	1.4
"Privat Agro Holding"	13.8	15.3	21.1	1.3
"Ukrainian Agrarian Investments"	18.1	10.7	19.3	1.2
"Glencore International"	8	17.9	14.3	0.9
Turnip				
<b>Total for rural areas enterprises</b>	<b>819.5</b>	<b>17.0</b>	<b>1394.5</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>120.3</b>	<b>21.1</b>	<b>253.9</b>	<b>18.2</b>
"NCH Capital"	47.5	20.3	96.3	6.9
"Lendcom"	14.7	26.6	39.2	2.8
"Ukrainian Agrarian Investments"	13.1	21.0	27.4	2.0
"Agricole Ukrzernoprom"	10.3	21.1	21.8	1.6
"Myronivskiyi Hliboprodukt"	5.7	26.6	15.1	1.1
"Dakor Agro Holding"	8.7	16.8	14.7	1.1
"Agrogeneration"	6.5	21.4	14.0	1.0
"Valars Agro"	6.4	17.9	11.5	0.8

Source: according to "APK-inform" and the author's research.

The analysis shows that in 2010, compared to 2009, the collection of sugar beets increased by 36.6% and amounted to 13.75 million tons, and the profitability of production - 16.7%, while in 2008 - 7,1%. Agricultural enterprises produce 92.1%, or 12.66 million tons, of the total gross harvest of this crop. The main production is concentrated in fifteen agricultural holdings, which account for 5.97 million tons, or 47.2% of the total production of sugar beets by agricultural enterprises. The average yield is 297.6 t/ha, which is 11% more than other agricultural enterprises (Table 4.23).

In 2010, Agroholding "Astarta" produced 1,257.3 thousand tons of sugar beets with an average yield of 334.8 tons/ha, "Agroproinvest" produced 1,010.9 thousand tons and 414.8 tons/ha, respectively. The six leaders in the production of sugar beets include the companies "Rise" and "Dakor Agro Holding", which were purchased in early 2011 by businessman Bakhmatyuk, who owns the company "Avangard" - the largest producer of eggs in Ukraine. As a result of the operation, the company controlled by him "Ukrlandfarming" became the largest lessee of agricultural land in the country. Land Bank "Rise" leases 180,000 hectares, "Dakor" - 106,000 hectares. "Rise" also owns the Lohvytskyi sugar factory, is engaged in the distribution of agricultural machinery, fertilizers and plant protection products. In addition, the company develops farms for 6,000 cattle and 4,000 pigs. "Dakor" owns four sugar factories. The increase in the production of sugar beets in agricultural holdings is due to the formation of its own raw material base, which significantly reduces dependence on external supplies of raw materials, optimizes their terms, and lowers the cost of the manufactured product.

To achieve the appropriate level of economic efficiency, agricultural holdings organize production in such a way that the size of their raw material zones corresponds to the capacities of processing plants. This is achieved through the intensification of production processes and the planning of optimal raw material zones and the duration of the raw material processing period and minimizing product loss at all technological stages of production, transportation, storage, and processing.

Table 4.23

**The specific weight of agricultural holdings in sugar beet production in 2010**

The company name	Collected area, thousand ha	Yield, tons/ha	Production, thousand tons	Specific weight of production, %
<b>In total in rural areas enterprises</b>	<b>449.8</b>	<b>281.5</b>	<b>12663.4</b>	<b>100.0</b>
<b>including on the main ones agricultural holdings</b>	<b>200.6</b>	<b>297.6</b>	<b>5969.1</b>	<b>47,14</b>
"Astarte"	37.6	334.8	1257.3	9.9
"Agroproinvest"	24.4	414.8	1010.9	8.0
"Dream"	29.5	221.5	653.4	5.2
"Rise"	17.1	319.1	545.7	4.3
"Dakor Agro Holding"	14.1	280.4	395.9	3.1
"Dawn"	10.9	293.3	320.6	2.5
"Inseco"	9.9	297.4	295.3	2.3
"UkrRos"	15.8	184.3	291.3	2.3
"Panda"	7.7	312.7	240.6	1.9
"Glencore International"	9.5	246.8	233.9	1.8
"Terra Food"	6,7	299.6	201.4	1.6
"NCH Capital"	5.2	366.7	191.6	1.5
"Ukraine Committee"	4.6	324.7	149.2	1,2
"Hals-K, LTD"	4.6	241.4	111.5	0.9
"Valars Agro"	3	238.9	70.5	0.6
<b>Total for others s.-g. enterprises</b>	<b>249.2</b>	<b>268.6</b>	<b>6694.3</b>	<b>52.86</b>

Source: according to "APK-inform" and the author's research.

In 2010, 18,704.8 thousand tons of potatoes were produced in Ukraine, of which only 3% were produced in agricultural enterprises. Potatoes are grown by specialized agricultural farms and agricultural holdings. Thirty potato-producing companies accounted for more than 50% of the total volume of production in agricultural enterprises, or 274.2 thousand tons. The largest production volumes were typical for the companies "Agrarian Technology Company" (7.14%), "Agro LV Limited" (6.86%) and "Agro-Oven" (2.5%).

Production of livestock products in 2010, compared to 1990, decreased by 47% and increased by 8.4% compared to 2008. Since 2001, there has been an increase in the total production of livestock products (the average annual increase was 1.7%). First of all, it should be noted the annual increase in the volume of its production in agricultural enterprises (the average annual increase was more than 8%). In households, the activity of which is related to the production of livestock products, production gradually begins to decrease (in 2010, compared to 2000, by 8.1%).

Agricultural holdings concentrate 14.5% of cattle, 15.7% of cows, 23.1% of pigs, and 66% of poultry of the total number of agricultural enterprises. In 2010, the main agricultural holdings accounted for: 55% of poultry meat production in slaughter weight, 10.6% - pork, 4.8% - beef, 3.5% - milk (Table 2.24). Agricultural holdings are modernizing existing livestock complexes and introducing new technological techniques into production. As a result, in 2010, the average yield from one cow in the main agricultural holdings was 4.2 tons, compared to 3.7 tons in other agricultural enterprises and 4.1 tons in households. In some agricultural holdings, the yield from a cow is 5-7.5 tons, and in "Agro-Soyuz" - 7.9 tons (Table 4.24).

*Table 4.24*

**The specific gravity of the main types of animal husbandry products by categories of farms in 2010, %**

Indicator	Milk	Beef	Pork	Poultry meat
All categories of enterprises	100.0	100.0	100.0	100.0
including				
s.-g. enterprises	16.2	19.7	30.0	26.0
agricultural holdings	3.5	4.8	10.6	55.0
people	80.3	75.5	59.5	19.0

Source: according to the APC information and author's research.

In 2010, compared to 2009, the gross output of livestock increased by 4.5%, including in agricultural enterprises - by 8.3%, and in households it decreased by 0.5%.

As of January 1, 2011, the livestock in all categories of farms amounted to 4,494,400 head, of which 1,526,000 head were in



agricultural enterprises, among which 223,000 head, or 14.5%, belonged to agricultural holdings. Also in 2010, an increase in the number of cattle was noted in large enterprises with the number of the main herd over 5,000 - from 49,600 to 83,000. heads In 2010, the level of profitability of cattle meat production was 35.9% (excluding budget subsidies and other subsidies). The profitability of highly efficient enterprises in cattle breeding is 30-50%, but their share in the total production is insignificant - less than 2%.

According to the results of 2010, the share of twenty agricultural holdings in the production of cattle meat in live weight by agricultural enterprises was 19.7%, or 35 thousand tons. Most agricultural holdings specialize in dairy cattle breeding, while beef production is only a sideline. This category includes agricultural holdings such as "Agro Alfa", "Astarta", "Ukrainian Milk Company", "Agroproinvest" and some others. At the same time, for some holdings, meat cattle breeding is the main activity. These include "Myronivskyi Hliboproduct", "Kyiv Atlantic Group", "OSI Group", as well as enterprises of the company "Ukrland Farming" (Table 4.25).

Milk production in 2010 in all categories of farms amounted to 11.25 million tons, and in 2011 it is forecasted to be about 11 thousand tons. Most of the milk production falls on households. In 2010, they produced 9.0 million tons of this product, or 80% of the total production, against 0.39 million tons, or 3.4% in agricultural holdings.

As of January 1, 2011, the total number of cows in Ukraine was 2631.2 thousand. 78% of the total number of cows (2,042.1 thousand heads) was concentrated in households, and 22% (589.1 thousand heads) in agricultural enterprises, respectively.

*Table 4.25*

**The specific weight of agricultural holdings in cattle production in live weight in 2010**

The company name	Production, thousand tons	Specific weight, %	Livestock at the end 2010, thousand heads	Specific weight, %
<b>A total of s.-g. enterprises</b>	<b>177.9</b>	<b>100.0</b>	<b>1526.4</b>	<b>100.0</b>
<b>Including on the main ones</b>	<b>35.02</b>	<b>19.7</b>	<b>223.26</b>	<b>14.5</b>

<b>agricultural holdings</b>				
"Myronivskiy Bread product"	7.71	4.3	26,14	1.7
"GC Ilyich-Agro"	5.23	2.9	35.52	2,3
"Agro Alpha"	2.45	1.4	21.45	1.4
"Astarte"	2.02	1.1	23.46	1.5
"Ukrland Farming"	1.95	1.1	11,14	0.7
"Private Agro Holding"	1.9	1.1	10.64	0.7
OSI Group	1.71	1.0	3.97	0.3
"Rise"	1.55	0.9	13.91	0.9
"Svarog"	1.48	0.8	9.28	0.6
"Kyiv Atlantic"	1.36	0.8	3.23	0.2
"Agroproinvest"	1.08	0.6	7,13	0.5
"Ukrros"	0.96	0.5	8.33	0.5
"Agrotys"	0.95	0.5	9.19	0.6
"Agroton"	0.84	0.5	6.33	0.4
"Agrofirma Shakhter"	0.83	0.5	12,21	0.8
"Industrial milk group"	0.74	0.4	5.31	0.3
"Terra Food"	0.72	0.4	4.29	0.3
"Inter-Agro-Capital"	0.64	0.4	4.92	0.3
"NCH Capital"	0.47	0.3	5.55	0.4
"Agrotrade Group"	0.43	0.2	1.26	0.1
<b>Total for others s.-g. enterprises</b>	<b>142.9</b>	<b>80.3</b>	<b>1303.1</b>	<b>85.5</b>

Source: according to "APK-inform" and the author's research.

In 2010, compared to the end of 2009, the number of cows decreased in all categories of farms by 3.9%, including in households - by 4.2%, in agricultural enterprises - by 2.5%.

Despite the decrease in the number of cows, the volume of milk production remains stable due to the increase in the average annual milk yield from one cow. In 2010, it amounted to 4,010 kg, which is 29.2% more than the corresponding figure in 1990. At the same time, agricultural enterprises in 2010, thanks to the increase in milk yield from one cow, in agricultural holdings were able to exceed the level of milk yield in 2000 by more than 2 times.

In Ukraine, there are different strategies for running a dairy business. The most widely represented direction is the development of large-scale production along with small and medium-sized farms united

in one production structure. Typical representatives of this direction are agricultural holdings "Astarta" and "Agro Alfa". According to the results of 2010, they produced, respectively, 51.5 and 35.9 thousand tons of milk (Table 4.26). The largest producer of this product in Ukraine is the holding "GK Ilych Agro", which produces 57,000 tons of milk on 36 dairy farms.

Table 4.26

**The specific weight of agricultural holdings in milk production in 2010**

The company name	Livestock at the end of 2010, thousands of heads	Hope of milk from one cow, i.e	Production, thousand tons	Specific gravity of milk production, %	Specific weight of cows, %
1	2	3	4	5	6
<b>A total of s.g. enterprises</b>	<b>589.1</b>	<b>3.8</b>	<b>2216.5</b>	<b>100.0</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>92.2</b>	<b>4.2</b>	<b>391.59</b>	<b>17.7</b>	<b>15.7</b>
"GC Ilych-Agro"	13.9	4.1	57.36	2.6	2.4
"Astarte"	11.3	4.6	51.47	2,3	1.9
"Agro Alpha"	10.2	3.5	35.93	1.6	1.7
"Myronivskiy Bread product"	7.7	4.6	35,12	1.6	1.3
"Rise"	6.0	4.1	24,31	1.1	1.0
"Agroproinvest"	3.5	5.7	20.03	0.9	0.6
"Privat Agro Holding"	4.1	4.7	19.43	0.9	0.7

*Continuation of the table. 4.26*

1	2	3	4	5	6
"Agrotys"	4.0	4.6	18.38	0.8	0.7
"Ukrros"	3.7	4.1	15,23	0.7	0.6
"Industrial milk group"	2.9	5.0	14.57	0.7	0.5
"Agro Union"	1.8	7.9	14,28	0.6	0.3
"Svarog"	3.2	4.3	13.72	0.6	0.5
"Inter-Agro-Capital"	1.8	7.2	12.91	0.6	0.3
"Agrofirma Shakhter"	4.9	2.5	12.2	0.6	0.8
"NCH Capital"	2,2	4.7	10.25	0.5	0.4

"Agroton"	2.8	3.5	9.76	0.4	0.5
"Ukrland Farming"	4.8	1.8	8.8	0.4	0.8
"Terra Food"	1.3	5.1	6.65	0.3	0.2
Amgroup	1.1	5.1	5.63	0.3	0.2
"Synthal"	1.0	5,6	5.56	0.3	0.2
<b>Total for other villages and towns. enterprises</b>	<b>497</b>	<b>3.7</b>	<b>1824.9</b>	<b>82.3</b>	<b>84.4</b>

Source: according to "APK-inform" and the author's research.

It should be noted that in 2009, the profitability of livestock farming in Ukraine, thanks to the concentration of production and the use of modern breeding technologies, was 5.5%.

Pig breeding and pork production is the second most important branch of the livestock sector of Ukraine. If in 2000 the total number of enterprises engaged in pig breeding was 9.1 thousand, in 2006 - 7.8 thousand, then at the end of 2010 there were only 4.9 thousand. At the same time, the share of large and medium-sized agricultural enterprises with more than 6,000 pigs during 2007-2010 steadily increased from 23.7% on January 1, 2007 to 41% on January 1, 2011. At the same time, the share of small enterprises decreased. The specific weight of agricultural holdings in the production of pigs in live weight is given in the table. 4.27.

Agricultural enterprises have taken leading positions in the structure of poultry meat production since 2003, and to this day they hold them thanks to large holdings. Five agricultural holdings account for more than 70% of all poultry meat production in live weight, and the leader among them is "Myronivskiyi Hliboprodukt" with a market share of almost 50% (Table 4.28), in addition, it remains the main producer of cereals cultures in Ukraine. According to the results of 2010, nine companies accounted for 795.3 thousand tons of poultry in live weight, or 80% of the total production. Thus, the company "Agromars" was one of the first, which in the 90s decided to invest in poultry farming and entered the market under the trademark "Gavriliivskii Kurchata". In 2001, a new giant appeared on the poultry market - "Myronivskiyi Hliboprodukt".

Table 4.27

**The specific weight of agricultural holdings incultivation  
pigs in live weight in 2010**

The company name	Production, thousand tons	Specific weight, %	Pig population at the end of 2010, thousand head.	Specific weight, %
<b>Total for rural areas enterprises</b>	<b>350.4</b>	<b>100.0</b>	<b>3625.2</b>	<b>100.0</b>
<b>including on the main ones agricultural holdings</b>	<b>117.2</b>	<b>33.5</b>	<b>830.4</b>	<b>23.1</b>
"APK-Invest"	17.4	5.0	119.8	3.3
"Agro-industrial company"	12.3	3.5	100.4	2.8
"Bakmut Agrarian Union"	11.4	3.2	79.5	2,2
"Sagro"	11.0	3.1	67.6	1.9
"Globino Corporation"	8.1	2,3	42.5	1,2
"GC Ilyich-Agro"	7.6	2,2	70.1	1.9
"Niva Pereyaslavshchyna"	7.2	2.1	51.6	1.4
"Agro-Aries"	6.0	1.7	36.2	1.0
"Myronivskiyi Bread product"	6.0	1.7	39.0	1.1
"Agro-Soyuz"	4.5	1.3	52.9	1.5
"PKM Duda"	4.4	1.3	22.1	0.6
"East Capital Holding"	3.2	0.9	11.9	0.3
"Freedom Farm"	2.9	0.8	21.0	0.6
"Demis Agro"	2.9	0.8	20.5	0.6
"Agrofirma Shakhter"	2.5	0.7	35.2	1.0
"Land and Will"	2.4	0.7	10.4	0.3
"Western Agricultural Company"	2.0	0.6	14.3	0.4
"Agroton"	1.9	0.6	4.4	0.1
"Ukrros"	1.8	0.5	21.0	0.6
"Hals-K, Ltd"	1.7	0.5	10.0	0.3
<b>Total for others s.-g. enterprises</b>	<b>233.2</b>	<b>66.5</b>	<b>2794.8</b>	<b>76.9</b>

Source: according to "APK-inform" and the author's research.

Table 4.28

**Specific weight of companies in the production of poultry meat in live weight in 2010**

The company name	Production, thousand tons	Specific weight, %	Livestock at the end of 2010, thousands of heads	Specific weight, %
<b>In total in rural areas enterprises</b>	<b>998.4</b>	<b>100.0</b>	<b>110.6</b>	<b>100.0</b>
<b>including on main agricultural holdings</b>	<b>795.3</b>	79.7	<b>73.7</b>	66.6
"Myronivskiy Bread product"	485.9	48.7	30.1	27.2
"Agromars"	151	15.1	9.7	8.8
"Dniprovskaya Corporation"	63.7	6.4	3.6	3.3
"Agro-Aries"	41	4.1	2,2	2.0
"Landgut Group of Companies"	17.4	1.7	2.7	2.4
"Western Agrarian Company"	14	1.4	0.9	0.8
"Vanguard"	10.3	1.0	23.9	21.6
"Agroton"	6.5	0.7	0.2	0.2
"Bakhmutskiy agrarian union"	5.5	0.6	0.4	0.4
<b>Total for others s.-g. enterprises</b>	<b>203.1</b>	<b>20.40</b>	<b>36.9</b>	<b>33,40</b>

Source: according to "APK-inform" and the author's research.

In the sector of egg production, as well as in the production of poultry meat in general, large companies have strengthened quite a lot in recent years. According to the results of 2010, five companies accounted for 6.6 billion eggs, or more than 60% of the total production by agricultural enterprises. In fact, the monopolist on the market at the moment is the vertically integrated company "Avangard", which includes 19 poultry farms. The production capacity is 18.9 million laying hens and 5.2 billion eggs. In the industrial production of eggs, the share of the "Avangard" company is about 43%, and in the production of dry egg products - 97%. The company's share in the

Ukrainian export of eggs is 52%, and in the supply of dry egg products - 97%. The main competitors of the company in the egg market are Ovostar,

According to the results of 2010, the share of the largest egg producers is: "Avangard" - 42.5%, "Inter-Agrosystem" corporation - 8%, "Myronovsky Hliboprodukt" - 4.9% (Table 4.29).

*Table 4.29*

**The specific weight of companies in the production of poultry eggs in 2010.**

The company name	Production, thousand tons	Specific weight, %	Livestock at the end of 2010, thousands of heads	Specific weight, %
<b>Total for rural areas enterprises</b>	<b>10.25</b>	<b>100.0</b>	<b>110.6</b>	<b>100.0</b>
<b>including on the main agricultural holdings</b>	<b>6.85</b>	<b>66.8</b>	<b>77</b>	<b>69.6</b>
"Vanguard"	4.36	42.5	23.9	21.6
Corporation "Inter-Agrosystem"	0.82	8.0	3.7	3.3
"Ovostar"	0.54	5.3	2,2	2.0
"Myronivskiy Bread product"	0.5	4.9	30.1	27.2
"Landgut Group of Companies"	0.33	3.2	2.7	2.4
"Agromars"	0.11	1.1	9.7	8.8
"Agrocorporation Krupets"	0.09	0.9	0.7	0.6
"Agro-industrial company"	0.06	0.6	0.4	0.4
"Dniprovskaya Corporation"	0.04	0.4	3.6	3.3
<b>Total for others s.-g. enterprises</b>	<b>3,4</b>	<b>33.2</b>	<b>23.6</b>	<b>30.4</b>

Source: according to "APK-inform" and the author's research.

Most agricultural holdings increase the profitability of poultry production thanks to the construction of a closed cycle - starting with the production of fodder grain and ending with the release of ready-made semi-finished products. In 2009, the MHP company declared the profitability of chicken production at the level of 20%, which is explained by the vertical model of building a business.

In Ukraine, the unconditional results of the creation of agricultural holdings are: increased competition in the land rental market and an increase in the amount of rent in them; attraction of investments in agriculture; productivity growth and increase in production volume; attraction of qualified personnel; potential investments in rural development; increasing the competitiveness of domestic agricultural production.

At the same time, it should be noted that the rent increased during 2000-2009 from UAH 42.1/ha to UAH 231/ha. In 2007 and 2008 alone, more than 1 billion USD of investments came. An example of successful activity can be called "Nibulon" LLC. He is one of the largest producers of agricultural goods, an investor whose investments in agriculture in 17 years exceeded UAH 1.3 billion, which allowed him to be the first among Ukrainian exporters. Over the past three years, "Nibulon" ranked first among Ukrainian grain exporters and was awarded an honorary certificate by the Ministry of Agriculture of Ukraine in the "Grain Trader of the Year" nomination. 31 divisions of the company are located in Vinnytsia, Luhansk, Mykolaiv, Poltava, Kharkiv, Khmelnytsky, Cherkasy regions. Since the fall of 2007, work on the expansion of agricultural production has been carried out in the Sumy region, and since the beginning of 2011 - in the Zhytomyr and Chernihiv regions. 25,000 owners of land shares leased more than 70,000 hectares of agricultural land to the holding. In order to ensure their effective use, the holding purchases new imported agricultural machinery, tests and implements the best domestic and foreign varieties of seeds, constantly improves crop cultivation technologies.

The company's philosophy is to place its capacities directly with the producer, therefore elevators are being built in many regions of Ukraine, which are an example of the achievements of technical progress and effective labor organization, showing how profitable it is to grow agricultural products in these regions.

The company employs 3,200 people, and the average age of employees is 29 years. Here, communication is maintained with 14 universities. Updating the team at the expense of young, highly educated personnel is one of the success factors.

In 2009, the gross harvest of grain, leguminous and oil crops at JV "Nibulon" amounted to more than 300,000 tons, which is 65%



higher than last year. On average, in the company's branches, the yield of winter barley reached 52.3 t/ha, winter wheat – 57 t/ha, corn – 118 t/ha, sunflower – 32.8 t/ha. A special feature is the high quality of the 2009 harvest: 95% of food wheat is 1–3 class, of which 50% is class I and II.

In 2010, JV "Nibulon" LLC started the construction of a self-propelled fleet that will supply grain to the countries of the Middle East. The company also plans to build eight elevators as part of the investment program, four of which- in the Poltava region.

The company Sintal Agriculture Public Limited was established in 2008, in May 2009 it acquired 100% of the shares of NPF Sintal-D, which has been operating in Ukraine since 1992. Currently, the company leases 96 thousand hectares of agricultural land, is engaged in the cultivation of grain and oil crops, sugar beets, rapeseed and annually increases their gross harvest. It also owns two sugar factories, a pig breeding farm for 9,000 heads, and 16 agricultural holdings. On October 20, 2009, the company carried out a private placement of 17.2% of shares for \$ 13 million. The placement price was \$ 2.28 per depositary receipt, which corresponds to the company's capitalization of \$ 75 million. In 2008, Sintal Agriculture also conducted a private placement placement of 15% of its shares for \$34.5 million On August 5, 2009, the company's shares were listed on the Frankfurt Stock Exchange [34].

Ukrros Sugar Union OJSC was established on February 13, 2007. The company includes 7 sugar factories and 17 large agricultural enterprises. The company manages about 80,000 hectares of land. The company's share in the sugar market in 2008 was 12.8%. In 2008, the company conducted a private placement of 19.98% of shares and raised UAH 201,925,830.

The "Privat-Agro" corporation has 17 agricultural enterprises in its composition, with a total area of arable land of 120,000 hectares. Grows wheat, corn, sunflower, rapeseed, soybeans, sugar beets and other crops. It has factories for the processing of sugar beets and soybeans. The holding includes production companies that operate in the following industries: crop production, seed production, livestock

production, processing and storage of agricultural products. products, provision of services. In the structure of cultivated areas, winter wheat occupies 20%, corn - 19, soybean - 14, sunflower - 10, sugar beet - 5, barley - 8, forage crops - 10, steam - 14%.

Holding "Privat-Agro" is developing capacity for primary processing and storage of agricultural products in most of its farms. Practically every agricultural enterprise that is part of the holding has its own small-scale processing, designed to meet the internal needs of the economy, namely: current storage, mills, bakeries, grain mills, DKU (grinding), oil mills, slaughterhouses, meat processing plants workshops In addition, in 2005, a new enterprise "Privat-Alliance" LLC was created, which is engaged in processing and storage of agricultural products (processing of soybeans, rapeseed, storage of all types of cereals). Most of the enterprises of the agricultural holding have their own grain drying complexes (elevators). Moreover, in the farms where they were already functioning, during the period of activity within the holding, the dryers were reconstructed (ToV named after Posmytny,

"Privatagro-Cherkasy" LLC includes two sugar factories (in which 14 million UAH have been invested), developed small auxiliary processing (crusher, mill, oil mill). OJSC "Nasinnieve" and LLC "Dukla" have seed processing plants, developed secondary processing (mill, bakeries, grain mills, sausage shops, slaughterhouses, dryer). Agricultural firm "Naukova" LLC has its own elevator, motor vehicle fleet, which provides services for agricultural enterprises of the Dnipropetrovsk region, reconstruction of a distillery and a dairy is planned. In addition, LLC named after Posmytny, LLC named after Michurin, OJSC "Nasinneve" have canneries (vegetables, fruits). Agroholding has partnerships with global producers of resources. The company has the exclusive right to sell used equipment ("Case", "JohnDeere", "Claas", "Holmer") with further repair in Ukraine. Privatbank is the only distributor of this equipment in Ukraine. The company sells "Pioner", "Rustyke", "Lembke" seeds on special terms, sells "Inseco", "Agrosfera", "Nertus", "Cheminova", "TerraTechnology", "Syngenta" plant protection products.

The largest holding "Ukraine" SCM" and its partner in the mining and metallurgical business "Smart-Holding" were created on the basis of agricultural assets of the Mariupol Metallurgical Combine named after Ilyich ("Ilyich MMK", Donetsk region) agricultural holding "HarvEast Group" with a land bank of over 200,000 hectares.

The press service of SCM states that the shareholders of the agricultural holding are SCM and Smart Holding: they created the management company HarvEast, which has been given the rights of strategic and operational management of the agricultural holding. "SCM" is the majority shareholder of the new agricultural holding.

The agricultural assets of MMK named after Ilyicha: cultivated land with a total area of over 200,000 hectares; cattle (over 36,000 heads), pig farms (over 60,000 heads); poultry farms (more than 270,000) and other specialized assets (compound feed production, seed crop production).

The geographically listed assets are located mainly in Donetsk, as well as in Zaporizhzhia, Cherkasy, Zhytomyr regions and Crimea. They include subsidiaries (SE) of Illich-Agro Donbas, Illich-Agro Zaporizhzhia, Illich-Agro Uman, Illich-Agro Krym, JSC Bakhchovyk and Transportnyk (crop and animal husbandry), SE "Illich-Rybalka" (fish breeding) and OJSC "Priazovya" (seed production). The total number of employees of the holding's companies in 2011 was 9,000.

An important condition for the development of agricultural holdings is to increase the efficiency of land resource use, including through the introduction of a scientifically based structure of cultivated areas; optimization of specialization, composition and size of agricultural holdings depending on natural and climatic conditions and economic and organizational factors.

According to the results of the study, the norms of the optimal ratio of crops in crop rotations to achieve high and stable yields and prevent soil depletion due to soil exhaustion, which were developed taking into account the specialization of farms in the Zhytomyr region and the allelopathic properties of crops, are given in Tables 4.30 and 4.31.

At the same time, the economic effect is determined by increasing the yield of agricultural crops by 10–15% and the profitability of the farm by 5–30% due to a quick response to the market situation.

*Table 4.30*

**Norms of the optimal ratio of crops in crop rotations of farms of various specializations for the Polissia zone**

Culture	Farm specialization				
	production milk	fattening Cattle	raising heifers	production	
				pork and poultry products	milk and vegetables
Crops	46–48	47–49	47–49	54–56	32–34
Technical	8–10	8–10	8–10	8–10	–
Potatoes and vegetables	6–10	6–10	7–9	7–9	15–20
Fodder	36–40	34–42	36–40	26–30	47–50
Corn, lupine for silage and green fodder	12–13	10–12	10–14	4–6	12–18
Fodder root crops	4–6	2–3	2–3	2–4	5–6
Perennial herbs	19–21	18–22	20–22	14–16	20–28
Annual herbs	2–5	5–7	5–7	5–7	7–9
Post-harvest and post-harvest annual crops for fodder	10–12	12–14	10–12	10–12	12–14

Source: author's research.

Table 4.31

**Norms of the optimal ratio of crops in crop rotations of farms of various specializations for the forest-steppe zone**

Culture	Farm specialization					
	production milk	fattening		raising heifers	production	
		Cattle	pigs		products poultry farming	milk and vegetables
Crops	50–52	52–54	62–64	50–52	64–66	38–44
Technical	13–16	13–15	14–16	14–16	14–16	6–8
Potatoes and vegetables	3–4	3–4	2–3	1–3	2–3	14–16
Fodder	30–34	30–32	18–20	32–34	16–18	38–44
Corn for silage and green fodder	10–12	9–13	5–6	8–10	8–10	10–14
Fodder roots	3–5	2–3	2–3	2–3	2–3	3–5
Perennial herbs	14–16	14–16	9–10	14–16	9–11	18–22
Annual herbs	5–7	4–5	3–4	5–7	4–5	5–7
Post-harvest and post-harvest crops for fodder	6–8	6–8	5–7	6–8	5–7	10–12

Source: author's research.

Crop production dominates the vast majority of agricultural holdings. Taking this into account, it is advisable to ensure the effective development of grain farming, as a rule, by reducing the land capacity of grain farming. At the same time, the placement and specialization of

grain farming should be rationally combined with the development of other branches of agriculture. To this end, in each agricultural region, district and farm, the structure of grain crops should be improved, scientifically based crop rotations should be mastered, and clean, busy, sideral pairs should be introduced, intensive, energy-saving and ecologically safe technologies of soil and crop cultivation should be developed, as well as progressive seed production systems should be developed. This will allow to increase the volume of production in agriculture. In large farms, the transition to an optimized structure of sown areas under the conditions of the current situation on the market of agricultural products can be made according to the scheme given in the table. 4.32. To master crop rotation, a plan is being developed for the transition to the crop rotation established by the project. The plan is designed for 2-3 years, after which crops take their place, according to rotation, and crop rotation is considered mastered.

*Table 4.32*

**Optimization of the structure of planted areas, %**

Culture	The first year	The second year	Third year
Winter wheat	21.8	19.6	20
Winter rye	2	9.6	4.6
Buckwheat	3.3	1.6	1.5
Corn for grain	17.8	20.8	24.7
Barley is hot	8.2	7.4	5.5
Sunflower	6,7	7	11
Soy	3.9	4.8	4.9
Winter rapeseed	2.5	2.4	0.5
Fodder crops	33.8	26.8	27.3

Source: author's research.

For agricultural holdings, long-term - seven-nine-day crop rotations are recommended. Examples of crop rotation schemes for different types of soils in the Zhytomyr region for different specialization of farms are given in the table. 4.33.

*Table 4.33*

## Schemes of crop rotation for farms of various directions specialization

Forest steppe		Forested	
<ol style="list-style-type: none"> <li>1. Perennial herbs</li> <li>2. Winter wheat + post-harvest</li> <li>3. Sugar beets</li> <li>4. Corn for silage, grain</li> <li>5. Bright rapeseed + post-harvest</li> <li>6. Spring with subsowing of perennial grasses</li> </ol>	<ol style="list-style-type: none"> <li>1. Annual herbs, legumes</li> <li>2. Winter wheat + post-harvest</li> <li>3. Sugar beet</li> <li>4. Peas</li> <li>5. Winter wheat + post-harvest</li> <li>6. Sugar beet</li> </ol>	<ol style="list-style-type: none"> <li>1. Clover</li> <li>2. Winter wheat + post-harvest</li> <li>3. Linen-curly</li> <li>4. Rye-oat mixture</li> <li>5. Prosapni, sunflower</li> <li>6. Jars with clover sowing</li> </ol>	<ol style="list-style-type: none"> <li>1. Clover</li> <li>2. Long flax</li> <li>3. Winter + post-harvest rye</li> <li>4. Prosapny</li> <li>5. Hot cereals</li> </ol>
<ol style="list-style-type: none"> <li>1. Peas</li> <li>2. Winter wheat + post-harvest</li> <li>3. Maize for silage</li> <li>4. Barley + after harvest</li> <li>5. Sugar beet</li> </ol>	<ol style="list-style-type: none"> <li>1. Annual herbs</li> <li>2. Winter rape</li> <li>3. Winter wheat + post-harvest</li> <li>4. Sugar beet</li> </ol>	<ol style="list-style-type: none"> <li>1. Clover</li> <li>2. Winter cereals + post-harvest</li> <li>3. Prosapny</li> <li>4. Spring cereals with clover seeds</li> </ol>	<ol style="list-style-type: none"> <li>1. Clover</li> <li>2. Winter rape</li> <li>3. Winter rye + following crops</li> <li>4. Prosapny</li> <li>5. Spring cereals with clover sown</li> </ol>
<ol style="list-style-type: none"> <li>1. Corn of the Ministry of Internal Affairs</li> <li>2. Corn</li> <li>3. Winter wheat</li> <li>4. Sunflower</li> <li>5. Winter wheat</li> <li>6. Corn</li> <li>7. Barley</li> <li>8. Perennial herbs</li> <li>9. Corn</li> <li>10. Soy</li> </ol>	<ol style="list-style-type: none"> <li>1. Legumes</li> <li>2. Winter wheat + post-harvest</li> <li>3. Corn for silage</li> <li>4. Soy</li> <li>5. Sugar beet</li> <li>6. Hot cereals</li> </ol>	<ol style="list-style-type: none"> <li>1. Lupine or diaper</li> <li>2. Winter rye + post-harvest</li> <li>3. Potatoes, kuku-ruza for silage</li> <li>4. Winter cereals</li> <li>5. Hot cereals</li> </ol>	<ol style="list-style-type: none"> <li>1. Lupine or vetch</li> <li>2. Winter cereals</li> <li>3. Early potatoes (0.5 fields), corn for grain (0.5 fields)</li> <li>4. Winter cereals + post-harvest</li> <li>5. Prosapny</li> </ol>

Source: author's research.

A fundamental condition for high yield of crop rotations and increasing soil fertility is the creation of a deficit-free balance of basic nutrients in the "soil-plant" system. This is possible only if

scientifically based levels of nutrients are returned to the soil with fertilizers. In addition, nitrogen is replenished during the important process of nitrogen fixation by legumes. The presence of perennial legumes in crop rotation makes it possible to compensate for nitrogen consumption by 20–40% and thereby significantly reduce the level of application of mineral nitrogen fertilizers. Clover was and remains the leading fodder and nitrogen-fixing crop in Polissia, while alfalfa cultivation should be preferred in the Forest Steppe. Therefore, in the structure of crops, these crops should occupy at least 20–25%.

Under market conditions, crop rotation should be dynamic, where one crop, which has lost its competitiveness, should be replaced by another, the demand for which is increasing.

As the practice of recent years shows, such an organizational form of work as a mechanized squad is developing in agricultural holdings. A mechanized squad is a collective of workers as part of an agricultural formation, which, based on the division and cooperation of labor, specializes in the performance of one or more types of work that require special technologies and technical equipment.

Their specificity is determined by a certain technology of the work performed, the narrow application of the equipment attached to them (harvests for harvesting, sowing, forage harvesting, etc.). Their use in large agricultural formations of the forest-steppe and steppe zones is very appropriate.

For example, Rise-Agro CJSC created several mechanized units capable of quickly and efficiently applying herbicides and fertilizers and harvesting grain crops. That is, we are talking about a complex approach in the technological support of growing crops: grain poisoning, protection of crops from weeds, pests and diseases, harvesting of the grown crop.

The economic feasibility of using equipment in mechanized units of large agricultural formations is determined by the following factors:

- the volume of work in small farms is insufficient for effective use of equipment;
- the technology of performing agricultural works requires the concentration of equipment in such a quantity that it is unprofitable for a small farm to maintain;



- shortage or high cost of equipment prevents such farms from purchasing it.

#### **4.5. Socio-economic aspects of the development of integration processes in agriculture**

The transformation of Ukraine's agriculture to the conditions of a market economy in the direction of the development of agricultural holdings is a perspective for the development of agricultural production. At the same time, the implementation of these measures necessitates the study of socio-psychological relations between teams of different industries and even industries. The rural population remains the most unprotected link in the chain of movement of material and technical resources and food to the final consumer. Processing monopolies, under the conditions of state liberalism in price policy regarding agricultural products, have the opportunity to access cheap raw material markets. And there is a large unorganized mass of product manufacturers on the market unable to protect their interests.

The study of socio-economic problems of the development of rural areas and socio-psychological aspects of perception of transformations and harmonization on this basis of relations between subjects of the agrarian market is an important task of economic science. Effective management of production is impossible without solving social issues, eliminating social tension and establishing partnership relations between agricultural holdings and the territories within which they conduct production. The development of the agricultural economy will largely be determined by the level of scientific and practical study of the social aspects of the transformation of agricultural production. In this regard, the developments of V.G. are valuable. Andriichuk, O.A. Bugutskoho, M.Ya. Demyanenko, Y.S. Zavadskiy, I.I. Lukinova, P.T. Sabluka, Yu.O. Nesterchuk, O.M. Onishchenko, I.V. Prokopy, E.I. Khodakivskiy, L.O. Shepotko, V.V. Yurchyshyn and other researchers. Socio-economic problems of the development of society, related to social-labor relations, social security, state management of its provision are highlighted in the works

of S.I. Banduri, A.L. Balandy, V.M. Geetsya, I.F. Hnibidenko, A.M. Kolota, E.M. Libanova, V.V. Onikienka, N.S. Palii, I.L. Petrova, V.M. Petyukha, S.I. Pirozhkova, V.A. Skurativskyi. The decline of rural areas requires an in-depth study of these problems and the implementation of programs to improve the welfare of the rural population, a real assessment of the results of its work and social protection. Kolota, E.M. Libanova, V.V. Onikienka, N.S. Palii, I.L. Petrova, V.M. Petyukha, S.I. Pirozhkova, V.A. Skurativskyi. The decline of rural areas requires an in-depth study of these problems and the implementation of programs to improve the welfare of the rural population, a real assessment of the results of its work and social protection. Kolota, E.M. Libanova, V.V. Onikienka, N.S. Palii, I.L. Petrova, V.M. Petyukha, S.I. Pirozhkova, V.A. Skurativskyi. The decline of rural areas requires an in-depth study of these problems and the implementation of programs to improve the welfare of the rural population, a real assessment of the results of its work and social protection.

Analysis of the dynamics of the processes that determine the standard of living of the rural population at the present stage indicates an unsatisfactory state of social development in rural areas, which is currently characterized not only by a deep demographic crisis, the decline of social infrastructure and the "extinction" of settlements, but also by the lack of motivation to work and high level of unemployment, accompanied by the outflow of labor resources.

The revival of agricultural production is the revival of Ukraine, its independence and state sovereignty. Where production disappears, the social development of the village ends.

The development of holding structures in agriculture opens up new opportunities for both peasants and local authorities, creates prerequisites for stopping the decline of the social sphere of the village, reducing the intensity of the process of depopulation of the rural population, promotes the growth of agricultural production, and increases employment in the agricultural sector.

The revitalization of rural areas and the solution of socio-economic issues is possible only under the condition of changing the

peasant way of life and industrial relations in the countryside, which should be aimed at the formation of an employee who is interested in the results of his work. Such measures should bring the capabilities of the rural population closer to the urban population in providing proper work, the level of income of rural workers, proper household and socio-cultural services, and increasing the prestige of the peasant's work.

The formation of integrated structures and the development of agro-industrial production on this basis is one of the main factors that determine the level of development of the social sphere of the village and the social welfare of the villagers. Providing the population with material goods, primarily food, industrial goods, services and conditions that satisfy a certain need of a person and correspond to his interests depends to a certain extent on their development.

The creation of agricultural holdings is a model for the exit of agricultural production from the crisis through the development of a modern competitive agro-industrial complex, which would be characterized by the following criteria: the production of competitive products capable of meeting the needs of all sectors of the economy; implementation of scientific and technical achievements in production, effective use of new agricultural machines, material resources, technological systems; development of agricultural market infrastructure; rational use of land, implementation of resource-saving and regenerative technologies; high level of environmental safety; achievement of effective functioning of structural subdivisions of agrarian associations [144].

A clear confirmation of this is the positive trends in the revival of production in rural areas, starting from 2000 - an increase in employment, an increase in the level of wages and the share of rent in the income of the population (Table 4.34).

The development of agricultural holdings contributes to the improvement of the financial condition of the owners of land plots, especially for pensioners, whose share in the total number of landlords exceeds 50%. There are no wages and rent arrears in enterprises that are part of agricultural holdings.

Table 4.34

**Social standards of agricultural development**

Year	Average annual salary of one worker, hryvnias		Deduction for wages of one employee, hryvnias		Rent for 1 hectare of leased land (arable land)	
	area of enterprises, thousands of hectares					
	up to 10,000 hectares	more than 10,000 hectares	up to 10,000 hectares	more than 10,000 hectares	up to 10,000 hectares	more than 10,000 hectares
2001	1439.2	1831.0	32.8	165.1	83.6	81.3
2002	1873.0	3011.4	52.3	499.9	96.1	96.1
2003	2179.1	2849.7	62.4	109.5	86.6	109.7
2004	3024.5	4220.1	89.5	155.9	115.7	110.6
2005	4038.0	5450.4	457.5	764.4	119.8	139.0
2006	5141.1	6815.3	590.4	804.8	125.4	138.0
2007	6591.3	7796.7	1108.2	1584.7	136.0	145.3
2008	9727.9	11401.8	2264.8	3107.8	191.0	216.0
2009	10549.8	13098.7	3123.4	4081.6	250.4	277.1

Source: State Statistics Committee of Ukraine. Form No. 50-s.-g. "Main economic performance indicators of agricultural enterprises for 2009".

The rent for land in 2009 was UAH 4.2 billion, or UAH 260/hectare. At the same time, only the 25 largest agricultural holdings, which control 10% of agricultural land, paid almost UAH 882.4 million in 2009, or 21% of lease payments (Table 4.35).

In the future, the peasants will also take into account such criteria as the regularity of rent payments, the willingness of the tenant to increase its amount, and implement socio-economic programs.

The state requires tenants to pay at least 3% of the normative monetary value of agricultural land. The company "Astarta-Kyiv" pays its landlords from 3 to 5%. Competition between agricultural holdings for the best allotments also affects the increase in the price of land lease. The rent payments of large companies in most cases exceeded the average figure of UAH 260 per hectare in 2009 announced by Derzhkomzem. The company "Stiomi-holding" pays shareholders 3.5% of the normative monetary value of the land. Given the limited land resources and increased competition in the rental market, they may have an increase in rental payments up to 5-6% and even 8%.

Table 4.35

**Amounts of rent for agricultural holdings**

The company name	Area of leased land, thousand hectares	The cost of the annual lease, million UAH	Rent for 1 ha, UAH
UkrLand farm Invest	430.0	169.5	394.2
LLC "Ukrainian agricultural investments"	330.0	95.3	288.9
Myronivskiyi LLC bread product"	280.0	84.7	302.4
Mriya Group of Companies	240.0	65.2	271.8
"HarvEast" (JSC "MMK named after Ilyich")	238.0	64.7	271.7
"Astarta-Kyiv" LLC	230.0	69.1	300.5
SE "Nafcom-Agro"	200.0	53.2	266.0
CJSC "Agroton"	150.0	45.0	300.3
Corporation "Privat-Agro"	150.0	43.8	291.7
"Loture"	101.0	29.1	288.2
"Stiomi-Holding" LLC	100.0	28.9	289.1
"Ukrzernoprom-Agro"	96.0	28.5	296.8
Sinthal Agriculture	100.0	29.1	291.3
"Ukrprominvest"	88.0	25.9	294.8
"Kernel Group"	85.0	25.8	303.2
CJSC "Industrialna dairy company"	85.0	24.6	288.9
<b>In total</b>	<b>2903.0</b>	<b>882.4</b>	<b>304.0</b>

Source: author's calculations based on public information.

Analysis of table data. 4.36 shows that there is a close relationship between the area of land use and social payments. The calculations shown in the table show that with the increase in land use, there is a tendency to increase the average annual salary of one worker, deductions and rent per hectare of arable land. Thus, the group of

enterprises with an average size of more than 15,000 hectares during 2005 and 2009 provides the largest amount of social payments.

*Table 4.36*

**Socio-economic parameters of production development depending on land availability**

Groups by arable land area, ha	Mr. gifts	The area of the village land, huh	including arable land	Average annual salary of one worker, hryvnias	Including		Deduction for wages of one employee, hryvnias	Rent for 1 hectare of agricultural land, UAH
					prostrate plants	tva-ryn-knock down		
<b>2005 year</b>								
201–500	1057	455	350	2956	2666	3408	359	73.8
501–1000	1704	903	747	3222	3233	3201	365	86.6
1001–2000	2406	1628	1455	3687	3599	3830	411	106.4
2001–5000	2160	3261	2991	4394	4282	4576	498	114.7
5001–10000	308	6812	6374	5128	5049	5277	584	120.5
10001–15000	35	12311	11879	5205	5007	5644	613	139.5
More than 15,000	20	30393	27901	5606	5455	5825	861	123.0
<b>In total</b>	<b>7690</b>	<b>2096</b>	<b>1891</b>	<b>4115</b>	<b>4016</b>	<b>4282</b>	<b>474</b>	<b>110.4</b>
<b>2009 year</b>								
201–500	1155	412	351	9008	7717	10902	2667	177.9
501–1000	1645	820	736	8719	8612	8979	2597	203.7
1001–2000	2536	1522	1436	9877	9678	10329	2930	238.9
2001–5000	2132	3183	3019	11170	10588	12370	3305	243.0
5001–10000	399	6944	6664	11702	11246	12753	3449	250.0
10001–15000	66	12267	11944	15483	13415	18621	4986	284.1
More than 15,000	61	32871	31675	12146	11666	13538	3720	261.9
<b>In total</b>	<b>7994</b>	<b>2259</b>	<b>2136</b>	<b>10924</b>	<b>10402</b>	<b>12057</b>	<b>3264</b>	<b>242.7</b>

Source: State Statistics Committee. of Ukraine Form No. 50-sg "Main economic indicators of agricultural enterprises for 2009".

The objective technical and economic advantages of agricultural holdings over small enterprises are as follows: a higher level of labor productivity; lower costs per unit of production; savings in capital and operating costs per unit area; greater opportunities for rational organization of production, use of technology, achievements of science and progressive practice; storage and sale of products in better terms and of higher quality, etc.

The creation of agricultural holdings is a step forward in the development of the agricultural economy, the restoration of social infrastructure, the creation of new jobs and the construction of a new model for the development of rural areas. Their formation takes place in an evolutionary way, but in a rather short time, which led to an increase in social tension in rural areas. Agroholding is a fundamentally new form and style of management, based on market principles, which contradicts the traditions of the collective management system, and is a catalyst for the awakening of the agricultural economy, which encouraged people to work. A fairly short period of capital entry into agriculture strengthened the rejection of the new form of business, given its aggressiveness in the struggle for survival and the absence of other "living" forms of business,

Holdings not only support the social infrastructure that has developed around enterprises, but also implement programs aimed at developing corporate solidarity among employees, increasing their level of social security, and creating conditions for comprehensive development of employees. Costs in the social sphere are in most cases compensated by the increase in labor productivity associated with employees' awareness of their responsibility to the team, acquisition of new work skills, and confidence in the future [20].

For the agricultural holding, the priority is to obtain an economic effect - profit, and for society - to ensure the moral and material benefits of the local community. The effectiveness of a specific enterprise and the public good are always in conflict. Achieving harmony in relations between two subjects and forming a balance of interests is an important task of economic science. Under the current conditions, the needs of society for the implementation of social issues significantly exceed the income from tax payments paid by enterprises.

Motives for the implementation of social programs: 1) traditions and the structure of social activities of enterprises, formed during seventy years of Soviet power, when enterprises maintained the social sphere; 2) the dependence of companies' activities on mutual relations with local authorities; 3) the desire of managers and owners of companies to provide assistance to people in need.

Corporate social projects and programs are divided into two groups. Internal social programs are aimed at the development and social support of our own staff. However, they are often interpreted too broadly, calling them social projects. For example, they include actions and decisions aimed at improving qualifications, training employees, which is a mandatory element of the strategy of personnel services and is caused by the need to increase the competitiveness of employees and enterprises as a whole. This is one of the functions supporting business development [20].

Studies show that a significant part of investors in agricultural business are engaged in charity to one degree or another (according to various data, from 60 to 90% of Russian companies).

Among the social measures implemented by investors during 2007–2010 in the Zhytomyr region are: provision of practical assistance to village councils regarding the improvement of villages, production of design and estimate documentation for geodetic works (for gas supply in Lubarsk and other districts), opening of dispensaries, road repair, the purchase of New Year's gifts for schoolchildren, the purchase of buses for transporting children to schools and gymnasiums, and the allocation of funds for the celebration of festive events by schoolchildren, etc.

Most of the companies provide targeted assistance to schools, children's institutions in terms of providing free lunches, holding cultural and mass events related to the celebration of holidays.

Financing of the social sphere (school canteens, kindergartens, clubs) is carried out at the expense of funds allocated for sponsorship.

Limits on social activities are set in agricultural holdings. For example, the Astarta-Kyiv company, which leases 150,000 hectares of land in Ukraine, allocates 1% of its profit to the implementation of social programs. JV "Nibulon" LLC is an example of social responsibility of business. The company is implementing a targeted



program. The company pays serious attention to the re-equipment of schools. For medical institutions, the most modern equipment is purchased, which allows the treatment of many serious diseases. In 2003, CJSC "Rise" established an equestrian school. "Agro-Alfa" company finances football teams. The social factor of the company's activity is primarily related to the fulfillment of obligations under land and property lease agreements. In the conditions of significant delays with payments, agricultural holdings are settled on time for the commitments made.

In order to restore mass cultural and sports work, some agricultural holdings organize their own sports teams from among the employees of structural units and hold intra-farm tournaments. An example of this is the economic activity of the company "Rise". In order to improve the organization of mass cultural and mass sports activities in agricultural higher educational institutions, periodic reviews-contests of amateur artistic activities, sports competitions, etc. are held.

The lease mechanism allows agricultural holdings to create an enterprise of the desired size, to reveal their best entrepreneurial abilities, to optimize the structure of land use, to create effective structural subdivisions, and to solve socio-economic issues of rural areas.

Along with technologies, new management, new management systems and the transfer of part of the social benefits available to the urban population are involved in agriculture. In particular, it is the gasification of settlements, the development of telecommunications: the Internet, mobile communications, satellite television. At the same time, the legal awareness of the population in terms of protecting their rights has increased, in particular, the appeal to the relevant regulatory bodies and courts, which, in turn, did not allow the former to conduct their relations with employees as former "collective farm workers".

Agricultural holdings introduce programs of social responsibility, they help universities train high-class specialists, implement programs to help orphanages, improve the infrastructure of Ukrainian cities, finance film and literary contests and do not forget about charity.

The social impact of a project or program should be understood as the results of any public, public or private initiatives that affect how

people live, work, have fun, relate to each other, organize themselves to meet their needs and generally function as members of society [ 20].

Management needs personnel capable and ready to work to achieve the company's goals. Motivation, loyalty, commitment of the staff are the most important factors of the company's success. Internal social programs can and should directly influence the positive development of these characteristics, the attitude of employees to the organization of their own work in it [20].

An important task in this context is the formation of a center for the implementation of social programs, for which agricultural holdings are creating a new position - the manager of social programs.

The introduction of progressive forms and methods of labor organization and payment, full state accounting, strengthening of the dependence between the final results of activity and the amount of optimal remuneration, fair payment norms contribute to the formation of such qualities of the employee as responsibility, business efficiency, entrepreneurship. Therefore, in those labor collectives in which relationships are skilfully rebuilt due to the introduction of more advanced forms of organization and stimulation of work, people's psychology is rapidly changing [38].

The total need for funds to reform the social sphere of the countryside in Ukraine amounts to UAH 5.7 billion, incl. by 2011 – 2.6 billion UAH and by 2015 – 3.1 billion UAH. It is clear that agricultural holdings will not be able to take on such a financial burden, therefore a comprehensive state program for the development of rural areas is needed. At the same time, they are the main task of creating new jobs and providing adequate wages [211].

The creation of agricultural holdings is a model for the revival of agricultural production and, on this basis, ensuring the food supply of the people of Ukraine at the level of rational nutritional standards, providing raw materials for industry, increasing the labor employment of peasants, raising their wages to the level of workers in industrial industries, increasing the welfare of peasants and the social development of the Ukrainian countryside.

Summarizing the experience of the operation of agricultural holdings in the agricultural sector allows us to determine their main competitive advantages. The members of the association get access to

new opportunities, which strengthens their competitive positions, ensuring the growth of profits and sales volumes. Local self-government bodies are interested in the growth of tax revenues, the creation of new jobs, and the implementation of social programs thanks to the improvement of the financial condition of enterprises that are part of agricultural holdings. Financial institutions, primarily credit institutions, benefit from associations, because the risk of non-repayment of loans issued by the enterprise decreases, as agricultural holdings master new technologies in management and production, strengthen their competitive positions, reach a higher level of development, move from mutual competition to mutually beneficial cooperation.

From the data in the table. 4.37 it can be seen that in agricultural enterprises, with an increase in the area of arable land, the indicators of economic activity and the level of remuneration of employees increase.

The increase in production volumes, thanks to the development of integration processes, as well as the improvement of the quality of food products with the simultaneous growth of the purchasing power of the population contributed to an increase in the consumption of basic food products by 1.1–1.2 times compared to 2009 and stimulated additional investment in the industry.

Table 4.37

**Dependence of indicators of economic activity on the availability of agricultural land in agrarian formations**

Groups by salary of one worker per year, hryvnias	Number of farms	Average annual salary of one worker, hryvnias	Area s.-g. land, huh	Including arable land, ha	Gross agricultural production per 100 hectares s.-g. land, UAH	Gross production output per 100 hectares of arable land, hryvnias	Labor productivity, thousand UAH per employee
Up to 6000	2299	4059	1252	1151.4	157	123	53
8000	1694	7009	1600	1494.8	214	132	76
10000	1674	9053	1829	1722.0	215	136	72
12000	1219	10995	2413	2279.2	199	150	68
More than 12,000	2302	16823	2861	2720.0	313	173	105
<b>In total</b>	<b>9188</b>	<b>11141</b>	<b>1979</b>	<b>1861.0</b>	<b>239</b>	<b>149</b>	<b>81</b>

Source: State Statistics Committee of Ukraine. Form No. 50-s.-g. "Main economic performance indicators of agricultural enterprises for 2009".

On average, one person consumed 4.3 kg of meat and meat products, 17.3 kg of milk and dairy products, 24 eggs, 1.2 kg of fish and fish products, 3.1 kg of sugar, 1.2 kg of oil and other vegetable fats, 10.6 kg of potatoes, 12 kg of vegetables and melons, 4 kg of fruits, berries, nuts, grapes, 9.3 kg of bread and bread products (Table 4.38).

Transformational processes in the economy and the protracted nature of the transition period led to the decline of the village's social infrastructure. Residents of half of rural settlements do not have access to even the minimum set of social services. During the period from 1999 to 2003, the network of rural preschools decreased by almost 16%.

Table 4.38

**Consumption of basic food products by the population of  
Ukraine, kg (per person per year)**

Food	Minimum norms 1	Rational norms 2	Year				2010 to 2009 %.
			1990	2000	2009	2010	
Meat and meat products	52	80	68	32.8	49.7	52.0	104.6
Milk and dairy products	341	380	373	199.1	212.4	205.5	96.8
Eggs, pieces	231	290	272	166	272	290	106.6
Bread and bread products	94	101	141	124.9	111.7	111.0	99.4
Potato	96	124	131	135.4	133.0	127.5	95.9
Vegetables and melons	105	161	103	101.7	137.1	144.1	105.1
Fruits, berries and grapes	68	90	47	29.3	45.6	48.0	105.3
Fish and fish products	12	20	18	8.4	15.2	14.5	95.4
Sugar	32	38	50	36.8	37.9	37.0	97.6
Oil	8	13	12	9.4	15.4	14.6	94.8

<sup>1</sup>Approved by the Resolution of the Cabinet of Ministers of Ukraine dated April 14, 2000, No. 656 "On approval of sets of food products, sets of non-food products and sets of services for the main social and demographic groups of the population."

<sup>2</sup>According to the terminology of the Ministry of Health of Ukraine, "Estimated set of basic food raw materials and food products to provide on average per capita for 2005-2015".

Source: State Statistics Committee of Ukraine.

The main reason for migration processes remains a significant difference in living conditions in the city and the countryside - in contrast to more developed countries, in which the living standards of the urban and rural population are as close as possible.

According to the International Labor Organization, the employment rate of the working population of villages in 2008 was 63.7%. The majority of the unemployed are foreign labor migrants,

whose long absence leads to neglect of children in families, divorces, moral decline, etc. The growth of unemployment in the countryside, in contrast to urban settlements, increases the acuteness of the situation in the field of employment. Mass unemployment of rural residents is the result of the decline of auxiliary workshops and industries of agrarian enterprises, industrial production in rural areas; reduction of pendulum migrants; reduction of agricultural production in the 1990s, deterioration of its sectoral socio-economic structure. Another reason is a significant decrease in the share of labor-intensive types of products in the sectoral structure of agricultural production: flax and hops, sugar beets, milk and meat, fruits and berries; almost complete transfer of potato and vegetable production from agricultural formations to households. As a result, the number of people employed in agricultural production in 1991–2008 decreased from 4.2 million to 1.65 million people. At the same time, there is hidden unemployment in agricultural enterprises, where the majority of the working population does not consider themselves employed and runs their own business.

The main reason for the unemployment of the rural population can be considered to be structural factors associated with a sharp drop in the volume of agricultural production, as well as the slowness of the introduction of market transformations in the countryside and the diversification of the rural economy. In 2007, the level of economic activity of the rural population of working age was 40.4% of the total population of the corresponding age group.

The creation of agricultural holdings created favorable starting conditions for the revival of agricultural production, its transfer to an intensive way of management, the initiation and active development of entrepreneurship, and the renewal of the social infrastructure of the sphere.

WITHdue to the low supply of rural settlements with district hospitals, children's institutions, secondary schools, against the background of depopulation processes, the migration of rural youth, the number of people employed in agriculture has significantly decreased over the past ten years. And withfor years, the number of the employed population (aged 15–70) in agriculture has been declining catastrophically. If in 2000 this figure was 134.7

thousand people, then in 2007 – 84.8 thousand people (37.1% less). In addition, 14.3% of the registered number of full-time employees have partial and basic higher education and only 6.6% have full higher education.

The employment situation in the countryside directly depends on the effectiveness of state policy. For rural areas, the expansion of the spheres of employment is of particular importance, which can be achieved through the development of auxiliary industrial and processing enterprises, fundamental improvement of the social infrastructure of the village, support and development of farming, entrepreneurial activity.

Further differentiation of the living standards of the rural and urban population threatens the final departure of the most active and able-bodied part of the rural population to the cities and the intensification of external labor migration. The reduction of the rural part of the population due to the above-mentioned factors leads to an increase in the demographic burden in rural areas, which increases resource needs for solving economic and social problems.

Contrary to expectations that farms will be able to accumulate a significant number of rural residents who will be released from the public sector, in recent years there has been practically no expansion of those engaged in this type of activity. No more than 3,000 people work permanently in 768 farms of the region.

Newly created enterprises are oriented towards private ownership and the implementation of economic activity according to market principles, the philosophy of their development is not to bear the social burden of the territories in which they conduct their economic activity along with economic activity. At the same time, for 70 years, the rural population got used to living as a community, a "collective farm", and with the thought that "everything around is collective farm - everything is mine." A significant share of natural products was "taken" by the rural population from the collective farm fields and at the expense of this, they developed their own subsidiary productions. Such psychology is incomprehensible to a private investor, he invests and wants to get the result - profit. At the same time, he is not interested in whether the cows will be fed in households located next to the field on which corn is sown. He is interested in getting a good crop of corn,

At the same time, the development of social infrastructure, which the majority of agricultural enterprises transferred to local councils, remains problematic. At the same time, the latter do not have the means to maintain it. A closed circle turns out. There is no production, no income for rural workers, no income to the budgets of various levels, no development of social infrastructure. The circle closes and only the development of own production can guarantee the development of rural areas at a self-sufficient level. Studies show that there is a proportional relationship between the rates of closure of livestock complexes and the birth rate of children in these areas.

Modern infrastructure is necessary for the introduction of innovative technologies. The experience of Belarus in solving issues of social protection of the population, the creation of agricultural towns, which allows creating proper conditions for the life and work of the rural population, is useful.

At the same time, in order to strengthen the integration processes, it is necessary to work out the mechanisms for the formation of joint-stock forms of management in agriculture, the legislative regulation of the activities of these formations, to work out the mechanism for redistributing part of their deductions to the budgets of different levels for the development of social infrastructure.

One of the problematic issues that agricultural holdings have to solve is the optimization of the number of employees, as a result of which some employees remain unemployed. At the same time, not always enough attention is paid to the social factor regarding the adaptation of laid-off employees, an individual approach to their possible employment in other positions. And for the remaining employees, the household calculation, which would link the staff, wages and profitability of the employees' work, is not implemented effectively enough; lack of visibility between staff reductions and salary increases for other categories of employees. Additional and other types of leave are accrued incorrectly, registration cards and work books are not completely filled out. The Collective Agreement is not always developed, approved and implemented. There is no work to prevent conflict situations: there is no procedure for consideration of proposals, statements, complaints and organizations for the personal reception of employees by the management; as a result, there are cases



when shortcomings in the work of branch specialists lead to conflict situations (arrival to work, refusal to perform certain types of work) and conflicts that could be resolved in the working order turn into court cases.

At the same time, overstaffing increases the costs of providing jobs; medical examinations, attestation of workplaces, technical inspections, expenses for labor protection; increase of employees' access to material assets: fuel, spare parts, feed, which means their loss (theft). In addition, an inflated staff, in addition to the costs of wages to employees, the payment of mandatory taxes from the payroll fund, proportionally increases the costs of maintaining the material means with which the employee performs his duties.

Based on the research conducted, it can be concluded that the main directions of normalization of industrial and social relations between agricultural holdings and their employees are:

- registration of the collective agreement in the local authorities and bringing its provisions to the attention of the employees of the structural units;
- election of the labor collective council;
- preparation of an order on approval of the list of positions of employees with irregular working hours and an order on employees entitled to additional annual leave;
- approval of the Regulation on remuneration at the meeting of the labor collective council;
- approval of the list of equipment and the procedure for its use when providing services to members of the labor team;
- solving the issue of maintenance of social sphere objects in cooperation with local self-government bodies;
- introduction of a staff list, based on typical workload norms and all possible forms of employment relations with employees;
- development and approval of job descriptions;
- formation of the company's personnel reserve;
- development and approval of provisions on certification, training and retraining of managers and specialists;
- analysis of personnel work and proposals for its improvement;
- approval of the code of corporate policy of the holding and instructions on conflict prevention.

The development of integration processes and the formation of agrarian associations of agricultural producers on this basis contributes to the allocation of additional funds for industrial and housing construction, the creation of social-cultural and household facilities, roads, gasification and water supply of villages.

When organizing structural subdivisions of agricultural holdings, it is very important to take into account the socio-psychological factors of the environment in which it is necessary to work. Psychological advantages of participation of agricultural commodity producers in integrated structures: distribution of the risk of market activity among other participants of the formation; communication and exchange of experience with colleagues regarding management and management; conducting competitions among participants for the highest economic indicators; provision of social development of the village through telephoning, support of social infrastructure, organization of recreation. The problem of socio-psychological relations in a complex production structure becomes important and must be solved in accordance with the specific conditions of each period, the characteristics of the enterprise and its relations with other enterprises [38].

The development of agricultural holdings and increasing the efficiency of agricultural production based on them is a prerequisite for revising local taxation as the main form of mobilization of financial resources at the local level.

The current state of economic development of the agro-industrial complex places special demands on agricultural holdings. Along with the restoration of resource potential, optimization of the production structure, territorial placement, development of investments, they should focus their attention on the formation of the labor potential of enterprises, the restoration of social infrastructure and the implementation of social programs.

When forming the optimal sectoral and socio-economic structure of the rural sector of the economy, appropriate regulatory influence of the state is necessary. It consists in stimulating the production of agricultural products to the levels of consumption norms, supplying raw materials for food and light industry, the possibility of minimizing hidden unemployment and redistribution of those employed in

agricultural production, the possibility of expanding the sphere of productive employment in agricultural production.

The current situation requires deep institutional transformations. This requires a deep systemic analysis, including one based on constant monitoring and sociological research taking into account regional specifics.

## CONCLUSIONS

Agricultural production in the conditions of market relations requires fundamentally new approaches to the organization of its management by building a closed cycle of production, eliminating intermediary influence, establishing effective management and marketing, entering new product and capital markets, introducing innovations and building infrastructure. To date, this has led to the active development of integrated structures.

Integrated structures represent, from a legal point of view, the pooling of capital of enterprises under the control of a management company. From an organizational point of view, it is a "state within a state" with all its inherent functions. From the point of view of management, this is, to some extent, a symbiosis of the standards of a planned economy on a new technological, organizational and innovative basis, which is based on automated systems of management, accounting and auditing of production activities. From an economic point of view, it is an effective tool for strengthening the competitiveness of national production and raising the social standards of life of working people, improving rural areas and implementing social programs.

Accumulation of financial, material, energy and labor resources provides favorable conditions for implementation of investment projects, improvement of relationships between all participants of the integration process and their interest in business results and profit maximization.

Integrated structures cover, as a rule, the entire cycle of production, processing and sale of products and are characterized by purposeful reproduction of the industry on a new technological, organizational and economic basis. As a result of the research, the organizational, economic, structural and legal stages of the creation of integrated structures were identified, the general scheme of the agro-industrial association and its organizational model were built, in which the management system consists of two control centers - financial and production. A comparative analysis of the integration of business activities depending on the form of association of companies was carried out. Four options for the organization of the agro-industrial

chain of an integrated structure and the possibility of its optimization by uniting enterprises into a territorial production cluster are substantiated. The organizational scheme of an agro-industrial association with the involvement of foreign capital has been developed. Systemic studies allow us to establish that the principles underlying the ideology of the creation and operation of integrated structures can become an effective tool in building a model for the further development of the agro-industrial complex of Ukraine.

One of the factors determining the success of the development of integrated structures is the establishment of effective management of production processes, the components of which are: training and advanced training of personnel, management of market risks, optimization of financial and investment activities taking into account the company's single mission and long-term goals, control over rational management of business processes. Effective use of new equipment and modern technologies and production management systems is possible in combination with modern methods of working with personnel.

An important condition in the management of production and economic activity of integrated structures is the motivation of work. The main requirements on which it should be based include: provision of equal opportunities for promotion based on the criterion of work performance, creation of appropriate conditions to protect the health, safety, and well-being of all employees, maintaining an atmosphere of trust in the team, etc. On the basis of research, a classification of labor motivation methods was carried out, which includes economic (direct), economic (indirect) and non-monetary methods.

Management of business processes in integrated structures is provided by budgeting as a system of financial planning, accounting and control of income and expenses received from the company's activities. Budgeting is an integral part of the enterprise's production and financial plan. The development of a unified financial system of enterprise management through budgeting can have an effect within the framework of large integrated structures, where each branch will function with clearly defined centers of profits and costs of the entire production and financial process. At the same time, functional services are created within the central office to serve all divisions.

The functional structure of personnel management in integrated structures provides for the organization of document flow, project personnel management, personnel issues, training and implementation of social programs, fundamental requirements for managers and specialists of all levels, which are caused by the need to strengthen organizational work with personnel.

In economic formations created on the basis of collective agricultural enterprises, production has increased in recent years and efficiency indicators have increased, but such growth does not meet the modern requirements of the market economy. Conducting efficient agricultural production in market economic conditions requires fundamentally new approaches to its organization and resource provision, in particular, technical renewal and modernization of production, creation of a favorable investment climate, formation of effective management of production processes and introduction of innovations. The technical and economic advantages of integrated structures are: adequate level of resource provision, greater opportunities for rational organization of production, use of equipment, storage and sale of products in better terms and of higher quality. Effective use of resource potential is ensured by the construction of vertically integrated structures with delivery of products to the final consumer and control of costs at all stages of the technological chain and minimization of the influence of intermediary structures. Intensive resource-saving technologies are being implemented taking into account the bioclimatic potential of the regions, specialization and concentration of production is deepening.

Ensuring the sustainable development of production should be achieved thanks to the harmonization of the balance between the amount of resource potential and the ability of the land to reproduce its fertility. When forming land massifs, the company must be guided by the principle of economic rationality, which will allow to obtain the maximum profit with a minimum of costs. The results of the conducted correlation-regression analysis show that in integrated structures, with an increase in costs per unit of area and an increase in land availability, the profit from crop production increases. In conditions of better resource provision and the application of advanced technologies,

integrated structures obtain higher indicators of economic activity compared to other agricultural enterprises.

The study of the dynamics of integration processes taking place in agriculture makes it possible to predict the growth of the number of integrated structures and the expansion of their areas at the expense of farms engaged in extensive agriculture. The increase of integrated structures, the expansion of the scope of their activities confirms the fact that, in general, this is not a short-term phenomenon, but a clear pattern that proves the profitability of investing in agriculture. The research revealed problems that arise when creating integrated structures, in particular: the parent company receives unlimited economic powers, and the structural units lose their legal independence and a significant part of the means of production; there is a conflict of interests between the investor and the local community, caused by the reduction of certain productions and animal husbandry,

The main areas of improvement of economic relations between the structural divisions of integrated structures are the improvement of the organization and personnel management system, the optimization of the production structure and the development of optimal models of the ratio of industries. Land lease relations need improvement in the direction of introducing a system of legal regulation of the land lease market and the development of mortgage transactions.

In order to realize the competitive advantages of integration processes, a constructive state agrarian policy is necessary, which should become a priority in the system of economic transformations. This concerns, first of all: the development of a strategy for the development of agriculture; improvement of land legislation and regulation of property relations; lending for the development of agricultural market infrastructure and protection of domestic producers, import restrictions; creation of a land bank; development of a scale of motives for investors, primarily those that will develop the social infrastructure of the village.

The development of the agricultural economy should be closely related to the development of rural areas. Along with effective production, it is necessary to solve social issues, avoid social tension and promote the establishment of partnership relations between commodity producers and the territories within which they conduct

production. The analysis points to the unsatisfactory state of social development in rural areas, which is currently characterized not only by a deep demographic crisis, the decline of social infrastructure and the "extinction" of settlements, but also by a lack of motivation to work and a high level of unemployment, which is accompanied by an outflow of labor resources. Low deductions to local budgets and the economic condition of agricultural enterprises do not make it possible to fully resolve the issue of rural development.

The activities of integrated structures are a step forward in the development of the agricultural economy, the restoration of social infrastructure, the creation of new jobs and the construction of a new model for the development of rural areas. The formation of such structures takes place evolutionarily, but in a fairly short period of time, which leads to increased social tension in rural areas. For various reasons, in full or in part, not all integrated structures start production activities on leased land in the first year. The technical re-equipment of production is accompanied by the optimization of the number of employees, while not always sufficient attention is paid to the social factor - the adaptation of laid-off workers, an individual approach to their possible employment in other positions. For integrated structures, the priority is obtaining an economic effect - profit, while for society - ensuring the moral and material benefits of the local community. The efficiency of a particular enterprise and the public good are always in opposition. Achieving harmony in relations between subjects and forming a balance of interests is an important task of research. Under the current conditions, the needs of society for the implementation of social issues significantly exceed the income from tax payments paid by enterprises.

Integrated structures not only support the social infrastructure that has developed around enterprises, but also implement programs aimed at developing corporate solidarity of employees, increasing their level of social security and creating conditions for comprehensive development. Expenses in the social sphere, in most cases, are compensated by increasing labor productivity, acquiring new work skills, and confidence in the future. At the same time, along with technologies, new management, new management systems and the



transfer of part of the social benefits available to the urban population are involved in agriculture.

The results of a comprehensive study indicate that in order to improve the efficiency of integrated structures and the development of rural areas, it is necessary to improve the legislative framework to eliminate misunderstandings between integrated structures and local communities regarding the payment of taxes. This will make it possible to fill the revenue part of local budgets and implement social programs.

## ADDITION

Continuation of the

**The largest agricultural holdings of Ukraine, their sizes and types of activities (2011)\***

No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
1	<b>Ukrlandfarming plc</b>	the largest agricultural holding of Ukraine, controlled by businessman O. Bakhmatyuk. In 2011, it included a number of large companies: "Rise", "Dakor Agro Holding", LLC "Agro-Alfa", "Avangard".		436 (plan480)
	CJSC "Rise", 1992	The holding includes a sugar factory, 3 elevators with a total capacity of almost 620 thousand tons of one-time storage, 5 seed plants, 5 subsidiaries specializing in the distribution of high-quality seeds, plant protection products, min. fertilizers, agricultural machinery, and trade in grain and oil crops. Represented by 64 branches throughout Ukraine. 2 subsidiaries in the Russian Federation and 1 in Moldova	Agricultural production, processing, storage and provision of services. Located in Poltava, Sumy, Ternopil, Zaporizhzhia, Rivne, Kirovohrad and Cherkasy regions	180
	"Dakor Agro Holding"	Cultivation of grain and oil crops. By 2010 – build 4 elevators with a capacity of 50,000 tons each, – 5 sugar factories	Lviv, Zhytomyr, Khmelnytska, Ivano-Frankivsk, Ternopil region	164
	Ltd "Agro-Alfa"	Cultivation of grain and industrial crops, breeding of cattle (22 thousand heads)	Zhytomyr, Kyiv, Chernihiv, Poltava	82
	Company "Vanguard"	According to the results of 2010, it occupies 26% of the egg market (43% of the industrial egg market) in Ukraine and 79% of the country's egg products market. According to the results of the first half of 2011, the production of eggs increased by 83% compared to the same period in 2010 - up to 2.9 billion eggs; by 30% of the poultry population - up to 24.4 million heads. As a result of the IPO on the London Stock Exchange in May 2010, the company raised \$200.2 million. In October 2010, the company placed Eurobonds in the amount of \$193.5 million	The company's enterprises are located in 14 regions of Ukraine and in the Autonomous Republic of Crimea.  In October 2011, the first phase of poultry farms for 5 million heads will be launched in the Kherson region, in which \$250 million has been invested	h

No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
2	LLC "Ukrainian Agrarian investment"	The company grows wheat, corn, sunflower, rapeseed, soybeans and barley and consists of 70 agricultural companies. In 2011, cultivated up to 216 thousand ha. The company's EBITDA in 2010 was at the level of \$40 million	Kirovohrad, Poltava, Chernihiv, Sumy, Khmelnytskyi, Ternopil, Odesa, Mykolaiv, Chernivtsi	330
3	Group enterprises WATT "Myronivskiy bread product", 1995	20 enterprises that are united in the production facilities of the entire technological chain of poultry production. The composition includes: 6 poultry farms, a plant for the production of cereals and compound feed. It occupies about 40% of the broiler meat market. The products of "Myronivsk Hliboprodukt" are produced under the following brands: "Nasha Ryaba", "Legko!", "Friendship of Nations", "Bashchynskiy", "Europroduct", "Certified Angus" and "Foie Gras". About 65% of MHP shares belong to Y. Kosyuk, the last 35% are in free circulation on the London Stock Exchange. MHP ended 2010 with a net profit of \$215 million, its revenue increased by 33%, or \$233 billion, to \$944 billion compared to 2009	A vertically integrated complex of enterprises for the production of chicken, hatching eggs, fodder and cattle breeding. ARC, Kyiv, Cherkasy, Kherson, Dnipropetrovsk, Vinnytsia, Donetsk, Ivano-Frankivsk	280
4	Agroholding "Mriya", 1992	In June 2008, Mriya Agro Holding completed a private placement of 20% of shares for the total amount of \$90.1 million, and in March 2011 it placed five-year Eurobonds for \$250 million. According to the results of January-March 2011, the holding received a net profit of in the amount of \$1.62 million against a net loss of \$6.96 million for the same period in 2010. In May, the company also signed an agreement to increase financing with the International Finance Corporation (IFC), according to which it received \$50 million	Created by Ivan and Klavdia Gutami. Specializes in growing wheat, barley, rapeseed, sugar beet, buckwheat, potatoes. In four regions of Western Ukraine	240 (plan – 290)
5	"HarvEast", 2011	Created on the basis of agricultural assets of JSC MMK named after Ilyich, acquired in 2010 by "Metinvest", a mining and metallurgical holding created by SCM and "Smart-holding" with shares of 75:25. Controls 67 agricultural enterprises. There are 36,000 cattle, 60,000 pigs, and more than 270,000 poultry.	Cultivation of cereals, sunflowers, vegetables, potatoes, melons; production of milk, eggs, poultry meat, wool. Donetsk, Zaporizhzhya, Cherkasy, Zhytomyr regions and Crimean	238

No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
			Autonomous Republic, Kyiv region	
6	Ltd "Astarta-Kyiv", 1993, Astarta Holding NV	Includes 36 agricultural enterprises, 2 trading companies, 8 sugar factories. In 2010, it processed 1.56 million tons of beets and produced 200,000 tons of sugar, which was about 13% of the total production of beet sugar in Ukraine and kept the company in first place on the market. In 2010, it increased its net profit by 2.7 times - up to Eur80.04 million. Its consolidated income for 2010 increased by 71% - up to Eur219.33 million. The holding employs about 7 thousand people	Cultivation of sugar beets, grain and oil crops, cattle, production of compound feed, canned vegetables and fruits. Poltava, Vinnytsia and Khmelnytsky regions	230 (plan – 250)
7	SE "Nafcom-Agro"	The business is mainly focused on crop production, the company owns elevators. "Nafcom-agro" is associated with the name of the son of the ex-president of Ukraine Leonid Kravchuk	Chernihiv, Poltava, Vinnytsia, Sumy, Cherkasy	200
8	CJSC "Agroton", 1992.	2 elevators, 2 mills, an oil production plant, a compound feed plant, a pasta factory, a bakery, a poultry farm. Warehouses with a total capacity of 235,000 tons. 55.38% of the companies belong to IFG directors limited, 18.46% to BNY (Nominees) Limited. Net profit in 2010 increased 3.1 times to \$15.7 million	Cultivation, as well as processing, storage and sale of products in Luhansk and Kharkiv regions	150 (plan – 200)
9	Corporation "Privat-Agro" (city of Dnipropetrovsk) 2005	Control over 30 agro-industrial and trade enterprises. Zaporizhzhia MEZ, Kharkiv and Lviv fat processing plants. The brand is "Chedro". There are more than ten elevators in the Zaporizhzhia region	Dnipropetrovsk, Poltava, Kharkiv, Cherkasy, Odesa, Mykolaiv, Lviv, Kirovohradsk	150
10	NCH New Europe Property Fund Lp (stock)	A fund whose funds are invested in real estate and agricultural companies. Through majority shares in three Ukrainian joint ventures, controls 35 agricultural companies. According to NCH Capital Inc., the company that manages the fund, NCH New Europe Property Fund Lp, its volume is \$550 million	h	About 300
11	"Ukragroinvest" 2005	Cultivation, purchase, sale and processing of grain crops, rapeseed, soybeans. CJSC "Lanniv milk cannery plant", Khmelnytskyi dry skimmed	Vinnytsia, Kirovohrad, Cherkasy, Poltava, Chernihiv, Sumy,	140 (plan –

No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
12	Valinor Public Ltd	milk plant  In 2011, it was separated from the Valars Group, which controls 358,000 hectares, including on the territory of Russia (238,000 hectares) and Ukraine (120,000 hectares). In 2011, expand the land bank in Ukraine by 25% to 150,000 hectares. Russian grain trader. Warehouse assets contain 972 thousand tons, incl. three elevators in Russia and four in Ukraine. The owner of the group is Valars Management, the main beneficiary of which is Kyrylo Podolskyi	Khmelnyskiy, Ternopil, Odesa  Mykolayivska, Poltava, Cherkassy	250)  120 (plan – 150)
13	Ltd "Agroprodinvest", 1993	Four confectionery factories - in Ukraine, one - in Russia, one - in Lithuania. In 2001, the company bought three sugar factories in Vinnytsia. TM "Home brand", "Radomyshl"	Cultivation of cereals, corn, soybeans, rapeseed, sugar beets. Develops dairy farming in Vinnytsia and Cherkasy regions	100
14	"Loture"	The composition includes the company "Korovay", the flour milling company "Luhanskmlyn". The company is actively engaged in grain trading (it is among the leading grain exporters)	It is engaged in agricultural production, grain processing, as well as the production of bread, bakery and confectionery products in the Luhansk region	101
15	"Stiomi-Holding" LLC, 1994. (Khmelnyskiy)	MAshinno-tractor park - more than 500 units. The group includes Khmelnytskyi bread factory	The main activity is concentrated in the Khmelnytskyi region	100
16	Sintal Agriculture, 2008	She owns two sugar factories, a pig farm. The total capacity for grain storage is 140,000 hectares (including 100,000 tons - elevators). In 2008, it conducted a private placement of 15% of its shares and sold them for \$34.5 million, and in October 2009 it carried out a private placement of 17.2% of its shares for \$13 million. The company's shares are listed on the Frankfurt Stock Exchange. 53% of the shares belong to N. Tolmachev	Grows wheat, corn, sunflower, barley, sugar beets, buckwheat, soybeans, peas, etc. cultures in the Kharkiv and Kherson regions	100
17	APC "Shakhtar", "Mine	26 agricultural enterprises, 6 thousand cows, 25 thousand head. pigs, 500 thousand broilers, 1 million chickens.	Agricultural production in the Donetsk region	100

No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
	named after "Ambush"			
18	JSC "Ukrzernoprom", 1998	A vertically integrated holding that unites 30 enterprises of the flour milling and baking industry in different regions of the country: 8 bread factories, 2 poultry farms, elevators. It is among the top three producers of bread in Ukraine. 16 agricultural enterprises. 99.9% of the shares of Ukrzernoprom CJSC belong to MCB Agricole Holding AG	Cultivation of grain, oil crops, rapeseed Chernihiv, Kharkiv, Poltava, Vinnytsia, Khmelnytskyi, Zhytomyr, Odesa, Mykolaiv, Dnipropetrovsk regions and ARC	96
19	Bank group "Kyiv"	Kagarlytskyi and Brailivskyi sugar factories. Capitalization - 105 million dollars, the plan - for 2009 - 250-300 million dollars.	Kyiv, Cherkasy, Poltava, Chernihiv	90
20	"Kernel Group", 1994	The company owns three large processing plants with a total capacity of 730,000 tons per year and 24 elevators with a one-time storage capacity of up to 2.2 million tons), the share of sunflower seed processing is 15% of Ukraine's harvest. Represented by trademarks: TM "Stozhar", "Chumak", "Schedryi Dar", "Lyubonka". Financial indicators (9 months of the fiscal year ended March 31, 2011): revenue - \$1.43 billion, net profit - \$164.1 million. Kernel Holding controls 35% of the Ukrainian bottled oil market, in 2011 it acquired 100% of the Russian Oils group (Rus, Zlatitsa, Sila Sonnya, Kuhar Petro Kuhar Pavlo brands). "Kernel" entered the index of the twenty largest companies on the Warsaw Stock Exchange (WSE) Wig-20. In March 2011, it acquired 71% of Ukrros Sugar Union for \$42 million About 41.16% of Kernel is owned by the company's chairman A. Verevskyi	A vertically integrated national company. Produces sunflower oil, distributes bottled oil in the country, exports oil and grains, provides services for the storage of grain and oil crops in elevators, and also has agricultural production in Poltava, Odesa and Cherkasy regions	85 (215)
	"Sugar Union "Ukrros"	6 sugar factories, as well as 12 enterprises, elevators	Kharkiv, Cherkasy, Zaporizhzhya, Ternopil, Mykolaiv regions	75

No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
21	CJSC "Industrial dairy company", 2007	In 2010, the company produced 117,000 tons of grain and oil crops, 6,000 tons of potatoes, and 98,000 tons of green fodder. The number of IMC dairy herds is 5.6 thousand. In 2010, it produced 16,000 tons of milk and increased revenues by 72.3% to \$34.8 million, net profit by 9.2 times to \$14.8 million. In 2011, at the IPO, WSE, for 24% received \$29.8 million. Belongs to the chairman of the board of the company A. Petrov (former owner of the "Cheese Club" holding)	It specializes in the cultivation of grain, oil crops and potatoes, and is also one of the largest producers of milk in Ukraine. Poltava, Chernihivska	85
22	Avias-2000 group of companies	Agricultural production	Dnipropetrovsk region	80
23	"Svarog West Group", 2003	The elevator capacity is 120,000 tons. The corporation includes 26 enterprises engaged in animal husbandry and horticulture, with large vegetable and fruit warehouses. Cattle population - 12.5 thousand heads	Khmelnyskiy and Chernivtsi regions	75
24	Harmelia Holdings	It specializes in the production of grain and oil crops	Kharkiv and Poltava region	72.7 (plan – 140)
25	LLC SP "Nibulon", 1991, Mykolaiv	The company has 40 divisions located in eleven regions of Ukraine, elevator capacities with a total capacity of about 2 million tons, as well as its own transshipment terminal in Mykolaiv. Since 2009, it has been implementing a project involving the commissioning of a total of 17 elevators and river terminals, the creation of a fleet of 57 self-propelled and non-self-propelled vessels (including 14 tugs) with a total deadweight of 200,000 tons.	One of the largest domestic producers and exporters of agricultural products (wheat, barley, corn, rye, sunflower, etc.). Kharkiv, Poltava, Luhansk, Mykolaiv, Cherkasy, Khmelnytskyi, Vinnytsia regions	70 (plan – 90)
26	Landkom International	Cultivation of cereals and rape. The plan is to build four elevators in Western Ukraine. During the IPO in November 2007, the company raised \$111 million, in March 2008, the company raised \$22 million.	Lviv, Ternopil, Khmelnytska, Ivano-Frankivsk	67 (plan – 120)
27	"UkrAgroCom", 2000	It specializes in the production of grain and oil crops, raising pigs and cattle. the total capacity of elevator storage is more than 170,000 tons, its own compound feed plant	Kirovohradsk	63

No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
28	"KSG Agro"	13 agricultural enterprises. The net profit of "KSG Agro" in 2010 increased almost four times - to \$10.05 million, revenues - by 13.4% to \$15.6 million. According to the results of 2011, "KSG Agro" expects a net profit of \$20 million, revenues - \$27 million. On April 15, 2011, the company made an initial public offering (IPO) on the WSE. 33% of the company's shares were sold for \$40 million	A vertically integrated holding that is engaged in the production, storage, processing and sale of grain and oil crops, as well as vegetables and fruits. Dnipropetrovsk, Kharkiv and Kherson regions	52.9
29	Agro-Trade Company LLC, 1998, Kharkiv	The group includes 11 elevators and grain receiving enterprises with a total storage capacity of 530,000 tons in five regions of Ukraine. For 2011, investments in the amount of UAH 86 million are planned. Net income in 2010 increased to \$187 million compared to \$118.6 million in 2009. The volume of grain exports in 2010 was 620,000 tons.	Kharkiv, Poltava, Sumy, Chernihiv and Luhansk regions	45 (plan – 150)
30	Donetskstal, "ENERGO" concern	Cultivation of grain crops and harvesting of fodder, animal husbandry, poultry and beekeeping. Included: Donetsk OJSC "Winter" (ice cream), and dairy plant OJSC "Lactis"	Donetsk region	44
31	Baryshev Grain Company LLC	Cultivation of grain crops. Production of feed additives	Kyiv, Cherkasy regions	40
32	Agricultural firm "Gardens of Ukraine"	Agricultural production. Production of high-quality seeds. It has 10 branches	Kharkiv, Poltava, Mykolaiv, Odesa, Dnipropetrovsk, Cherkasy regions, ARC	40
33	Agricultural firm "Dawn"	three sugar factories. Agricultural production	Kyiv, Chernihiv	40
34	Agricultural Association "Clean Well"	Cultivation of grain and oil crops	Poltava region	35
35	MK Group, Serbia	Cultivation of grain and oil crops, sugar beets. 2007 - the beginning of the construction of an elevator in Yagotyn (Kyiv region) with a total capacity of 113 thousand tons per year. Investment in the project – EUR 10 million	Kyiv, Vinnytsia, Poltava and Cherkasy regions	35 (52)
36	CJSC Agromars complex, 1998.	Grain production, elevators, feed mills. The second largest producer of chilled broiler meat. TM "Gavrilivski chickens". 2006 - purchase of OJSC "Kurgan broiler" with foreign investments (Kharkiv region)	Kyiv, Ternopil region	35



No	Name	Characteristics of production activity	Specialization and territorial placement	Area, thousand hectares
37	Yuvs LLC	Verensky, Uhroidsky, Pivnenkivsky sugar factories in the Sumy region, poultry farm named after Putivlsky partisans (TM "Slobozhanske egg"), Verensky poultry farm, elevators, the total storage capacity of which is 80,000 tons	Sumy region	34
38	"ATK", 2005	The main activity is the production of soybeans and corn	Kyiv and Zhytomyr region	35.2 (plan – 60)
39	LLC "Hals-K LTD", AVK	Grigor.-Pustohariv sugar factory, Lynovytskyi sugar factory "Krasny" in Chernihiv region, Kashperivske HPP	Kyiv, Chernihiv regions	33
40	Agricultural firm "Olympex-agro"	Agricultural production	Dnipropetrovsk region	32
41	Interagroinvest	13 out of 25 agricultural enterprises of Stavyshtan district	Kyiv region	30
42	Ltd "Agrocomplex "Green Valley"	The structural division of the company "Tera Food" is the leader in the spread market of Ukraine and one of the main producers of hard cheeses (9% of the domestic market). Key brands: "Tulchynka", "White Line", Premialle, Milklife, Ukrainianglory	Vinnytsia region	30
43	ZAO Agrotech Corporation, 2000	Agricultural production	Kyivska	27
44	Continental Farmers Group (CFG, Isle of Man)	In 2011, it carried out an initial public offering (IPO) on the alternative platform of the London Stock Exchange (AIM LSE) with a parallel listing on the Irish Stock Exchange (ISE) and raised EUR 16.7 million	Lviv region.	21 (plan – 50)
45	Alpcot Agro	The Swedish agricultural company controls 204.6 thousand hectares in Russia and Ukraine, including 188.7 thousand hectares of land in the Russian Federation	h	15.8 (plan – 30)
46	Milkiland	It unites 10 processing plants and 4 agricultural farms. The owner of 94% of the authorized capital of the company Milkiland Nv, registered in the Netherlands, is the chairman of the board of directors of the company A. Yurkevich	h	15.7

\*The source of information is publications in mass media, surveys of owners and managers of agricultural holdings. Also, the source of information is [114,105]

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