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### **Use of Land Resources in Agriculture of Ukraine and their Potential During the Functioning of Land Market Opening**

**Abstract. Introduction.** . *The problem of land use has always been relevant, and today on the eve of the opening of the land market in Ukraine it is relevant as well, as land is the basis of any production, the main source of satisfaction of the primary needs and human labor, which together act as a material condition and as an active factor of the main means of production.*

**Purpose.** *The purpose of the paper is to determine the efficiency of the use of land resources in the agriculture of Ukraine and to assess their potential to identify investment attractiveness on the functioning of land market opening based on the analysis of performance indicators of agricultural land users of various forms of management.*

**Results.** *The issues of land transformation in Ukraine have been studied (considered) in the paper. The assessment of the land resource potential in farms of all categories has been carried out. A grouping of enterprises was carried out according to the size of the areas from which the harvest of grain and industrial crops was collected. The financial results from the production and economic activities of agricultural enterprises in Ukraine have been determined. It has been proved that the main goal of efficient use of land resources in agriculture of Ukraine is the volume of products produced per unit of land plot, profit and the level of profitability.*

**Conclusions.** *The implementation of this goal will lead to the emergence of investment attractiveness of land resources on the eve of land market opening, due to the flow of significant capital into the agriculture of Ukraine, it will contribute to the rational and environmental use and increase the socio-economic development of agricultural formations and the labor resources employed in this sector.*

**Keywords:** *agricultural sector; efficiency; land resources; investment attractiveness; resource potential; land market; agriculture.*

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### **Використання земельних ресурсів у сільському господарстві України та їх потенціал у період функціонування ринку землі**

*Проблема землекористування завжди була актуальною, оскільки земля є основою з основ будь-якого виробництва, головним джерелом задоволення першорядних потреб людини й людської праці, які в комплексі виступають як матеріальна умова і як активний фактор головного засобу виробництва. Мета статті полягає у визначенні ефективності використання земельних ресурсів у сільському господарстві України та оцінці їх потенціалу задля виявлення інвестиційної привабливості у період функціонування ринку землі на основі аналізу показників роботи сільськогосподарських землекористувачів різних форм господарювання. У роботі досліджено (розглянуто) питання трансформації земель в Україні. Здійснено оцінку земельно-ресурсного потенціалу у господарствах усіх категорій. Проведено групування підприємств за розмірами площ, з якої зібрано врожай зернових та технічних культур. Встановлено умови темпів зростання виробництва валової продукції галузей рослинництва й тваринництва у постійних цінах 2016 року. Визначено фінансові результати від виробничо-господарської діяльності аграрних підприємств України. Доведено, що головною метою ефективності використання земельних ресурсів у сільському господарстві України є обсяг виробленої продукції з одиниці земельної ділянки, прибуток та рівень рентабельності. Реалізація даної мети призведе до виникнення інвестиційної привабливості земельних ресурсів у*

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*період функціонування ринку землі, що через надходження значного капіталу у сільське господарство України сприятиме раціональному та екологічному використанню та підвищенню соціально-економічного розвитку аграрних формуваль та зайнятих у них трудових ресурсів.*

*Ключові слова* аграрний сектор; ефективність; земельні ресурси; інвестиційна привабливість; ресурсний потенціал; ринок землі; сільське господарство.

**Formulation of the problem.** Land is the wealth of mankind, the main means of production, the use efficiency of which affects the results of production and economic activities of agricultural enterprises. In addition, the efficiency of the used land in various sectors of the economy is a factor in increasing the competitiveness of the national economy for the constant results of management. The agro-industrial complex plays a significant role in the development of the Ukrainian economy, which determines the volume, supply and cost of the main types of food for the population, determines the state and development trends of rural areas.

The problem of land use has always been relevant, and today on the eve of the opening of the land market in Ukraine it is relevant as well, as land is the basis of any production, the main source of satisfaction of the primary needs and human labor, which together act as a material condition and as an active factor of the main means of production.

**Analysis of recent research and publications.** Works of many domestic scientists, including works of Boiko & Hnatyshyn (2020), Dobriak & Kuzin (2016), Irtysheva, Khvesyk & Stehnei (2015), Kotykova (2017), Kryvun (2019), Makarova & Mykhaylov (2020), Martyniuk (2017), Mesel-Veseliak & Fedorov (2016), Mykhailenko & Khilchenko (2019), Pimenova, Fyliuk & Pimenov (2020), Sabluk (2020), Tretiak & Polishchuk (2019), Cherven & Pavliuk (2019) and others are devoted to theoretical and practical aspects of efficient land use development. In particular, high plowing of agricultural lands, irrational land use, weak material and technical base in farms, low level of labor efficiency, reduction of gross agricultural output, require in-depth research on the efficiency of land use in agriculture of Ukraine and their potential on the eve of land market opening.

**Formulation of research goals.** The purpose of the article is to determine the efficiency of the use of land resources in the agriculture of Ukraine and to assess their potential during the functioning of land market opening based on the analysis of performance indicators of agricultural land users of various forms of management.

The study object is the processes of land resources use in agriculture in Ukraine and the assessment of their potential.

The subject of the study is a set of theoretical, methodological and practical aspects of the efficiency of the use of land resources in the agricultural sector of Ukraine and the assessment of their potential and investment attractiveness.

The methodological basis of the research is formed by general methods of scientific knowledge of economic phenomena and processes. In the study of theoretical

and methodological foundations, the dialectical method of cognition and a systematic approach have been used, which made it possible to study the issues of effective land use on an innovative basis comprehensively and substantiate the directions of their increase. To implement the set tasks in the process of scientific research, the following methods of economic research have been used: abstract-logical (defining the essence of land use, theoretical generalizations and formulating conclusions); economic and statistical (studying the influence of factors on the efficiency of land use and assessing their land-resource potential); monographic.

Outline of the main research material. Land is the main condition for existence and the most important source of national wealth, the very prerequisite and natural basis of social production, a universal factor in the activity of any person. It, with its soils, bowels, forests, aquatic ecosystems, as a result of the application of living labor to it, becomes the main productive force. The role of land in agricultural production is determined by the fact that it has a specific unique property - fertility. Due to this property, it actively influences the agricultural production process.

The place and role of agriculture in the country's economy depends on the socio-economic goals of the state, which it implements through a certain economic, legal and administrative system of influence on the economy. Actually, being the basis of the credit and financial system, it has been and remains a reliable resource for the country's economic growth. Land resources, with the use of which 95% of the food stock and two-thirds of the stock of consumer goods are formed, are rightfully considered the primary factor of production.

At the present stage of social life, land resources are used extremely intensively, performing the function of a territorial base, a natural resource and the main means of production. Land resources are one of the main, life-saving and productive resources, the rational use of which determines the degree of social and economic progress of society.

Natural and climatic conditions and fertile lands of Ukraine contribute to the cultivation of almost all agricultural crops and allow to get high yields. At the same time, logistics and labor efficiency do not meet the needs of the industry. The level of providing agriculture with tractors, combines and other equipment is 70-80 percent of the demand. A significant part of the technical means require replacement due to their deterioration. The lack of sufficient financial resources hinders the introduction of the latest technologies, the use of high-quality seeds, and limits the use of other material and technical resources. Agricultural production is becoming

more and more dependent on the effects of weather factors.

The issue of transformation of land, especially agricultural land, is of particular relevance during the formation of the land market. Indeed, in the context of the introduction of the sale and purchase of land, it is important to preserve the fertile Ukrainian soil in the field of agricultural production. In addition, within the framework of the agricultural land use itself, it is relevant to develop mechanisms to prevent excessive plowing of

lands, the deterioration of their ecological state as a result of irrational use. It should be noted that increasing the efficiency of the transformation processes of agricultural land is directly related to the provision of such transformations on the principles of consistency, controllability and responsibility of all subjects involved in these processes.

Based on the transformation of land in Ukraine for 2000-2019, let us estimate the dynamics of the change in agricultural land (table 1).

Table 1. Dynamics of changes in agricultural land in Ukraine (at the end of the year; thousand hectares)

Types of land	2000	2005	2010	2015	2016	2017	2018	2019
Agricultural lands	41827,0	41722,2	41576,0	41507,9	41504,9	41489,3	41329,0	41310,9
of them								
arable	32563,6	32451,9	32476,5	32541,3	32543,4	32544,3	32698,5	32757,3
hayfields	2388,6	2429,2	5481,9	2406,4	2402,9	2399,4	2294,4	2283,9
pastures	5521,3	5521,3	2410,9	5434,1	5430,9	5421,5	5282,6	5250,3
fallows	421,6	419,3	310,2	233,7	230,6	229,3	190,5	166,7
perennial plantings	931,9	900,5	896,5	892,4	897,1	894,8	863,0	852,7

Source: formed by the authors on the basis of materials [14]

Analyzing the change in agricultural land in Ukraine in dynamics, it should be noted that the area of agricultural land decreased by 516.1 thousand hectares or by 1.2% comparing 2019 with 2000, which is due to the expansion of areas for residential buildings and industrial enterprises. At the same time, there is an increase in arable land by 193.7 thousand hectares comparing 2019 with 2000 and by 213 and 58.8 thousand hectares compared to 2017-2018, which is due to the high level of plowed agricultural land 79%.

The area under hayfields in Ukraine also decreased by 104.7 thousand hectares comparing 2019 with 2000 and by 115.5 and 10.5 thousand hectares compared to 2017-2018. Corresponding situation on the decrease in the area under pastures by 271 thousand hectares and 171.2 and 32.3 thousand hectares for the corresponding periods, which is due to a decrease in the number of cattle by 6331.7 thousand heads, pigs - 1924.9 thousand heads, sheep and goats for 670.5 thousand heads, horses for 476.8 thousand heads, rabbits for 1034.2 thousand heads.

Studies show that during 2000-2019 there is a decrease in the area under perennial plantations by 79.2 thousand hectares and by 42.1 thousand hectares compared to 2017 and by 10.3 thousand hectares compared to 2018, which is due to the uprooting of unproductive orchards and vineyards and the gradual establishment of intensive types of perennial plantations with a high level of productivity per hectare of area. The slow recovery of areas under perennial plantations is also due to high bank lending rates (from 25%), lack of

government support and subsidies to the horticulture and viticulture industry, fair guaranteed prices provided through government orders, price disparity for agricultural products and industrial goods and services, which are bought for the village. It is the disparity in Ukraine that is aimed at the growth of price indices for industrial goods and services in comparison with the price index for agricultural products, which is due to the penetration of transport, processing monopolies into the agrarian-industrial sector, setting inflated prices for their products and understated for agricultural ones.

At the same time, in the developed countries of the world, the state provides direct subventions to agricultural producers, subsidies to farmers in the EU countries up to 50% of the cost of agricultural products, in Japan - 75%, in the USA - 35%, soft loans, leasing is widely used, which helps to overcome disparity.

To assess the land resource potential in farms of all categories in Ukraine, let us consider the dependence of gross harvests on the yield and sown area of agricultural crops (Table 2).

The gross yield of cereals and legumes in Ukraine in 2000-2019 increased by 50654.2 thousand tons or 207.2%, which was due to an increase in crop productivity by 29.7 centners per hectare or 153.1% and an expansion of sown areas by 2705.1 thousand hectares or 21.5%. Basically, the increase in grain gross yield in 2019 occurred with the cultivation of wheat (crop productivity - 41.6 centners per hectare), barley (crop productivity - 34.2 centners per hectare) and grain maize (crop productivity - 71.9 centners per hectare)

Table 2. Dynamics of change in gross yield, crop productivity and sown area of crops in farms of all categories in Ukraine

Crops	2000	2005	2010	2015	2016	2017	2018	2019
Gross yield, thousands of tons								
Cereals and legumes	24459,0	38015,5	39270,9	60125,8	66088,0	61916,7	70056,5	75143,2
Sugar beet	13198,8	15467,8	13749,2	10330,8	14011,3	14881,6	13967,7	10204,5
Sunflower	3457,4	4706,1	6771,5	11181,1	13626,9	12235,5	14165,2	15254,1
Potato	19838,1	19462,4	18704,8	20839,3	21750,3	22208,2	22504,0	20269,2
Vegetable crops	5821,3	7295,0	8122,4	9214,0	9414,5	9286,3	9440,2	9687,6
Fruit and berry crops	1452,6	1689,9	1746,5	2152,8	2007,3	2048,0	2571,3	2118,9
Crop productivity, centners from 1 hectare of harvested area								
Cereals and legumes	19,4	26,0	26,9	41,1	46,1	42,5	47,4	49,1
Sugar beet	176,7	248,2	279,5	435,8	481,5	474,9	508,5	461,1
Sunflower	12,2	12,8	15,0	21,6	22,4	20,2	23,0	25,6
Potato	121,6	128,4	132,5	161,4	165,8	167,8	170,5	154,8
Vegetable crops	112,3	157,1	173,6	206,1	210,5	207,9	214,3	214,0
Fruit and berry crops	38,4	63,7	78,2	104,5	101,9	103,1	128,4	108,1
The area from which crops were harvested, thousands hectares								
Cereals and legumes	12586,8	14605,2	14575,7	14640,9	14337,1	14560,3	14794,1	15291,9
Sugar beet	747,0	623,3	492,0	237,0	291,1	313,6	274,7	221,3
Sunflower	2841,6	3689,1	4525,8	5166,2	6086,7	6060,7	6166,5	5958,9
Potato	1631,0	1515,9	1411,8	1291,0	1311,6	1323,2	1319,9	1308,8
Vegetable crops	518,6	464,4	467,8	447,1	447,1	446,3	440,3	452,4
Fruit and berry crops	378,0	265,5	223,2	206,0	196,7	198,5	200,0	195,5

Source: formed by the authors on the basis of materials [14]

For sugar beet, gross yield for the study period decreased by 2994.3 thousand tons or 22.7%, which is due to a decrease in the sowing area by 525.7 thousand hectares or 70.4 percent.

Gross yield of sunflower increased by 11796.7 thousand tons or 341.2% comparing 2019 with 2000, primarily due to an increase in productivity by 13.4 centners per hectare or 109.8% and an expansion of sown areas by 3117.3 thousand hectares or 109.7%. The increase in the productivity of sunflower occurs mainly due to an increase in the rates of application of mineral fertilizers per 1 hectare of sown area, the use of a hybrid high-yielding seed of sunflower and intensive technologies in agriculture. It should also be noted that the majority of agricultural enterprises in Ukraine violate the scientifically grounded norms of crop rotation, and this leads to a decrease in soil fertility and crop yields over the years.

In 2019, 9190.2 thousand hectares or 94.9% of the total area were allocated for open-ground vegetables in Ukraine, of which the first place is occupied by tomatoes which is 2008.9 thousand hectares or 20.7%, the second place is occupied by cabbage - 1739.4 thousand hectares or 17.9% and the third place is occupied by onion 998.1 thousand hectares or 10.3 percent. 497.3 thousand hectares or 5.1% of the total area are set for greenhouses, of which 254.3 thousand hectares are for cucumbers, and 215.4 thousand hectares are for tomatoes. Analyzing vegetable crops, it should be noted that their gross yield increased during the study period by 3866.3 thousand tons or 66.4%, which was due to an increase in productivity by 101.7 centners per hectare or

90.6% and a decrease in area by 66.2 thousand hectares or 12.8 percent.

With the transition over the past 20 years from extensive to intensive farming in the field of horticulture and viticulture, the gross yield of fruits and berries increased by 666.3 thousand tons or 45.9%, primarily due to an increase in productivity by 69.7 centners per hectare or 181.5% and a decrease in area by 182.5 thousand hectares or 48.3 percent. It is the acquisition of experience by agricultural enterprises in European countries (Poland, Holland, Italy) on the issues of effective gardening, first of all, that makes it possible to establish intensive orchards under drip irrigation with a density of 2-3 thousand trees per 1 hectare. The advantages of intensive gardening are: the beginning of fruiting in the 3rd year after planting, a high yield, which guarantees a quick return on the cost of laying the garden, increasing productivity and at the same time reducing the need for workers and reducing harvesting costs.

Slow laying of intensive orchards in Ukraine, first of all, is self-financing by agricultural enterprises and is due to large investments, amounting to UAH 500 thousand for laying 1 hectare of garden. At the same time, a high level of land and resource potential of Ukraine should help to attract investments for the development of horticulture and viticulture industries and the development of business partnerships with European countries of the world.

In 2019, in Ukraine, there were 38,523 units of agricultural enterprises with an area of use of 20113.6 thousand hectares, including 28,788 farms with an area

of use of 4749.5 thousand hectares. Analyzing the distribution of operating agricultural enterprises by the size of agricultural land in Ukraine, it should be noted that in 2019 there were 10,440 units with an area of 20.1 to 50.0 hectares, which was 21.4% of their total number, which used 393.6 thousand hectares or 2%. At the same time, the largest area of agricultural land - 4219.2 hectares or 20.9% - is occupied by agricultural enterprises of the group of more than 10,000 hectares, numbering 179 units and accounting for 0.4% of their total number. At the same time, there were more than 9816 farms of them with an area of 20.1 to 50.0 hectares, which amounted to 30.2% of their total number, which used 371.5 thousand hectares or 7.8%. The largest area of agricultural land - 1216.3 thousand hectares or 25.6% is occupied by farms with an area of 100 to 500 hectares, numbering 5200 units or 16% of their total number.

The size of agricultural enterprises is influenced by many interrelated factors, namely: natural, economic, technical, organizational. The most important of them are: natural conditions (soil quality, water availability); specialization of the economy (grain production, horticulture, viticulture, vegetable growing in the open and under cover, dairy cattle breeding, etc.); an increase in the level of mechanization (purchase of high-performance equipment), which is more cost-effective only with a large scale of production; saving costs for

amortization and production management (with an increase in agricultural production, costs per unit of production should decrease); transportation costs; place of residence of workers, size of settlements; the general level of development of the country's productive forces.

Today, large agricultural enterprises of a corporate type are the main producers of commercial agricultural products in the economically developed countries of the world. The large TOP-10 agricultural holding companies in Ukraine with a corresponding land bank include: Kernel Group (530 thousand hectares), Ukrlandfarming (500 thousand hectares), Agroprosperis (396 thousand hectares), Myronivsky Hliboproduct (370 thousand hectares), Astarta - Kyiv (250 thousand hectares), Mriya Agroholding (195 thousand hectares), HarvEast (127 thousand hectares), IMC (124 thousand hectares), Epicenter Agro (121 thousand hectares), Agroprominvest-Agro (120 thousand hectares). At the same time, the advantages of large-scale production in comparison with small ones are, namely: an increase in output per unit of production resources (land, means of production, labor), an increase in labor productivity, a decrease in the cost of a unit of production, an increase in cost effectiveness and profitability of production.

Let us consider the groups of enterprises by the size of the area and the dependence of natural indicators of the efficiency of production of grain and industrial crops on them (Table 3).

Table 3. **Grouping of enterprises by the size of the area from which the grain and industrial crops were harvested in 2019 in Ukraine**

Groups of enterprises by size of areas	Number of enterprises		Gross yield		Crop productivity, centners per 1 ha
	units	in% to the total amount	thousand tons	in% to total production	
<b>Grain crops</b>					
Enterprises	34673	100,0	59982,1	100,0	53,7
of them with an area, ha					
up to 100.00	21160	61,0	2426,4	4,0	35,8
100.01-200.00	3665	10,6	2388,3	4,0	44,6
200.01-500.00	4095	11,8	6334,1	10,5	47,6
500.01-1000.00	2766	8,0	9941,4	16,1	50,3
1000.01-2000.00	1917	5,5	14031,0	23,4	5,7
2000.01-3000.00	562	1,6	7667,6	12,8	56,2
more than 3000.00	508	1,5	17193,3	28,7	65,4
<b>Sunflower</b>					
Enterprises	22251	100.0	13088.6	100.0	27,0
of them with an area, ha					
up to 100.00	13602	61,1	1051,2	8,0	21,8
100.01-200.00	2821	12,7	1090,2	8,3	26,4
200.01-500.00	3313	14,9	2830,2	21,6	26,8
500.01-1000.00	1510	6,8	2865,6	21,9	27,1
1000.01-2000.00	736	3,3	2819,5	21,6	27,9
2000.01-3000.00	175	0,8	1178,5	9,0	27,9
more than 3000.00	94	0,4	1253,4	9,6	30,1

Source: formed by the authors on the basis of materials [14]

Analyzing the efficiency of production, first of all, it was found the dependence of the increase in crop productivity on the increase in the size of the sown areas of grain crops, which is due to the presence of a solid material and technical base in large agricultural enterprises of Ukraine. At the same time, the largest number of enterprises, 61%, provides a total gross yield of only 4% with an average crop productivity of 35.8 centners per hectare. The share of enterprises with an area of more than 3 thousand hectares is 1.5% of the total amount, and they provide 28.7% of the gross grain yield with an average and at the same time high crop productivity of 65.4 centners per hectare. The same dependence is observed for grain maize: 26.1% of the gross yield of the total amount with an average crop productivity of 86.3 centners per hectare is provided by enterprises with a land plot of more than 3 thousand hectares. For winter wheat, the largest share of the gross yield (23.5%), with an average crop productivity of 44.5 centners per hectare, is provided by enterprises with an area of 500 to 1000 hectares, which make up 6.8% of the total number of enterprises. But the enterprises with the area of sowing of barley up to 100 hectares and from 200 to 500 hectares in aggregate give 51.5% of the gross yield. The highest productivity of sunflower production is

observed at enterprises with sown areas from 200 to 2000 hectares, which form 65.1% of the gross yield of this crop.

The value of the gross product produced should be considered as the main indicator of the size of an agricultural enterprise and its production units. To assess the growth rates of crop and livestock industries in Ukraine, we will analyze the dynamics of gross output in constant prices of 2016, million UAH (Table 4).

The development of agriculture in Ukraine is of priority importance, providing the industry with raw materials, the population with food, grain traders with products of grain and industrial crops for export, and the state with tax revenues from the sale of agricultural products. Analyzing the value of the gross agricultural output in all categories of farms, it should be noted that during the study period it increased by UAH 213507.7 million or 45.7%, including due to crop production by 63.4%, and due to livestock production by 3.2%. In agricultural production, the largest share of 35.2% in 2019 was occupied by the value of cereals and legumes crops, during the study period they increased by UAH 112924.9 million or 89.1%, and industrial crops are in second place 28.6%, which also increased by UAH 96683 million or 98.5%.

Table 4. **Production of agricultural products by farm category**  
(in constant prices of 2016; million UAH)

Production (period)	2010	2015	2016	2017	2018	2019
Farms of all categories						
Agricultural products	467474,7	596832,8	634433,1	620475,6	671294,0	680982,4
crop products	329646,3	453016,9	494461,9	480157,0	529347,5	538705,6
livestock products	137828,4	143815,9	139971,2	140318,6	141946,5	142276,8
Enterprises						
Agricultural products	256806,0	367738,8	403244,7	391015,8	437998,6	449806,3
crop products	200914,6	299369,3	336588,1	323724,5	367688,1	376789,7
livestock products	55891,4	68369,5	66656,6	67291,3	70310,5	73016,6
including farms						
Agricultural products	34145,9	55009,4	64306,1	63277,2	73181,7	79053,0
crop products	31863,8	52312,9	61528,1	60491,7	70214,1	75809,2
livestock products	2282,1	2696,5	2778,0	2785,5	2967,6	3243,8
Households						
Agricultural products	210668,7	229094,0	231188,4	229459,8	233295,4	231176,1
crop products	128731,7	153647,6	157873,8	156432,5	161659,4	161915,9
livestock products	81937,0	75446,4	73314,6	73027,3	71636,0	69260,2

Source: formed by the authors on the basis of materials [14]

In agricultural enterprises of Ukraine, the cost of agricultural products increased by UAH 193000.3 million or 75.2%, comparing 2019 with 2010, primarily due to crop production by UAH 175875.1 million or 87.5%, and due to livestock products by UAH 17125.2 million or

30.6%. At the same time, the share of gross agricultural output of farms in agricultural enterprises of the country in 2019 is 17.6%, which is 4.3 percent more than in 2010. In the farms of Ukraine, the crop production industry is better developed, in which the value of the gross

agricultural output for the study period increased by UAH 44907.1 million or 131.5%, including due to crop production by UAH 43945.4 million or 137.9%, and due to livestock products by UAH 961.7 million or 42.1%. The share of households in the value of gross agricultural output of all categories of farms in 2019 is 33.9% or UAH 231176 million, which is UAH 20507 million or 9.7% more than in 2010.

In agricultural production in 2019, livestock products make up 20.9%, including products of farm animals for growing - 10.9%, milk - 6.3% and eggs - 2.8 percent.

High costs and low purchase prices for livestock products, the lack of government subsidies to the livestock sector and the rise in prices for grain products in Ukraine led to the fact that it was more profitable for enterprises and households of the population to reduce the production of livestock products and focus on the

effective development of the crop production industry. This is clearly seen in the decrease in the cost of gross livestock production (milk, eggs, wool), both in agricultural enterprises and in households for the period under study. Only the raising of farm animals in agricultural enterprises during the study period increased by UAH 9447.9 million or 14.6%.

Agricultural production per capita during the study period in farms of all categories increased by UAH 6012 or 59%, including for agricultural enterprises by UAH 5105 or 91.2%, and for households by UAH 907 or 19.7% which is a positive moment in solving food security of Ukraine.

The final results of production and economic activities of agricultural enterprises in Ukraine are their financial results, which were studied in dynamics for 2010-2019 (Table 5).

Table. 5 Key performance indicators of enterprises for the production of agricultural products in Ukraine

Indicators	2010	2015	2016	2017	2018	2019
Financial result before taxation, UAH million	1732,5	101996,1	90122,1	68606,5	70770,2	90836,3
Enterprises that received profit before taxation, UAH million	22152,9	127609,0	102788,8	88986,2	93549,5	115329,8
Enterprises that received a loss before taxation, UAH million	4832,4	25612,9	12666,7	20379,7	22779,3	24493,5
Net profit (loss), UAH million	17253,6	101912,2	89816,3	68276,8	70461,8	90167,0
Enterprises that received net profit, UAH million	22094,9	127525,5	102496,1	88676,3	93249,0	114666,4
Enterprises that received a net loss, UAH million	4841,3	25613,3	12679,8	20399,5	22787,2	24499,4
The level of profitability of all activities,%	17,5	30,4	25,6	16,5	14,2	16,1
The level of profitability of operating profitability,%	24,5	43,0	33,6	23,2	18,9	19,3
Number of employees, thousand people	645,2	500,9	513,2	489,2	479,8	461,5

Source: formed by the authors on the basis of materials [14]

During the study period in agricultural enterprises of Ukraine, the financial result before taxation increased by 424.4% or UAH 73515.8 million, primarily due to profitable enterprises, the increase occurred by UAH 93176.9 million or by 13.7 percentage points and financial result decreased by UAH 19661.1 million due to enterprises that suffered losses before taxation.

In 2019, net profit increased by UAH 72913.4 million or 422.6% compared to 2010, due to enterprises that received a net profit of UAH 92571.5 million and received a net loss of UAH 19658.1 million. At the same time, in 2019, the share of enterprises that received a net profit was 83.4%, and the loss was received by 16.6%, which is 13.8 percentage points more than in 2010.

The overall level of profitability of all and operating activities in agricultural enterprises of Ukraine for the study period is positive. At the same time, during 2012-2019, the level of profitability changed, namely: for cereals and legumes (from 2.4 to 42.6%), for sunflower (from 23.5 to 78.4%), for vegetables (from 1.1 to 32%),

for potatoes (from 0.6 to 24.6%), for fruit and berry crops (from 6.2 to 127.5%), for milk (from 1.8 up to 26.9%), for pigs for meat (from 0.2 to 12.6%). Agricultural products remain unprofitable during 2012-2019, namely: cattle for meat (from -16.9 to -41.3%), sheep and goats for meat (from -16.6 to -39.7 %), and in 2019 grapes (-7.2%), poultry for meat (-3.7%), poultry eggs (-23.5 percent).

The number of employees in agricultural enterprises of Ukraine during the study period decreased by 28.5% or 183.7 thousand people, which is justified by low wages in rural areas and emigration of Ukraine to Europe, as well as large-scale mechanization of production processes in agriculture has led to optimization of labor needs. Today, the crop production industry is more developed for the production of legumes and industrial crops, and the livestock industry is developing slowly due to the high cost of production and the low purchase price on the part of the processing industry.

At the same time, the leading positions in the south of Ukraine in the export of grain and industrial crops are occupied by grain traders of the Mykolaiv and Odessa regions.

The first place in grain shipment in the 2019-2020 season was the Kernel company – 7.98 million tons, which is 13.29% of the market. Kernel increased shipments by 1.9 million tons over the year. The increase in shipments was facilitated by the launch of the Transgrain terminal in the port of Chornomorsk (Odessa) and cooperation with the TIS and Nika-Tera terminals (Mykolaiv). Kernel exported grain to such countries as China (1.637 million tons), the Netherlands (1.3 million tons), Indonesia (0.75 million tons), Egypt (0.63 million tons). COFCO Agri ranks second in grain shipments, which shipped 5 million tons of grain, which is 8.37% of the market. The company added 0.41 million tons in a year. COFCO Agri operates mainly through the DSSC terminal (Mykolaiv seaport), but is increasing transshipment through Risoil (Odessa) and Vibo Trans (Mykolaiv). Nibulon is ranked 3rd with 4.98 million tons of grain shipped from its own terminal in Mykolaiv.

Conclusions. In a market economy in agriculture, where all factors of production must not only be formed in optimal proportions, but also be used with the maximum effect, it is not so important to have a certain resource, but how to use it effectively. Therefore, today the first place is the need to create a reliable economic mechanism that will ensure the effective use of the potential of land resources and the preservation and reproduction of their fertility. At the same time, the mechanism for the formation of the land resource potential in agricultural enterprises should be considered as a system of organizational, economic levers and methods of management and production factors that, in the process of their interaction, can ensure its effective use.

Important directions for increasing the efficiency of land resources use and their protection are the following: to develop the agrochemical complex, increasing the

production of mineral, bacterial and fungal fertilizers, to create a system of agrochemical services for farms, to expand the volume of chemical land reclamation, thus increasing soil fertility; to develop and introduce a set of anti-erosion measures, to expand the scale of the fight against water or wind erosion of soils; to develop an irrigation and drainage complex, to expand the scale of ameliorative improvement of drainage and irrigation lands. These activities are very diverse and should be carried out in a single system, integrating into each other and strengthening the action of all.

The main goal of efficient use of land resources in agriculture of Ukraine is the volume of products produced per unit of land, profit and the level of profitability. On the eve of the land market opening, it is important to assess the achieved potential of land resources through the analysis of the work of agricultural land users of various forms of management. The implementation of this goal will lead to the identification of investment attractiveness to land resources on the eve of the land market opening, due to the flow of significant capital into the agriculture of Ukraine, it will contribute to the rational and environmental use and increase the socio-economic development of agricultural formations and the labor resources employed in this sector.

So, land in agriculture is the main means of production. The amount of agricultural products produced depends on how rationally it is used. In order to obtain stable and high yields, it is necessary to take measures to improve the use of agricultural land and improve their fertility. In every farm in Ukraine, the use of available land should be efficient. This should be ensured by properly organized land management and the introduction of a scientifically based farming system.

The introduction of an innovative model of land use, focus on the effective use of the achievements of domestic science in the field of land management are integral components of the development strategy of Ukraine.

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