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EFFICIENCY OF GRAIN GROWING IN THE CONDITIONS OF EXPORT-ORIENTED AGRIBUSINESS

The article reflects the main approaches to determining the efficiency of economic activity of enterprises producing grain crops. The agro-industrial complex of Ukraine is an important sector of the national economy where about 25 % of GDP is formed, and it is one of the main budget and export sectors of the national economy. The post-crisis renewal of the Ukrainian economy requires the development of agricultural production on an intensive basis, which will allow ensuring the food security of the country, as well as to the realization of the competitive advantages of the country on the world food markets.

Significant contribution to the development of theory and practical principles efficiency of grain production in Ukraine was contributed by V. Andriychuk, V. Mesel-Veselyak, T. Mostenska, P.

Sabluk. Therefore, increasing the efficiency level of crop production is the most significant task, which depends on ensuring the proper level of food security, market saturation with own agricultural and food products. The relevance of the investigated topic is caused by the increase in the economic efficiency of the production of plant products and the growth of the economy of the branches of agriculture. Improving economic efficiency means increasing production and improving the quality of products, with a simultaneous reduction in labor costs and material inputs per unit of production.

The solution of the problem is intrinsically linked to the further overall intensification of agricultural production. It is important for the agro-industrial complex in general.

A large group of scientists is engaged in research of this theme, and they have developed strategic directions of reduction of agricultural production in Ukraine, increase of economic efficiency of land, material and technical and labor resources use, price formation.

However, the substantiation of proposals for increasing the production of agricultural products and increasing their efficiency remains relevant and still requires further research. Methods of research of production efficiency in enterprise structures of the agrarian sphere have been developed for a long time. Domestic and foreign publications from economics concern only some issues of methodology as a way of analysis and research of the most important from the point of view of cognitive specific rice methods of research of economic efficiency of activity of enterprise structures of the agro-industrial complex. Thus, it is not only impossible but also unacceptable to measure the efficiency of production in enterprise structures of the agrarian sphere by a single indicator, because the meaningfulness of the category "efficiency" is lost. Therefore, some indicators must define the beneficial effect of the products produced for consumers, and others - the economic efficiency of production.

Key words: efficiency, profit, agricultural enterprises, grain growing, economic potential, resources, agribusiness.

Integrating the basic theories of strategic management to justify the strategy of economic potential will allow the company to make the best use of reserve capacity, organizational skills and competencies to implement its own strategy in a changing environment. This line of research is supported by another representative of resource theory - J. Barney, that long-term competitive advantage develops when the company implements a strategy to create higher value product (service), which is not used by existing and can not be used by potential competitors[1].

The fulfillment of the formulated tasks of enterprises in the conditions of dynamic economic changes and intensification of competition is determined by the available economic potential and its compliance with market opportunities. Maintaining and strengthening its position in the market is perhaps the most important task for every company.

R. Ramelta argued that inter-firm differences in the level of profitability of enterprises outweigh the intersectoral in the ratio of 7: 1 [2]. In other words, the results of the enterprise significantly depend on the resources of its development, rather than on the choice of industry and its policy towards competitors.

The methodological evaluation of organizational and economic conditions must include, on the one hand, the basic, and at the same time broad use of general theoretical and methodological aspects, on the basis of which the enterprise structure is formed and functions.

The PIMS study (Profit Impacton Marketing Strategies) [3] convincingly refuted the hypothesis of "good" and "bad" industries and proved that the effectiveness of the

economic potential of the enterprise depends largely not on the type of activity but on internal factors and conditions.

And on the other - the creation of not only abstract-logical schemes to further quality function of enterprises, but that is also when the methodological basis ceases to be the theoretical side of the practical implementation of "projects", a new, high-quality establishment, which is able to innovative self-development and self-development on the basis of already rationally improved forms.

Resources - specific assets of the enterprise, which are difficult or impossible to imitate and which allow the company to implement strategies for economic development, helping to improve its economic and managerial efficiency) [4,5].

The criterion of economic growth efficiency growth is calculated by the formula:

$$E_s = \frac{\Delta Dbs}{\Delta cs + \Delta vcs + \Delta ms} \quad (1)$$

ΔDbs – increase in gross income agribusiness enterprises, a thousand UAH;

Δcs – increase in material costs agribusiness enterprises, a thousand UAH;

Δvs –increase in wages agribusiness enterprises, a thousand UAH;

Δms – increase in income agribusiness enterprises, a thousand UAH;

The overall economic efficiency of agricultural production agribusiness enterprises can be defined as follows:

$$Es = \frac{Bs}{3bs} \quad (2)$$

Ees – economic efficiency agribusiness enterprises;

B – final products of the production stage agribusiness enterprises;

3bs – lost of production agribusiness enterprises.

The overall indicator, which characterizes the efficiency of production in the enterprise structures of the agrarian sphere is the profit, that is the difference between the rate of return for the sold marketable products and the costs of its production. This formulation of efficiency through the category of profitability gives us a general idea about its nature. Prof. V.G. Andrijchuk gives a more specific notion of profitability, which he understands as the additional value that is generated in the production process.

In addition to the definition of profit as an indicator of efficiency, the indicator of the profitability level of production is widely used, which is defined as the ratio of the profit to the cost of production.

$$Es = \frac{\Delta(cs + vs + ms}{\Delta cs + \Delta vs + \Delta mas} \quad (3)$$

Es – efficiency of agricultural production agribusiness enterprisesat the micro level;

Δ (cs + vs + ms) – gross output, gross profit of the agribusiness enterprises;

Δcs + Δvs – costs of live and shortened labor at the agribusiness enterprises;

Δmαs –increase in production assets of the agribusiness enterprises.

A number of researchers believe that in order to obtain a comprehensive assessment of the results of agricultural production, the gross output (VPGs) and end products (FAPs), as well as production costs (PCs) should be taken beforehand by taking from them the repeated estimate of agrarian products of own production, which went to industrial processing:

$$VPG = VPGa + VPGs - VPGo \quad (4)$$

$$FAP = FAPa + FAPs - FAPo \quad (5)$$

$$PC = PCa + PCs - Pco \quad (6)$$

VPG – the value of gross production, according to the agricultural sector, industry and agricultural equipment of own production, which is used by the industry of this agrarian formation;

FAP – the end product of the agricultural sector, which is calculated as the difference between the value of the industrial sector's gross output and the part of it that is used for production internal consumption:

PC – production costs according to the agricultural sector, industry and agricultural equipment used in industry.

In our opinion, the given methodology of gross and end products treatment, as well as the costs of production allows us to accurately calculate the efficiency of activity of agro-industrial production structure.

Thus, the methodological basis of the assessment of production efficiency in enterprise structures of the agrarian sphere of effective development of production structures in the agrarian sphere must meet the following requirements:

- to characterize objectively the essence of the criterion of efficiency;
- to more fully and accurately reflect the nature of the performance of production;
- to reveal the reserves of the hundredth increase in economic efficiency.

Research has shown that in today's conditions the efficiency of production its efficiency, which must be calculated as the ratio of the achieved result to the expended labor and material resources. The formula of enterprise efficiency in general is as follows:

$$Ee = \frac{CDB}{c} \quad (7)$$

Ee – efficiency of business activities;

CDB – the cost of doing business;

C – costs of business activities.

Indicators of production efficiency are a set of variable values, each of which depicts one or another aspect of the activity of the enterprise structure. These variable values are general indicators of the volume of production and implementation of products, profits, profitability, quality, etc.

As you know, in the market economy enterprise itself determines the level of prices under the influence of various factors. The latter is determined by the formula:

$$PRC = C + UFC * ARP \quad (8)$$

PRC – price

C – cost price;

UFC – up-front capital;

ARP– the average rate of profit.

It is advisable to take into account the factor of price changes when calculating economic indicators during different periods of work. This approach is recommended when calculating and comparing indicators of profits, the productivity of labor, and others, where changes in prices for raw materials can have an impact on efficiency.

Thus, in the case of calculating the productivity of labor in the production of a certain type of product it is advisable to introduce to the calculations the indicator of changes in labor productivity (APP), the value of which > 1 This indicates a real increase in labor productivity:

ΔPP is the index of change in labor productivity during the production of products;

PP1 – index of labor productivity in the production of products in the reporting year;

PP0 – productivity of labor in the production of products in the base year;

ΔC – change in market price per unit of production.

In manufacturing and business practice, the profitability indicator, which characterizes the ratio of profits to the total cost of products sold, has become widely used. However, in our view, in the current market relations this indicator does not sufficiently take into account the entire value of operating capital.

Thus, for the entrepreneur, but according to our conditions the investor - the entrepreneur, the real effect is the business income, which is generated after taking into account the interest of the lender from the gross proceeds, and the efficiency of capital functioning is expressed by the ratio of business income to the advance capital, or to the cost of production in general.

Analysis of the economic efficiency of production and sale of grain in the enterprise SFG “APHRODITE”. Use of land is used for planting and growing of grain crops, planted area and their structure for the last 2018-2020 three years are shown in table 1/As can be seen from the table, the largest part of planted area in the specialized enterprise occupies grain and leguminous crops. For example, the proportion of grain and leguminous crops in the structure occupies: in 2020. - 9729 ha (69,9%); in 2019 p. - 11,808 ha (73,2%); in 2020. - 9191 ha (56.9%). These indicators showed that in recent years, the largest area of grain and leguminous crops were in 2019. - 11808 hectares (73.2%).

Among grain and leguminous crops the largest area was occupied by wheat, corn for grain, barley, harvested area and their portion were as follows: in 2018. - wheat - 3,921 hectares (29.0%); corn - 3,498 hectares (24.9%); total barley - 2,209 hectares (16.1%); in 2019. - wheat - 4232 ha (26.1%); corn - 4784 hectares (31.1%).

Table 1

Dynamics of the structure of planted areas of agricultural crops in SFG "APHRODITE"

Indicators	2018 year		2019 year		2020 year	
Cereals and Legumes	Area, ha 9729	% 69,9	Area, ha 11808	% 72,3	Area, ha 9191	% 56,2
Winter wheat	3400	24,7	3529	21,5	2369	14,6
Yarrow wheat	522	3,9	703	4,2	8,8	5,5
Wheat	3921	28,2	4232	25,8	3253	20,1
Buckwheat	81	0,7	202	1,3	134	0,9
Corn for grain	3498	25,3	4784	29,2	3414	20,8
Yarrow barley	1541	10,9	1799	11,1	1180	7,3
Winter barley	667	5,0	696	4,2	1138	7,1
Barley	2209	15,8	2495	15,4	1260	14,0
Peas	17.8	0,2	92	0,5	70	0,3
Industrial crops: all of them	4124	29,6	4470	27,4	6160	37,5
Soybean	781	5,4	1369	8,3	1850	11,4
Winter rappseed	2354	17,1	1512	9,1	2179	13,2
Rapseed Yarii	-	-	477	3,1	677	4,2
Rapseed: all of them	2354	17,1	1989	12,2	2857	17,3
Potato	19.9	0,2	63	0,4	84	0,6
Field vegetables	-	-	16	0,2	-	-
Gathered land:all of them	13873	100,00	16353	100,00	15436	94,4
Arable land:all of them	13873	100,00	16353	100,00	16376	100,00

*Calculated on the basis of [6]

Among industrial crops in the SFG "APHRODITE", the largest planted area and the largest part were: winter rye and spring rye in 2018, 2,354 ha (16, 9%), and winter wheat - 4,784 ha (29,9%). - 2,354 ha (16.8%); in 2019 p. - 1989 ha (12.4%); in 2020. - 2857 ha (18.1%); soybeans in 2018. - 781 ha (5.8%); in 2019. - 1369 ha (7.9%); in 2020. - 1850

hectares (10.9%); diced borage in 2018. - 989 ha (3.8%); in 2019. - 1111 ha (7.1%); in 2020. - 1453 ha (9.1%).

There is a tendency to increase the number of industrial crops such as soybeans, rapeseed and red briquettes. At the same time, the company's wheat and barley crops decreased significantly. It should be noted that the planted areas of cereal crops are largely due to the production area of the SFG "APHRODITE".

Table 2

Efficiency of land use in agricultural enterprises Production sector and SFG "APHRODITE"

	Region's enterprises			SFG «APHRODITE»		
	2018 year	2019 year	2020 year	2018 year	2019 year	2020 year
Produced gross products, a thousand UAH:						
per 100 ha of silage	463,3	856,75	747,07	641,3	854,9	1205,8
per 1 employee	253,0	273.63	329,2	282,45	572,0	723,3
Income received from the realization of products, thousand UAH						
per 100 ha of silage	537,0	774,4	851,1	580.6	1005,0	1346,7
per 1 employee	246,0	348,7	379,5	255,8	693,0	807,8
Gross profit received, thousand UAH						
– per 100 ha of silage	86,0	212,9	131,7	66,9	197,7	160,3
– per 1 employee	39,0	95,8	58,06	29,5	132,1	95,6

*Calculated on the basis of [6]

The results of the survey showed that the positive trends, as shown in Table2, are positive for the increase of economic efficiency of land use both in SFG "APHRODITE" in the average households of the region. However, the rate of growth of economic efficiency of the use of land and labor resources in SFG "APHRODITE" is much higher than the average for the enterprises of the region. This is due to the high concentration and specialization of agricultural production.

An important factor of the economic efficiency of agricultural production is the yield of all crops. Indicators of the yield of all agricultural crops without averaging in the enterprise limited availability company " SFG "APHRODITE" is shown in Table 3.

Table 3

Dynamics of crop yields in the company limited availability company SFG "APHRODITE"

Cultivated plants	Year			2020 Year %	
	2018 year	2019 year	2020 year	2020/2018	2020/2019
Cereals and legumes	40,5	54,6	64,5	167,2	124,2
Winter wheat	31,9	53,2	66	217,2	130,5
Spring wheat	26,7	43,7	48,4	189,8	116,1
Corn on the cob	60,4	65,9	82,7	143,6	131,7
Winter barley	34,4	46,4	39	119,0	88,4
Spring barley	25,09	40,8	53,2	222,7	136,8
Buckwheat	10,29	9,03	10,9	111,4	126,9
Pea	18,06	38,4	35,2	205,0	96,3
Soy	20,6	21,1	28,4	145,2	141,5
Winter rapeseed	19,5	24,7	26,8	144,4	113,9
rapeseed	–	28,2	27,4	–	101,8
Sugar beets	352	431	543	161,7	132,3
Potato	157,5	256	161.6	112,0	68,8

*Calculated on the basis of [6].

As can be seen from the table, the level of the yield of almost all agricultural crops has increased dramatically during 2018-2020. So, for example, the yield of grain and leguminous crops in 2019-2020. Grew by 34.6% and 59.4%. In particular, the yield of winter wheat in 2020. Compared to 2018 has increased accordingly from 31.9 c/ha to 66.04 c/ha.

Conducted research on the economic efficiency of production and sales in the company " SFG "APHRODITE" makes it possible to make the following conclusions and suggestions. In order to increase the efficiency of use of available technical equipment at the enterprise, it is important to use stimulating state-accounting methods of organizing the work of mechanization in agricultural structures.

The conducted research showed that the agricultural enterprise" SFG "APHRODITE" has good, favorable conditions for growing all agricultural crops. Specialization and concentration of the enterprise increase the economic efficiency of the use of land, labor, and other resources.

Currently, specialists and heads of production units have to concentrate their efforts, costs, and resources on increasing the concentration of production, implementation of progressive, resource-saving technologies, which will contribute to the optimization of the economy of all branches of the enterprise "SFG "APHRODITE".

In the analyzed enterprise, indicators of harvested area and yields have a significant differentiation. Increasing the productivity of barley grain and all other crops is a

strategic direction of economic development of the economy of the plant growing sector in agricultural enterprises of the region and Ukraine in general.

In the current conditions for the agricultural sector, intensification is especially important, which means that this process must be carried out on a thorough basis, thoughtful, with the orientation on the return of the money invested in the formation of resources. The main source of agricultural development is the intensification of production, which must be implemented in two interrelated areas of production:

- efficient and rational use of the totality of those resources that already exist in the agricultural sector.

-increasing the allocation of those additional funds and resources that will be able to be drawn into the development of the agricultural economy.

Provision of agricultural enterprises with technical equipment, the increasing intensification of the agricultural sector will allow carrying out all work methods of production within the specified time limits and not allow losses of finished products, use the available resources in a rational way, and on this basis to increase the economic efficiency of agricultural production.

The growth of competitiveness of agricultural production in the United States and Western Europe is ensured through the implementation of the achievements of scientific and technological progress.

The competitiveness of the agricultural sector is determined by the quality of products and the economic efficiency of production, which depend directly on the technology of production. Therefore, only the use of modern innovative technologies can provide world-class standards of product quality and profitability of agriculture.

Implementation of energy-saving and intensive technologies of crop production is an important innovation trend in the agricultural sector which will contribute to increasing its competitiveness.

Thus, only scientific and innovative development of agricultural sectors in specific enterprises, regions, and Ukraine as a whole will be able to increase the competitiveness of the sector in the domestic and foreign markets.

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