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ECONOMIC EFFICIENCY OF ANIMAL'S CURRENT BIOLOGICAL ASSETS USE AND WAYS OF ITS INCREASES

N.A. Dobrianska, Doctor of Economics, Professor

Odessa National Polytechnic University, Odessa, Ukraine

O.M. Popovich, Ph.D.

Vinnytsya, Ukraine

Добрянська Н.А., Попович О.М. Економічна ефективність використання поточних біологічних активів тваринництва та шляхи її підвищення.

Досліджено та удосконалено теоретико-методичні та прикладні засади підвищення ефективності функціонування продуктових підкомплексів. Обгрунтовано концептуальні засади підвищення ефективності використання поточних біологічних активів тваринництва. Розроблено методичний підхід до аналізу складу, ефективності використання поточних біологічних активів тваринництва. Удосконалено методичні засади аналізу економічної ефективності використання поточних біологічних активів тваринництва. Розглянуто сучасні системи показників аналізу і оцінки ефективності використання поточних біологічних активів тваринництва. Перераховані резерви підвищення ефективності використання поточних біологічних активів тваринництва в господарстві, які дадуть змогу отримувати прибуток в досліджуваних підприємствах.

Ключові слова: економічна ефективність, показники ефективності, поточні біологічні активи, тваринництво

Добрянская Н.А., Попович О.М. Экономическая эффективность использования поточных биологических активов животноводства и пути её повышения.

Исследованы и усовершенствованы теоретико-методические и прикладные основы повышения эффективности функционирования продуктовых подкомплексов. Обоснованы концептуальные основы повышения эффективности использования текущих биологических активов животноводства. Разработан методический подход к анализу состава, эффективности использования текущих биологических активов животноводства. Усовершенствованы методические основы анализа экономической эффективности использования текущих биологических активов животноводства. Рассмотрены современные системы показателей анализа и оценки эффективности использования текущих биологических активов животноводства. Перечисленные резервы повышения эффективности использования текущих биологических активов животноводства в хозяйстве, которые позволят получать прибыль в исследуемых предприятиях.

Ключевые слова: экономическая эффективность, показатели эффективности, поточные биологические активы, животноводство

Dobrianska N.A., Popovych O.M. Economic efficiency of animal's current biological assets use and ways of its increases.

Theoretical, methodical and applied principles of increasing the efficiency of product subcomplexes functioning have been studied and improved. The conceptual bases of increase of lifestock's current biological assets use efficiency are substantiated. The methodical approach to the analysis of composition, efficiency of lifestock's current biological assets use is developed. The methodical principles of the analysis of the economic efficiency of the use of current biological stock of livestock are improved. Modern systems of indicators of efficiency's analysis and estimation of use lifestock's current biological assets use are considered. The listed reserves for improving the efficiency of using current biological stockpiles of livestock in the economy, which will allow you to profit in the investigated enterprises.

Keywords: economic efficiency, performance indicators, current biological assets, animal husbandry

In the conditions of market economy's development, increasing the efficiency of the meat product subcomplex becomes of particular importance. The needs of Ukraine's population, including the Odessa region, in meat and meat products are not satisfied. In solving the problems of increasing meat's production, an important role is assigned to the sectors of cattle breeding and pig breeding. Need an immediate solution to the problem of matching demand and supply of meat, establishing a parity relationship between agrarian and processing enterprises [1].

Agriculture is a special field of production activity, as in the process of manufacturing finished products, along with financial, material and technical resources and labor resources, natural resources are also used: land and living organisms. Depending on the direction and the term of use, biological assets are considered to be non-current assets (long-term and immature long-term biological assets of plant growing and livestock farming) or to current assets (current biological assets of plant growing and livestock) [2]. According to Ukrainian Accounting standards 30 "Biological Assets", current biological assets that are able to provide agricultural products and/or additional biological assets, bring in a different way economic benefits for a period not exceeding 12 months, as well as animals on cultivated and fattening [3].

Analysis of recent researches and publications

Theoretical, methodical and applied principles of increasing the efficiency of agroindustrial complex' food subcomplexes functioning are widely covered in scientific papers by V.G. Andriychuk, V.Ya. Ambrosova, M.Yu. Codenna, I.I. Lukinova, T.L. Mostenskaya, P.T. Sabluk, O.M. Shchichak and others. The main aspects of meat product's development subcomplex were reflected in the work of P.S. Berezivsky, M.V. Zos-Kyora, M.V. Zubtsya, V.Ya. Mesel-Veselyak, O.V. Mazurenko, Yu.F. Naumova, V.G. Ryzhkova, D.K. Semendy, V.I. Topihi, I.N. Topihi and others [1].

Unsolved aspects of the problem

However, a number of important problems in the formation of a stable and effective development of the

meat product subcomplex have not been properly addressed. Further research needs issues related to effective market mechanism's development for economic relations between producers of meat raw materials and their processors. The solution of the above-mentioned problematic issues requires an integrated approach aimed at increasing the economic efficiency of production in the meat product subcomplex. Consequently, the scientific-practical value and practical value, along with the insufficient depth of problem's study, led to the choice of this subject and requires study's continuation [1].

The aim of the article is to improve theoretical and methodological principles of animal husbandry's current biological assets use in enterprises economic efficiency.

To achieve above-mentioned goal, the following tasks were set:

— to substantiate theoretical principles of use's dynamics and efficiency analysis of livestock's current biological stock;
— to determine the directions of increasing the economic efficiency use analysis of livestock's current biological stock;
— to formulate reserves for improving the efficiency of using current biological livestock assets.

The main part

In conditions of market economy, increasing the efficiency of production and further development of economic entities can be achieved, provided that the products' cost price is reduced and the company effectively controls the costs.

During adopting effective and reasonable management decisions to improve the efficiency of economic activity should be based on the economic analysis of costs and production's cost, since its level depends on both products' profitability of individual types, as well as enterprise's financial results as a whole, the pace of expanded production, financial status of management's object sub. That is why the question of product cost analysis needs to be given considerable attention and ongoing analysis in order to efficiently manage enterprise's costs as a whole and production's cost in particular.

During assessing biological assets, it is worth considering that they are reflected in value and quantity terms. The unit of biological assets' measurement are things, heads, etc. [4].

The agricultural production cooperative "Druzhba" of Saratsky district is at once 3 livestock farms, a reproducer based on which breeding and feeding pigs and a dairy farm. Here is its own processing industry: milk and meat processing workshops, bakery, there is an own trading network, and certified products produced are realized both in the village of Zorya and in Saratsky and neighboring Tatarbunary districts.

Livestock – an expense, high-tech and large-scale industry, to pay attention to what needs every day and engage in what has always been difficult. Consider livestock population's dynamics in the agricultural enterprises of Saratsky district of Odessa region and in the investigated farm of the "Druzhba" ICF, which is presented in tab. 1.

Table 1. Dynamics of livestock in agricultural enterprises of Saratsky district of Odessa region, heads

Indexes	Farms of Saratsky district of Odessa region					ICF "Druzhba"				
	2013 year	2014 year	2015 year	Deviation		2013 year	2014 year	2015 year	Deviation	
				+, -	%				(+, -)	%
Cattle for breeding and fattening	2292	2083	2296	4	100.2	317	336	397	80	125.2
Cows	1583	1441	1229	-354	77.6	260	260	267	7	102.7
Pigs	5653	6560	6120	467	108.3	2866	2882	2327	-539	81.2
Sheeps	1230	981	779	-451	63.3	-	-	-	-	-
Poultries	12874	10549	21947	9073	170.5	-	-	-	-	-

Source: compiled by the authors according to materials [5, 6]

As of 01.01.2016, in the reformed agricultural enterprises of Saratsky district, the number of livestock was 2296, which is 4 goals, more than in 2013, or by 0.2%. A similar situation with the number of pigs, which increased by 467 goals or 8.3% and is 6120 goals. The poultry population in agricultural enterprises of Saratsky district has increased 1.7 times and is 21947 thousand head.

But the number of cows in 2015 has decreased compared with 2013 by 354 or 22.4% and is 1229 heads, respectively, 451 heads or 36.7% and 779 heads. If we consider the dynamics of animals' stock in the "Druzhba", it should be noted that the livestock population in the field of livestock has a tendency to increase, so the number of cattle increased in 2015 compared with 2013 by 25.2% and was in 2015, 397 heads, the number of cows respectively increased by 2.7% and is 267 goals in 2015. But at the same time, the number of pigs tends to decrease and is only in 2015 2327 heads, which is 19.2% less, than in 2013.

Consider the specific weight of cattle and pigs in the ICF "Druzhba" in the total number of agricultural enterprises in Saratsky district in 2013 and 2015, which is presented in fig. 1 and 2.

As can it be seen from fig. 1 specific gravity of cattle of ICF "Druzhba" in the total number of Saratsky district in 2013 is 13.8% while in 2015 its share increased to 17.3%.

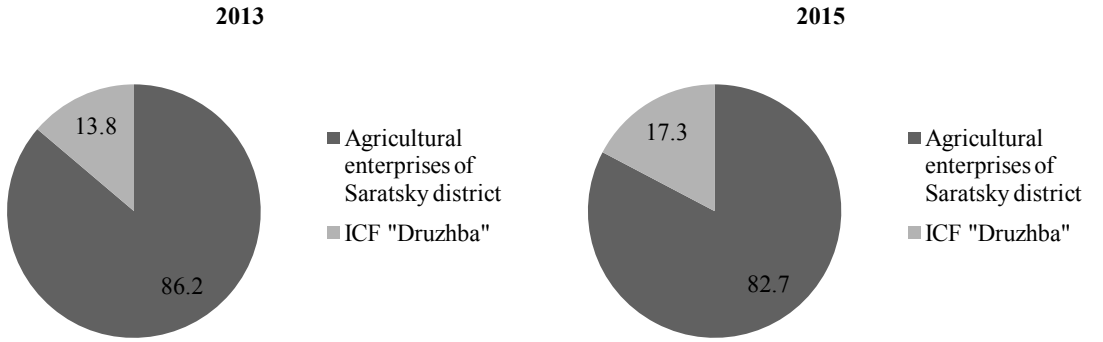

Fig. 1. Specific gravity of cattle of ICF "Druzhba" in the total number of Saratsky district in 2013 and 2015, %
Source: compiled by the authors according to the materials [5, 6]

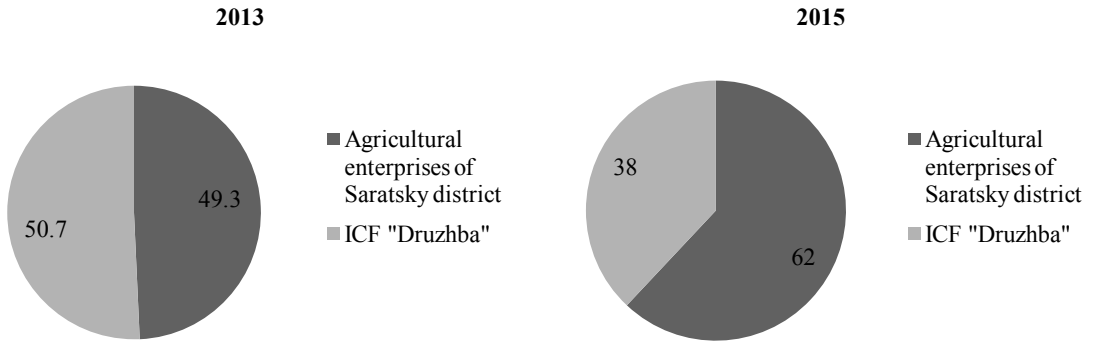

Fig. 2. Specific weight of pigs of ICF "Druzhba" in the total number of Saratsky district in 2013 and 2015, %
Source: compiled by the authors according to the materials [5, 6]

As can be seen from fig. 2, the share of pigs in ICF "Druzhba" in the total number of Saratsky district in 2013 amounted to 50.7%. That is, more than half of pig population in Saratsky district was held in the ICF "Druzhba", whereas in 2015 its share decreased to 38%.

Let's consider the dynamics of livestock production in agricultural enterprises of Saratsky district of Odessa region, which is presented in tab. 2.

Table 2. Dynamics of livestock production in agricultural enterprises of Saratsky district, quintal

Indexes	Farms of Saratsky district of Odessa region					ICF "Druzhba"				
	2013 year	2014 year	2015 year	2015 year to 2013 year		2013 year	2014 year	2015 year	2015 year to 2013 year	
				(+, -)	%				(+, -)	%
Products of cattle's growing (live weight)	2483	2617	2309	-174	93.0	541	654	721	180	133,3
Milk	43608	40886	38318	-5290	87.9	8647	9737	9772	1125	113.0
Production of (in live weight) pigs	6498	8783	6492	-6	99.9	2596	2570	1787	-809	68.8
Production of (live weight) sheeps	354	240	233	-121	65.8	-	-	-	-	-
Wool	68	48	47	-21	69.1	-	-	-	-	-
Production of growing (live weight) of poultry	121	1410	1310	1189	than 10.8 times	-	-	-	-	-
Eggs, thousand pieces	160	591	454	294	than 2.8 times	-	-	-	-	-

Source: compiled by the authors according to the materials [5, 6]

In 2015, 38318 quintals of milk were produced in agricultural enterprises in Saratsky district, which is 5290 quintals less than in 2013. Milk harvesting from the population is organized. Practical help is provided to agricultural enterprises and farms in the acquisition of high-quality breeding stock of young breeds.

Production of cattle breeding produced 2309 quintals, which is 174 quintals less than in 2013. Similarly, the pig production increased by 0.1% in 2015 compared to 2013 and is 6492 quintals. Wool is produced 47 quintals, which is 21 quintal less than in 2013.

But the production of eggs in agricultural enterprises increased to 454 thousand pieces, which is 294 thousand pieces more than in 2013.

In 2015, in the "Druzhba" of Saratsky district, 9772 quintals of milk were produced, which is 1125 quintals more than in 2013.

The production of cattle breeding is 721 quintals, which is 180 quintals more than in 2013.

Pig Production increased by 31.2% in 2015 compared to 2013, and is 1787 quintals.

Taking into account the above-mentioned, let's consider how the cost of 1 quintal of livestock products changed for 2013-2015 (tab. 3).

Table 3. Dynamics of production cost of 1 quintal of livestock products in agricultural enterprises of Saratsky district, UAH

Indexes	Farms of Saratsky district of Odessa region					ICF "Druzhba"				
	2013 year	2014 year	2015 year	2015 year to 2013 year		2013 year	2014 year	2015 year	2015 year to 2013 year	
				(+, -)	%				(+, -)	%
Products of cattle's growing (live weight)	2836.41	2352.77	3384.89	548.48	119.3	2545.29	1522.99	2206.79	-338.5	86.7
Milk	302.99	338.39	379.76	76.77	125.3	256.16	269.46	277.09	20.93	108.2
Production of (in live weight) pigs	1499.52	1572.42	2526.46	1026.94	168.5	1498.46	1821.39	2508.06	1009.6	167.4
Production of (live weight) sheeps	1680.79	2729.17	2675.97	995.18	159.2	-	-	-	-	-
Wool	2867.65	2000.0	2302.13	-565.52	80.3	-	-	-	-	-
Production of growing (live weight) of poultry	1743.80	1439.79	1158.09	-585.71	66.4	-	-	-	-	-
Eggs, thousand pieces	340.0	410.99	1396.04	1056.04	than 4.1 times	-	-	-	-	-

Source: compiled by the authors according to the materials [5, 6]

Thus, the data in tab. 3 show that in agricultural enterprises of Saratsky district, the cost of 1 quintal of livestock production has different trends and fluctuations during 2013-2015.

In 2015, compared with 2013, the production cost of 1 quintal of livestock production increased almost for all types except for types such as wool and poultry meat production, respectively, by 19.7% and 33.6% respectively.

Production costs in 2015, compared with 2013 increased the production of 1 quintal production (live weight) of cattle by 19.3%, milk – by 25.3%, products of growing (in live weight) of pigs – by 68.5% , products of growing (live weight) sheep – 59.2%, eggs 4.1 times.

In ICF "Druzhba" in 2015, compared with 2013, the production cost of 1 quintal of livestock products has increased by almost all types, with the exception of bovine cattle production.

Production costs in 2015, compared with 2013 decreased when producing 1 quintal of growing products (in live weight) of cattle by 13.3%, while milk production increased by 8.2%, and the production of (in live weight) pigs – by 67.4%.

But if we compare the production cost of 1 quintal of livestock production, then it should be noted that its level in ICF "Druzhba" is lower than that of the agricultural enterprises of Saratsky district for the whole period of the research.

Consequently, the analysis shows that in the agricultural enterprises of Saratsky district, the reduction in the cost of livestock production should be linked to increased productivity, cost structure's improvement by further reducing material costs.

Very important factor in reducing production's cost is the introduction of resource-saving technologies, that is, technologies that ensure the

economy of enterprise resources, and hence cost reduction.

Resource-saving technologies for raising livestock production should be based on the widespread use of biological factors (high-yielding breeds, growth stimulants, etc.), new generation agrochemicals, modern high-tech equipment, improvement of technological operations, etc.

For a thorough study of efficiency of livestock's current biological stockpiles use, consider the practical application of rates of return and profitability of livestock's current biological stockpiles on example of ICF "Druzhba" in 2013-2015 (tab. 4).

Table 4. Indicators of return and profitability of livestock's current biological assets breeding in ICF "Druzhba", UAH

Indexes	2013	2014	2015	Deviation	
				(+, -)	%
Return on livestock's biological assets, UAH	1.14	1.02	0.93	-0.21	81.58
Return on current biological livestock's stock, UAH	0.66	0.77	0.70	0.04	106.69
including: production of cattle breeding	0.47	0.64	0.59	0.11	123.90
production of pigs	0.84	0.90	0.81	-0.03	96.97
Capacity of livestock's biological assets, UAH	0.88	0.96	1.07	0.19	121.59
Capacity of current livestock's biological assets, UAH	1.52	1.30	1.43	-0.10	93.73
including: production of cattle breeding	2.11	1.57	1.70	-0.41	80.71
production of pigs	1.19	1.11	1.23	0.04	103.12
Volume of gross product, which falls on 1 UAH: biological assets of livestock, UAH	0.68	0.60	0.54	-0.14	79.41
current biological stock of livestock, UAH	0.65	0.55	0.52	-0.13	80.0
The amount of income that falls on 1 UAH: the average annual value of livestock's biological stock, UAH.	0.69	0.62	0.56	-0.13	81.16
Average annual cost of current livestock's biological assets, UAH	0.67	0.57	0.53	-0.14	79.10
Level of profitability (loss),%: current livestock's biological stockpiles	-36.58	-23.78	-31.09	5.50	x
production of cattle breeding	-55.07	11.30	-78.24	-23.17	x
production of pigs	-3.18	-12.44	-58.49	-55.31	x

Source: compiled by the authors according to the materials [5, 6]

As a result of study, it was found that in 2015, compared with 2013, the return on livestock's biological stock decreased by 18.42%, while the return on current livestock's biological stock increased by 6.69%. It means that in 2015, the cost of biological assets of livestock at 1 UAH fell by 0.93 UAH. Of gross production, while in 2013 this value was 1.14 UAH. In 2015, for 1 UAH the cost of current livestock's biological assets was 0.7 UAH of gross production, while in 2013 this value was 0.66 UAH.

According to results of data's analysis in tab. 2, it was established that in ICF "Druzhba" the gross product amounting to 1 UAH of biological stock of livestock and 1 UAH of current biological stock of livestock is decreasing. Thus, in 2015, compared with 2013 in livestock production, this indicator decreased from 0.68 UAH to 0.54 UAH, or by 20.59%, and the current biological stock of livestock, respectively, from 0.65 UAH to 0.52 UAH.

In 2015, at the investigated enterprise, the income amounting to 1 UAH of biological livestock assets was 0.56 UAH, which is 0.13 UAH or 18.84% less than in 2013, and current biological stock of livestock, respectively, 0.53 UAH, which is 0.14 UAH or 20.9% less than in 2013.

The volume of commodity products, which accounts for 1 UAH of livestock's biological stock and 1 UAH of current livestock's biological assets, does not exceed the capacity of finished products per 1 UAH of biological livestock assets, as well as 1 UAH of current livestock's biological stock. This indicates that the implementation plan for company has not been implemented.

As data in table 4 show, the value of gross output per 1 UAH of current livestock's biological assets breeding is almost identical with income defined on 1 UAH of assets. This indicates a high cost of production, loss of economic activity, and the inefficient use of current livestock's biological stock.

The level of current livestock's biological stock unprofitableness in 2015 is 31.09%, and the highest was in 2013 and amounted to 36.58%. The economy receives losses from production of live weight gain in cattle, so in 2013 the level of loss-making was 55.07%, and in 2015 – 78.24%. In 2013, from production of pigs' incremental weight, the economy received losses and the loss rate in 2013 was 3.18%, and in 2015 – 58.49%.

Conclusions

The use of proposed methodological principles for analyzing the effectiveness of biological livestock assets use will contribute to a deep, comprehensive analysis of their formation and use at various stages of production process, the formation of clear, transparent information environment for management of ICF "Druzhba".

Abstract

Depending on the direction and the term of use, biological assets are considered to be non-current assets (long-term and immature long-term biological assets of plant growing and livestock) or to current assets (current biological assets of plant growing and livestock).

The substantiated theoretical principles of the analysis of the dynamics and efficiency of the use of current biological livestock assets. Determine the directions for increasing the economic efficiency of using current biological livestock assets. Formulated reserves for increasing the efficiency of the use of current biological stockpiles of livestock.

Livestock breeding is an expen-sive, high-tech and large-scale industry, which needs to be paid every day and which has always been difficult to do. The dynamics of the number of animals in agricultural enterprises is considered. The dynamics of livestock production in agricultural enterprises is researched.

The analysis shows that in the agricultural enterprises of the Saratsky region, the reduction of the cost of livestock production should be linked with the increase in productivity, the improvement of the structure of the cost through further reduction of material costs.

For a thorough and thorough study of the efficiency of using current biological livestock assets, the practical application of the rates of return and profitability of current biological livestock assets is considered.

The use of the proposed methodological principles for the analysis of the effectiveness of the use of biological livestock assets will contribute to a deep, complex analysis of their formation and use at various stages of the production process, the formation of a clear, transparent information management environment for enterprises.

The listed reserves for improving the efficiency of the use of current biological stockpiles of livestock on the farm will allow you to earn profits in the investigated enterprises.

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Добрянська Наталя Анатоліївна / Natalia A. Dobrianska
semen-198@te.net.ua

Попович Ольга Михайлівна / Olga M. Popovych

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