

MILK MANUFACTURE IN UKRAINE: CURRENT STATE, MAIN TRENDS OF DEVELOPMENT AND PROBLEMS

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Abstract. *Negative trends in the development of the livestock sector in Ukraine: reducing the number of animals, reducing milk production and reducing its qualitative indicators, require an in-depth study of the current state of the industry and the reasons for the decline in production, as well as the prospects of the industry according to the latest changes in the legislation of Ukraine.*

The main purpose of writing the article is to highlight the current state of one of the most important sectors of agricultural production in Ukraine - animal husbandry. The in-depth study covers the main issues and peculiarities of the development of dairy production in Ukraine.

According to the results of the study, the recommendations and ways to increase milk production and increase its quality were given.

Key words: *milk, condition and dynamics of livestock development, milk production by regions of Ukraine, animal productivity, livestock numbers.*

Introduction. Milk production is one of the most labor-intensive branches of agricultural production. The problem of the quality of milk and dairy products, despite the high demand, is one of the main and painful problems of the industry, which should be given special attention. It relates mainly to the lack of technological disciplines in the production of products, in the control of products by safety indicators, in carrying out obligatory works on state certification of products (poor labeling, production of products in violation of the formulation, discrepancy of products by physical and chemical indicators).

The limited amount of milk in the country encourages entrepreneurs to reduce the use of raw materials in finished products and introduce new products that help reduce the use of milk, which ultimately reduces the quality of dairy products coming to the consumer. In addition, this situation contributes to an increase in imports as raw materials for the manufacture of dairy products (milk powder, milk substitutes, etc.), as well as finished dairy products [1].

Analysis of recent researches and publications. Theoretical, methodological and practical approaches to studying the efficiency of milk production were thoroughly investigated by well-known Ukrainian economists,

Mesel-Veselyak V. Y, Sabluk P.T., Mosiyko V. I., Polotnikov T. L., Zbarskiy V. K., Il'chuk M. M. and other scientists.

However, given the existence of problems in the production of milk of sufficient quantity and quality and at present, further scientific research in this area is necessary for Ukraine. After all, every year the situation on the market is changing and requires special attention, finding problems and proposals to solve them.

The purpose of the article is to assess the state of milk production, prospects and problems of the livestock sector development. Outline the ways to increase the volume and quality of milk in general, because milk production is one of the most important sectors in Ukraine that provides food to the population.

Methods. The workshop of domestic scientists, official data from the State Statistics Service of Ukraine, Ukrainian legislation served as the information base for writing a scientific article.

While writing the article, both general scientific and applied research methods were used. In particular, analysis and synthesis, inductive method of cognition, logical and historical approaches were used for the general assessment of the state and trends of the livestock sector in Ukraine. In-depth study used tabular, graphical methods, grouping method - to detect the effect of average productivity of cows and average livestock on milk production in the regions of Ukraine. When highlighting the current state of livestock in Ukraine calculated dynamics, structure indicators, used method of comparison, indexes method.

Research results. The dairy market in Ukraine is comprised of large agro holdings and several dozen dairy enterprises that buy dairy raw materials from the rural population. Large enterprises are characterized by the fact that, for the most part, they have a financial opportunity to improve their production with the latest equipment and modern laboratories that allow them to control the quality of their products. That is why their products cost a little more than the one that is released to the market by small enterprises. However, such companies are more competitive on the international dairy market, which, of course, is a positive factor for both the company itself and for Ukraine as a whole [2].

Due to the introduction of European sanitary standards in Ukraine from January 1, 2018, processing enterprises were to buy milk only in specialized farms. Standards of the European Union provide for the presence of three types of milk on the shelves of stores: the extra class, the higher and the first class. However, at the last moment, the date of abandonment of milk of the second grade was decided to be postponed for half a year - until July 1, 2018. The corresponding decision was taken by the subcommittee "Milk and Dairy Products" of the Technical Committee of the Institute of Food Resources of the National Academy of Sciences of Ukraine. It sent for editing the editorial office of the State Standard of Ukraine 3662: 2015 "Milk-raw cow. Specifications" [3].

This situation is explained by the fact that in Ukraine, today, most of the milk is produced by households, and the abandonment of milk that comes from

the population will lead to an aggravation and so unfavorable situation in the industry. According to the State Statistics Service of Ukraine, the share of milk produced in households constitutes 71% of the total milk production in Ukraine (tab. 1) [4].

1. Milk production in Ukraine by category of farms, 2000 - 2017 yy., ths. tons

Categories of farms	2000 y.	2010 y.	2013 y.	2015 y.	2016 y.	2017 y.
All categories	12657,9	11360,6	11646,0	10792,8	10565,1	10475,3
% in the structure	100	100	100	100	100	100
Agricultural enterprises	3668,7	2216,6	2582,5	2669,2	2705,6	2765,7
% in the structure	28,98	0,99	22,18	1,64	25,61	1,86
Farms	67,8	112,1	156,8	177,4	183,6	194,8
% in the structure	0,54	0,99	1,35	1,64	1,74	1,86
Households	8989,2	9031,9	8905,7	7946,2	7675,9	7514,8
% in the structure	71,02	79,50	76,47	73,63	72,65	71,74

At the same time, the share of milk production in farms and agricultural enterprises in 2017 y. amounted to only 1, 9% of the overall structure of milk production in Ukraine.

The data in Table 1 indicate a negative dynamics of milk production in Ukraine as a whole. The downtrend of the trend indicates that the policy aimed at this sector was unsuccessful, since the tendency to decrease the production of milk is also being monitored today (Fig. 1). In general, for the analyzed period, 2010 – 2017 yy., milk production has decreased, on average, by 150,05 thousand tons.

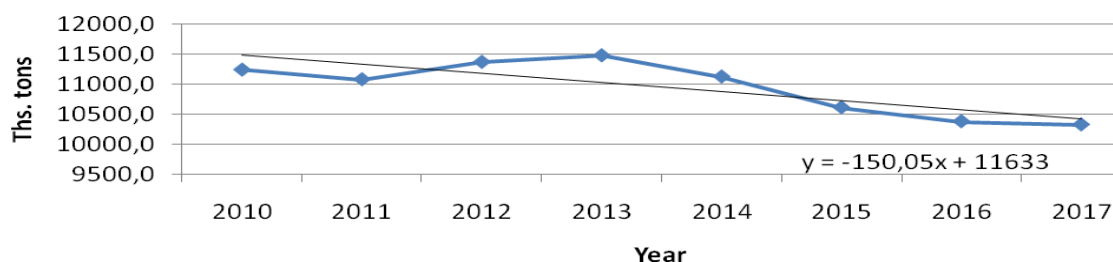


Fig. 1. Dynamics of milk production in Ukraine, 2010 - 2017 yy., ths. tons [5]

As a result of the grouping of regions of Ukraine in terms of milk production, it is found that the least milk is produced in the Zaporozhye, Chernivtsi and Dnipro regions; at the same time, the average productivity in this group is at 4,37, the average livestock population is 71,625; the greatest amount of milk is produced in the Poltava, Khmelnytsky and Zhytomyr regions. Note that 3 regions (Vinnytsia, Lugansk and Donetsk) are not typical for this population, they were removed during grouping (they differ from the average indicators, which in turn does not meet the preconditions of grouping) (tab. 2).

2. Distribution of regions of Ukraine by volume of milk production, ths. tons

Groups of regions in terms of milk production, ths. tons	Regions	Average cows productivity in the group, c.	Average stock in the group, ths. heads
260,6 – 376,8	Zaporozhye, Chernivtsi, Kherson, Dnibr, Kirovograd, Zakarpattia, Mykolaiv, Odessa	4,37	71,625
376,8 – 493	Volyn, Sumy, Rivne, Kyiv, Ternopil, Ivano-Frankivsk	5,04	88,4
493 – 609,2	Cherkassy, Lviv, Kharkiv, Chernihiv, Zhytomyr, Khmelnytsky	5,2	107,92
609,2 – 725,4	-	0	0
725,4 – 792,8	Poltava	6,4	123,7
Total	21	4,83	89,27

The average milk production of one region in Ukraine is 439,27 thousand tons. Production of separate regions differs from the average indicator by 94,36 thousand tons at the mean linear deviation and by 118,27 thousand tons at the mean square deviation. The coefficient of variation in this population is 26,92% and indicates significant fluctuations in the volume of production of certain regions in relation to the average production in Ukraine.

To find out the main causes of such a sharp decrease in milk production, consider the main factors of direct influence: livestock and annual productivity of one head of animals, as well as the dynamics of their changes (tab. 3).

3. The main indicators of milk production in Ukraine, 2010-2017 y. [4]

Indicators	Years								2017 y to 2010 y (%)
	2010	2011	2012	2013	2014	2015	2016	2017	
Production volume, ths. tons	11248,5	11086,0	11377,6	11488,2	11132,8	10615,4	10381,5	10312,5	91,7
Number of cows, ths. heads	2736,5	2631,2	2582,2	2554,3	2508,8	2262,7	2166,6	2108,9	77,1
Productivity of 1 head, c/h	41,1	42,1	44,1	45,0	44,4	46,9	47,9	48,9	119,1

For the analyzed period, the average volume of milk production is 10957,3 thousand tons. This indicates that reaching the peak in 2014, having produced almost 2 million tons of dairy products, the industry is still in a state of stagnation. The volume of production decreased annually by an average of 1,2 percent. The main factor of such a sharp decline in production was the number of animals, which in 2017, compared with 2010, decreased by 627,6 thousand head, or by 23 percent.

So it's necessary to analyze the influence of direct factors on the change in the volume of milk production in general in Ukraine and in the regions where the largest and the least produced milk (tab. 4) using indexes analysis.

4. Estimation of the influence of direct factors on the change of gross milk production in Ukraine in 2017 y. compared to 2010 y [3].

Regions	Number of cows, ths. heads		Productivity of 1 head, c / head		Production volume, ths. tons		
	2010 y.	2017 y.	2010 y.	2017 y.	2010 y.	2017 y.	Conditional value
Zaporozhye	61,4	58,4	42,6	44,6	261,7	260,6	248,9
Lviv	169,5	122,2	38,7	43,3	656,1	528,5	473,0
Total for Ukraine	2736,5	2108,9	41,1	48,9	11247,0	10312,5	8667,6

The results of the conducted assessment indicate that, in general, in Ukraine, milk production decreased by 8,3%, or 934,5 thousand tons. By reducing the number of livestock, the volume of milk production decreased by 22%, which is 2579,4 thousand tons, in turn, due to a slight increase in the productivity of 1 head of animals, the volume of production increased by 19%, which is 1644,9 thousand tons.

In the Zaporozhye region, the region with the smallest volume of milk production, the volume of milk production in 2017 y. compared to 2010 y. decreased by 0,4% or 1,1 thousand tons, including: by reducing the number of livestock the volume of production decreased by about 5%, or 12,8 thousand tons and by increasing the productivity of 1 head - increased by 5%, or 11,7 thousand tons.

In the Lviv region, the region with the largest volume of milk production, the volume of milk production in 2017 y. compared to 2010 y. decreased by 19%, including: due to the reduction of livestock production volume decreased by 28%, and due to the increase productivity of 1 head of cattle - the volume of production increased by 12% [6].

Thus, in Ukraine, a significant factor in reducing the gross margin was the reduction in the number of cows. At present, only Zhytomyr region is occupied by an increase in the number of animals - + 4,8%, compared with the corresponding period of last year – 115,9 thousand tons [7, p. 251].

Conclusions and perspectives. As a result of analyzing the volume of milk production during 2010-2017 y. in Ukraine, it can be noted that this industry is in a state of decline and requires effective intervention by the state and science. Recent changes to the milk production legislation will certainly improve the quality of milk, but the industry itself will continue to decline. In order to avoid this situation it is necessary to solve a number of issues at the state and local levels:

- create preconditions and rules for conducting business, initiate a substantiation of a comprehensive strategy for the development of the industry;

- improve and control animal housing, milking procedures, quality of milking equipment, its washing, use of proper detergents, milk cooling, storage and transportation;
- provide high-quality food for cows and a healthy diet;
- introduce a system of instant cooling;
- the priority of the milk processing enterprises to the production of a qualitative product, and not for profit;
- motivation for the production of high-quality milk.

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ПРОИЗВОДСТВО МОЛОКА В УКРАИНЕ: СОВРЕМЕННОЕ СОСТОЯНИЕ, ОСНОВНЫЕ ТЕНДЕНЦИИ РАЗВИТИЯ И ПРОБЛЕМЫ

Е.В. Богданюк, А.О. Костюк

***Аннотация** Негативные тенденции в развитии отрасли животноводства Украины: сокращение поголовья животных, уменьшение объема производства молока и снижение его качественных показателей требуют углубленного исследования современного состояния отрасли и причин уменьшения производства, а также рассмотрения перспективы отрасли согласно последним изменениям в законодательстве Украины.*

Целью написания статьи является освещение современного состояния одной из важнейших отраслей сельскохозяйственного производства Украины - животноводства. Углубленное исследование охватывает основные вопросы и особенности развития молочного производства в Украине.

По результатам проведенного исследования даны рекомендации и пути по увеличению производства молока и повышения его качества.

***Ключевые слова:** молоко, состояние и динамика развития животноводства, производство молока по регионам Украины, продуктивность животных, поголовье животных.*

ВИРОБНИЦТВО МОЛОКА В УКРАЇНІ: СУЧАСНИЙ СТАН, ОСНОВНІ ТЕНДЕНЦІЇ РОЗВИТКУ ТА ПРОБЛЕМИ

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***Анотація.** Негативні тенденції в розвитку галузі тваринництва України: скорочення поголів'я тварин, зменшення обсягу виробництва молока й зниження його якісних показників потребують поглибленого дослідження сучасного стану галузі та причин зменшення виробництва, а також розгляду перспективи галузі згідно з останніми змінами в законодавстві України.*

Метою написання статті є висвітлення сучасного стану однієї з найважливіших галузей сільськогосподарського виробництва України - тваринництва. Поглиблене дослідження охоплює основні питання та особливості розвитку молочного виробництва в Україні.

За результатами проведеного дослідження надано рекомендації та шляхи щодо збільшення виробництва молока й підвищення його якості.

***Ключові слова:** молоко, стан та динаміка розвитку тваринництва, виробництво молока за регіонами України, продуктивність тварин, поголів'я тварин*