

# ЕКОНОМІКА ТА УПРАВЛІННЯ НАЦІОНАЛЬНИМ ГОСПОДАРСТВОМ

УДК 338.433

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## MANAGEMENT OF COMPETITIVENESS OF DAIRY ENTERPRISES

**Abstracts.** The article shows problems of milk competitiveness in farms of different economic region in Ukraine. The topic of the research is a determination of dairy farm region where management has competitive advantages. Methodic of research is the basis for integration competitive profile and integral indicator. According to author's previous methodic studies, competitiveness of milk farms is observed is detected in such regions as Poltava, Kharkov, Kherson and Cherkassy. Integral indicator of competitiveness respectively equal to 15,9 and 17,3 at 2013. The basic strong management factors are integration relations between farms and milk processors, price forming in region, cooperative societies, productivity, and innovation technology.

**Keywords:** competitiveness, milk production, management,

**Formulation of the problem.** Ukraine chooses the way of Euro Integration. Association with European Union could give more opportunities or challenges for widening of trade and development of agriculture. Undoubtedly, Ukraine is agrarian country. It is the biggest importer of sunflower and rape. But other production is under threat of market penetration by foreign competitors. Our previous results support the view that crop products have competitive advantages as primary products. More over, farmers provide pork on the internal market as a national product and they are successful here. Problem lies in distribution of fruits, meat and milk of cows. These products have bigger costs to compare with export one, lower yield and lower price. Deterioration of trade relations with post Soviet Union countries determines reduction of export flow. More over, Ukrainian farmers meet with Poland competitors, who produce milk, meat and fruits. Today there are questions: How well are farmers ready to compete in region market? Do they have potential to manage by their competitive advantages and to improve market potential?

**Analysis of the latest publication and research.** Competitiveness of milk was researched in papers of E. Demchuk, L. Evchuk, T. Hvorost, V. Messel-Veselyak,

L. Myhailova, P. Sabluk. It has been suggested, that Ukraine has food security in the production of grain, potatoes, sugar and livestock [1, 2]. Farmers produce it enough according to mean normative of consumption. But, in 2005 L. Evchuk points on low quality of Ukrainian milk to compare with European countries [3]. She researched, that milk contains bacteria in 10 times more than European normative. Fat content of milk is induced by inadequate feeding. These reasons lie in reducing of the farmer price. E. Demchuk, in a study of dairy farms in Zaporizhzhya region, analyzed, that consumer added price forms on level of processors and distributors. And dairy farmers don't have possibility to manage by it. A lot of the milk products are primary in subsequent chain integration. In addition to this view L. Myhailova and T. Hvorost states that manage of milk competitiveness will be effective in integral enterprises [4]. Processing of milk is an opportunity to form added price and to produce competitive assortment. Existence of dairy factory in the region is an assurance of stable realization for farmers. So, the problem of milk competitiveness is in the art of management to produce, process, supply, and distribute.

**The formation of article purpose.** The purpose of the research is to detect management

of milk farms competitiveness depending on the economic region (oblast). The main tasks of the research are:

- determination of milk competitive potential on European market;
- analysis of competitiveness indicators through economic region (oblast);
- justification competitiveness of milk production in regions;
- detection the main management factors of competitiveness.

Farm competitiveness is based on indicators that were study in precious papers [5]. Complex of indicators is divided on productivity and distributive components. Productivity components are milk yield, index of quality productivity, share of raw materials in total costs, milk production stability and cost price per 1 quintal. Distributive components include producer price, profit per 1 head of producing animals, profit per 1 quintal of distributed products, market segment, level of food provision in oblast, share of the milk in net product value in oblast, market ability. Mark of

the competitiveness is ground on integral index of competitiveness indicators [6].

$$K = \left( \frac{1}{2} \sum_{n=4}^{16} \sum_{i=1}^{16} a_i a_{i+1} \cdot \sin \frac{2\pi}{n} \right) / n, \quad (1)$$

- $K$  – integral indicator of competitiveness;
- $a_i$  – the  $i^{\text{th}}$  indicator of competitiveness with taking into account the degree of influence
- $a_{i+1}$  – the next after the  $i^{\text{th}}$  indicator of competitiveness taking into account the degree of influence,
- $n$  – number of indicators of competitiveness

**Results of research.**

Milk refers to staple foods that form the consumption basket of the population. Its demand is practically stable. The product does not differ depending on the farm or enterprise. Forecast for production is based on normative rate of consumption. Level of competitiveness doesn't mark by any added value. Practically, dairy production has constant demand that is satisfied. But number of dairy enterprises gradually decreases last decade in Ukraine.

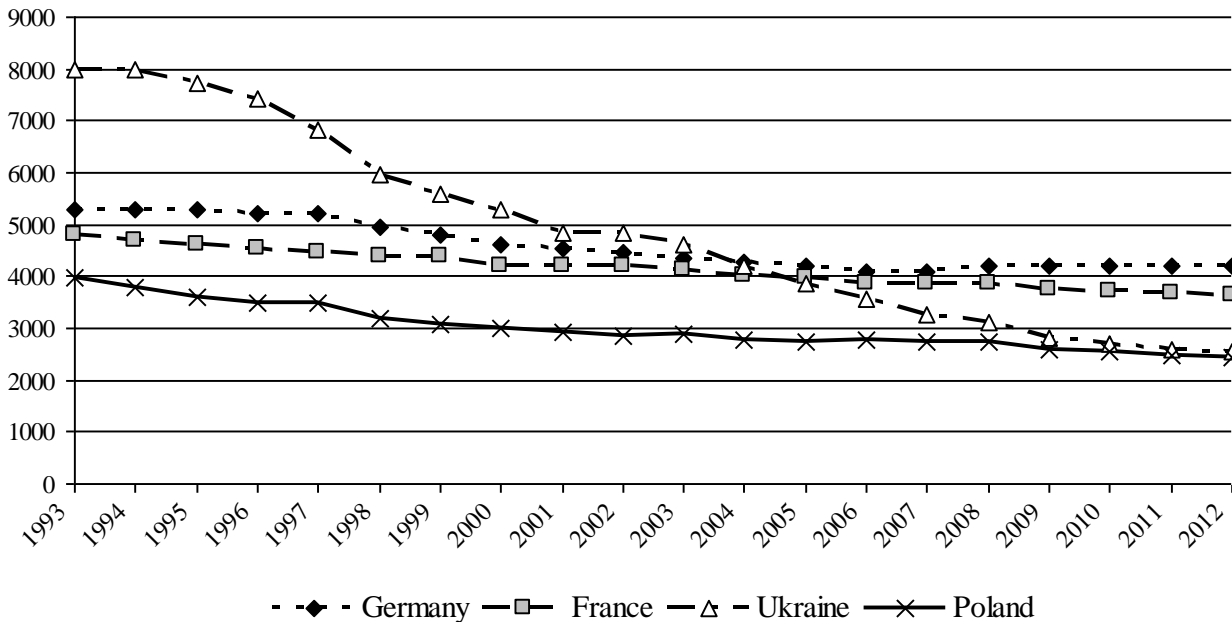


Figure 1. Dairy herd at 1993-2012, thousand head

The graph in Fig 1 shows how many animals were in dairy farms between 1993-2012 years. In the first years of independence Ukraine had big potential of dairy farming. In that period number of dairy herd was about 8 billions of animals. It was one of the biggest dairy players

on European market. In 1993 year number of dairy animals in Ukraine was twice more to compare with Poland. There were more then three billions animals to compare with France and Germany. Over twenty years dairy herds decreased in each researched country. But the

main changing was reached in Ukraine. The graph shows that from 1994 figure dramatically fell till 2001. During this time number of herds virtually unchanged in Germany and France. Since 2003 dairy herds in Ukraine has moderately decline. The main reasons lie in instability in economics, high costs for raw materials, bad investment policy, high lending rates, privatization, etc.

There is decline in regions of Ukraine. During last five years dairy herds lower roughly 50%. There are 8 regions from 25 with rising of volume of production such as Ivano-Frankovsk, Mykolaiev, Kherson, Cherkassy, Poltava and Ternopol oblasts. The first five have the rise over 10%. Increase in Poltava and Ternopol oblast is probably due to the low cost of feeding. This marks the competitive advantages of the dairy enterprises in the oblasts. In the time of drop some farmers attempt to steep rise

and win new segment of the market. Desire production in times of crisis doesn't always bring results. Often farmers and factories have losses in livestock, especially in cattle breeding.

By these reason we consider competitiveness of farms as complex of indicators (table 1). The maximum profit per head is in Kherson, Kharkov and Cherkassy oblast, and it respectively equals to 3,1; 2,9 and 2,7 thousand UAN. Losses in farmers of Zaporizhzhya and Odessa cause of adverse weather conditions and low level of intensification. Share of raw materials in total costs confirms that over 30% fall on fixed costs. Practically all regions have stability production (coefficient of variation is no more 20%). High level of variation has Poltava and Rovno regions. This is probably because dairy farmers augment herd moderately.

Table 1

## Competitive indicators of milk, 2013 year

Oblast	Profit per 1 head of producing animals, UAN	Milk yield, quintal/an	Producer price, UAN/quintal	Index of quality productivity	Profit per 1 quintal of distributed products, UAN	Market segment, %;	Share of raw materials in total costs, %;	Share of the milk in net product value in oblast, %;	Level of food provision in oblast, %;	Milk production stability, %	Market ability, %;
Crimea	453,1	45,7	352,1	1	11	3,1	72,6	0,8	4,5	15,9	90
Winnitsa	2257,9	49,7	346,2	1	49	7,1	64,9	5,8	38,9	7,2	92,8
Volyn	2271,9	35,5	335,6	1	71,8	16,1	75,3	2,7	29,4	3,6	89,2
Dnipropetrovsk	1650,7	52,8	374,5	0,9	33,2	3,7	69,2	3,5	10,6	10,4	94
Donetsk	640,2	47,6	361,7	1	14,2	6,7	66,4	5,1	12,2	4,4	94,8
Zhytomyr	1485,1	34,9	347,3	1	47,5	11,9	66,5	3,4	29,2	8,7	89,5
Zakarpattya	1544,3	32,4	320,3	1,2	68,1	4	76,2	0,1	0,8	10,6	70
Zaporizhzhya	-280,4	37,8	322,2	1,1	-9,9	1,7	68,8	1	6,4	4,5	75,1
Ivano-frankivsk	1679,8	46,8	330,2	1,2	48,4	1,7	65,7	0,4	3,3	13	74,2
Kiyv	1357,7	59,1	338,8	0,9	24,6	6,7	68,9	8,9	5,7	4,4	93,3
Kirovograd	171,6	43,4	318,2	1	4,5	2,1	68,5	1,6	18,9	7,8	88,3
Luhansk	1016,9	37	338,2	1,1	30,5	4,8	68,8	1,9	9,6	7,7	90,3
Lviv	1597	38,8	336,7	1	46	1,5	65,4	0,7	3,3	6,8	89,5
Mykolaiv	2287,5	43,9	353,6	1	56,5	2,9	66,8	1,7	15,3	13,4	92,1
Odessa	-172,5	31,4	299,8	1,1	-6,8	1,7	63,7	1,1	5,6	7,8	81,1
Poltava	2850	58	350,8	0,9	52	12,8	67,3	16,7	122,6	16	94,5
Rivno	2084,4	42,7	329,8	1	52,2	8	70,4	2	20	14,1	93,5
Sumy	1028,2	43	326,2	0,9	25,9	9	69,5	5,4	54,6	4,9	92,2
Ternopil	2197,2	52,4	347,5	1	45,9	3,7	74,1	2	19,7	18	91,4
Kharkiv	2868,5	56,9	360,1	0,9	54,1	9,3	72,6	9	34,3	11,6	93,1
Kherson	3176,6	57,4	373,9	1	59,8	2,7	70,2	1,5	13,8	13,1	92,4
Khmelnitsk	2313,7	47,3	342,1	1	53,4	5,7	69,8	4,5	37,8	9,6	91,5
Cherkassy	2652,2	56,7	353,7	1	50,3	11	69,8	11,1	93,4	11,6	93
Chernovtsy	-320,7	41,1	349,3	0,9	-8,3	5,3	64,5	0,7	8,6	5,3	94
Chernihiv	1584,2	40,6	332,5	1	43,9	10,3	67	7,5	79,7	8,1	88,9
Kyiv city	341,4	48,3	324,1	1,1	8,5	2,5	68,1	0,7	2,9	30,8	83,7

Methodic of competitiveness implies calculation of relative performance in percentage. It is necessary to calculate unified system of measurement. Absolute indicators are calculated as a ratio to the average indicators in Ukraine. It is give possibility to detect the regions, where dairy production is more effective to compare with average statistical figure in Ukraine. Method of calculation does not include competitiveness in the regions with losses. In 2013 year non-competitiveness dairy farming is in Zaporizhzhya, Odessa and Zhernovtsy regions.

Table 2 shows dairy competitiveness in the regions where it has middle level (integral

indicator of competitiveness is more then 10). High level (10.0-20.0), but non-competitive level, is matched to activity of dairy farms in Poltava, Kharkov, Kherson and Cherkassy regions. Three of these regions are concentrated in forest-steppe zone. The dairy farms here have maximum return on natural and productive resources. Profit per animal should be higher than 40% from average level in country. From the table 1 we can see that such level is equal 2500 UAN per animal. In other cases dairy farm has insufficient production to compare with farm neighbors.

Table 2

## Competitiveness of milk production, 2013 year

Indicator	degree of influence	Winmitsa	Volyn	Dnipropetrovsk	Ivano-frankivsk	Kiyv	Mykolaiv	Poltava	Rivno	Ternopil	Kharkiv	Kherson	Khmelnitsk	Cherkassy	Chernihiv
Profit per 1 head of producing animals accounting to average level in Ukraine, %	0,167	122,1	122,9	89,3	90,9	73,4	123,7	154,2	112,7	118,8	155,2	171,8	125,1	143,5	85,7
Yield accounting to average level in Ukraine, %	0,151	84,1	60,0	89,4	79,1	100,0	74,3	98,1	72,3	88,6	96,3	97,2	80,1	95,9	68,7
Ratio of costs, %;	0,136	102,4	115,4	89,1	108,0	96,8	102,4	101,8	109,6	100,9	99,4	96,9	105,4	100,3	105,4
Producer price accounting to average level in Ukraine, %	0,121	100,1	97,1	108,3	95,5	98,0	102,3	101,4	95,4	100,5	104,1	108,1	98,9	102,3	96,2
Index of quality productivity, %	0,091	1,0	1,0	0,9	1,2	0,9	1,0	0,9	1,0	1,0	0,9	1,0	1,0	1,0	1,0
Profit per 1 quintal of distributed products accounting to average level in Ukraine, %	0,076	118,1	173,1	80,1	116,7	59,3	136,3	125,3	125,8	110,6	130,4	144,2	128,7	121,3	105,7
Market segment, %;	0,076	7,1	16,1	3,7	1,7	6,7	2,9	12,8	8,0	3,7	9,3	2,7	5,7	11,0	10,3
Share of raw materials in total costs, %	0,061	64,9	75,3	69,2	65,7	68,9	66,8	67,3	70,4	74,1	72,6	70,2	69,8	69,8	67,0
Share of the milk in net product value in oblast, %	0,045	5,8	2,7	3,5	0,4	8,9	1,7	16,7	2,0	2,0	9,0	1,5	4,5	11,1	7,5
Level of food provision in oblast, %;	0,045	38,9	29,4	10,6	3,3	57,0	15,3	122,6	20,0	19,7	34,3	13,8	37,8	93,4	79,7
Milk production stability, %	0,015	7,2	3,6	10,4	13,0	4,4	13,4	16,0	14,1	18,0	11,6	13,1	9,6	11,6	8,1
Market ability, %;	0,015	92,8	89,2	94,0	74,2	93,3	92,1	94,5	93,5	91,4	93,1	92,4	91,5	93,0	88,9
Integral indicator of competitiveness		13,4	11,8	11,5	11,4	11,8	12,4	<b>17,0</b>	12,0	13,5	<b>16,6</b>	<b>17,3</b>	13,2	<b>15,9</b>	10,4

The main reason of lower indicator is mostly in yields of dairy farms and average profit per animal. In such situation farmers will seek to dispose of losing industry to favor of crop and

other more profitable agricultural branches. The reason of insufficient of many dairy farmers lies in huge share and costs of feeding. The raw costs in dairy farms in Volyn and

Ternopol have 75.3 and 74.1%. As a positive such indicators show low level of fixed assets and opinion to output the profit. From the other side high level of raw materials requires additional investment in the process of intensification. Such farms need government support to increase the herds and size of production. The rational feeding forms productivity, yields and quality of milk. In case,

where small farm doesn't have diversification of production, it doesn't have feed supply completely. More over, there are outdated technology and predominance of manual labor in many farms. In euro integration conditions the maximum threshold should strive to the level of major producers in the world market.

Figure 2 shows the level of yield in Ukraine and European countries in 2012.

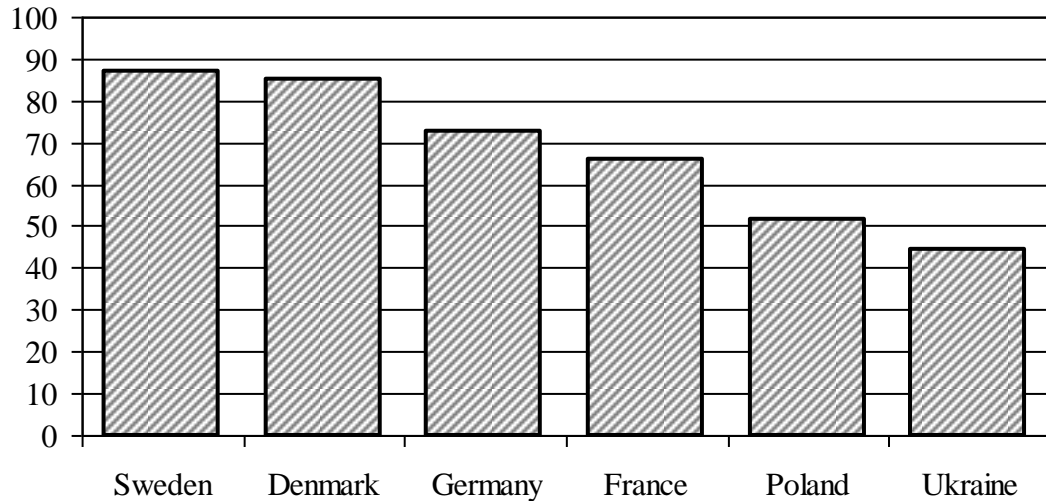


Figure 2. Yield of dairy herd in 2012 year, quintal per animal

The graph compares yield of the herd in Ukraine and Europe countries. The main competitors and leaders in dairy farming (Sweden and Denmark) have yield over 50 quintal per animal more to compare with Ukraine. New technology, animal welfare and productive animal breed give opportunity to get more milk per the heard. Table 1 shows that dairy farmers regions couldn't get mostly average level of European producers. Management system there is concentrated on deep specialization and permanent intensification. Farmers often work in integration system, mostly in cooperatives. The mission of the farmer is to supply quality product. The mission of Ukrainian farmer is to support the current level of business. European farmer doesn't care about distribution. Ukrainian farmer is always looking for more effective channels of distribution. The market factor of instability lies in non-constant distribution conditions. The table 1 shows that market stability varies from 3,6 to 30,8%. For example, it is the reason of lower level of

competitiveness of farmers in Kiev region. More over, these farmers have lowest marketability – 83%. We emphasize, that it is a region with billions population and huge demand of milk. In this situation farmers win when they have close relations with processing enterprise and comprise of alliance or agro holding.

**Conclusions.** Since 2003 dairy herds in Ukraine has moderately decline. During last five years dairy herds lower roughly 50%. The main reasons lie in instability in economics, high costs for raw materials, bad investment policy, high lending rates, and privatization. The maximum profit per head is in Kherson, Kharkov and Cherkassy oblast, and it respectively equals to 3,1; 2,9 and 2,7 thousand UAN. Market stability varies from 3,6 to 30,8%. In 2013 year non-competitiveness dairy farming is in Zaporizhzhya, Odessa and Zhernovtsy regions. The competitive level of dairy farming is inherent to producers from forest-steppe region. Results show, that farmers of Poltava, Kharkov, Kherson and Cherkassy

regions have high level of competitiveness. But it is not enough to compare with European enterprises. Dairy productivity is lower on 10 quintal per animal in Ukraine to compare with Poland farmers and in twice to compare

Sweden and Denmark. It is necessary to enhance herd productivity and market distribution by integration relations between farmers and dairy enterprises.

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