THE EFFICIENCY OF DURATION ECONOMIC USE OF COWS HOLSTEIN BREED

O.I Karateeva, Assistant

A.V. Bezbabna, Master of VIth Course Faculty TVPPTSB

Mykolayiv State Agrarian University, Ukraine

Established that with an increase in the level of productivity of cows decreased their economic and productive longevity.

Holstein breed, economic use, the index of economic use.

The formulation of the problem. Great influence on the economy of milk production provides term economic use of animals. Approximately 65% of the profits in dairy farming due to the longevity of cows. For dairy cows (from birth to first calving is more than 2 years) spent large sums of money for maintenance and feeding of young animals, wages and other expenses for maintenance. When yield 4000-5000 kg of milk costs for growing heifers and heifers pay off in 2-3 years, and in yield of 3000 kg of milk – 4-5 lactations [5]. However, in the field of dairy farming Ukraine there is a fairly low duration cows productive use, especially among the herd of Holstein breed. It has an average lifetime for a period of only 2,4-4,3 lactation [1, 2].

Analysis of recent research and publications. Long-term productive use of animals as research shows many scientists, depends not only on hereditary traits, but also on external factors related to the conditions of feeding, maintenance and operation [1, 2, 4, 5]. Of particular importance, this problem is in herds where breeding Holstein cattle. At high milk productivity of cows of this breed timing of their use in many small farms were 3.5 lactations, and the percentage of cows disposal firstborn reaches 32.4% [1, 2]. This reduction of animal life greatly reduces the economic efficiency of milk production and selection effect [2, 3, 5].

Problem. Therefore, we set the goal to investigate the duration of the

economic use of cows of Holstein breed, depending on their linear origin, in farms where productivity of this breed does not exceed 6000 kg of milk per lactation.

Material and methods research. The study was carried out on the Holstein breed cows that belong to "Agrofirm Limanskoe" Mykolaiv region. To study three groups were formed cow on 30 goals each. The study included a cow belonging genealogical lines Valianta, Starbuck and Chifa. Factor of economic use was determined by the formula proposed by M.S. Pelehatym [4].

$$KVG \equiv \frac{Ж - K}{Ж} \times 100$$

where: F - life expectancy of a cow;

K – the age at first calving cow.

Biometric data processing carried out on a PC using software MS Office [1]. For the control group was taken as the average data for the three groups.

Results. Extending the life of the cow directly determines the cost-effectiveness of commodity milk production, improving the financial performance of the economy.

To determine the effectiveness of the use life of cows in a herd of existing stock was analyzed for a period of retirement (Table. 1).

1. The duration of economic use of Holstein cows of different lines

Number of lactation	Genealogical line		
	Valianta	Starbuck	Chifa
1	0	0	0
2	1	0	0
3	0	0	2
4	0	3	4
5	1	5	2
6	5	3	5
7	10	12	10
8	12	8	10
9	2	5	4

It was established that the greatest number of cows dropped in the period from VII to IX of lactation, indicating that the duration of high economic use. After the second lactation was rejected only one cow Valianta line. Good performance characteristic duration of use cows line Starbuck weed which began after the fourth lactation – three heads.

The longest period of economic use by the cow, who left after seven and older lactations. The maximum number of cows was rejected aged seven or eight lactations - on 10 goals and Chifa Valianta lines and 12 lines Valianta heads and 8 heads ta10 other two research lines, respectively.

This high duration of the economic use of cows of Holstein breed in our opinion is associated with low milk yields of both species – about 5500-5800 kg of milk per lactation, and good feeding conditions.

Duration and effectiveness of the use of life cows dairy cattle determined by the cumulative effect of genotypic and paratypovyh. Considering the established patterns of genotypic and paratypovoyi determination revealed correlated variability of the individual characteristics of ontogenetic development and productivity for individual lactation, using methods developed early zazhyttyevoho forecasting and indirect selection provides the possibility of effective selection for the duration and effectiveness of life using cows and improves overall profitability of dairy farming industry .

Based on research carried out and the results obtained for milk yield of cows of Holstein breed different lines, it was found that the highest yield in the first lactation had a daughter line Valianta – 5456 kg, which are dominated by this index peers with lines Chifa – 5149 (tab. 2). At the same time, under the same conditions and feeding the lowest rates for first lactation milk yield was characterized daughter line Starbuck – 5044 kg of milk. A similar trend is observed for the third lactation indices – yield cows line Valianta increased to – 5822 kg of milk, and then it was better.

2. The milk productivity and duration of the economic use of cows of Holstein breed different lines, M ± m

Performance	Genealogical line		
	Valianta	Starbuck	Chifa
Кількість голів	30	30	30
Продуктивність за 305 днів лактації:			
першої надій, кг	5456±188,3	5044±126,8	5149±144,6
жир, %	3,66±0,046	3,72±0,037	3,75±0,042
третьої надій, кг	5822±175,1	5566±228,5	5591±197,8
жир, %	3,69±0,013	3,72±0,012	3,69±0,009
Тривалість, днів: господарського використання	3285,5±87,56	3656,2±92,32	3467,5±90,54
продуктивного використання	2555,4±34,7	2920,7±43,50	2737,4±38,55
число отелень за життя	7,02±0,012	8,01±0,025	7,52±0,022
Коефіцієнт господарського використання	82,7±2,24	88,3±1,74	83,6±2,17

Having the lower productivity of yields for first lactation daughters line Starbuck failed to surpass it in the next lactation as their hopes for the third lactation reached – 5566 kg. milk.

Analysis of fat content in milk suggests that large differences between the various representative groups of Holstein cows genealogical were found. Thus, for the first lactation it ranges from 3,66-3,75%, the lowest rate in its representatives Valianta line. These third lactation indicate that cows Chifa line with the best performance for the fat content in milk in the first lactation were not able to keep him in the third lactation, which was only – 3,69%.

Comparing the characteristics of productive economic use indicators that the daughters Valianta lines that are better for milk yield did not have high qualities duration of productive life – 3285,5 days. Yes, they are inferior to other cows included in the study at a rate of economic use – 82,7%, with 83,6 and 88,3% in the same age lines Chifa and Starbuck, respectively. The latter are preferred with respect to duration of use – 3656,2 days. In accordance with a decrease in economic life and reduces their productive use to 2255,4 7.02 days at the hotel.

While daughters line Starbuck have the worst performance numbers but have a high productive using 2920.7 days with, and the number of calvings reaches 8.01. A contemporary line Chifa occupy an intermediate position between the two groups mentioned above as productivity and thus for economic use.

Conclusions:

1. Productive longevity of cows in terms of the economy long enough for both of Holstein cattle. What we believe explains reinforced feeding grounds and medium productive performance of cows.

2. It was established that the duration of the economic use of these herds in some way dependent on the productive performance of cows, ie cows more productive rather exhausting their resources by making more milk and therefore fall faster culling.

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E.I. Karateeva, A.V. Bezbabnaya **The efficiency of duration economic use of cows holstein breed**

It is found that the increase in the level of productivity of cows their economic and productive longevity are smaller.

Holstein breed, the economic use, the index of economic use.