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Features of remount young animals group formation in dairy cattle herds

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It is established that in the herd SPK them. Schorsa promising young replacement part is on average 74.7% of the AF "Glushki" - 77.9% of "Terezino" - 62.5%. Average annual population groups young replacement in herds of dairy cattle depends on the output of calves per 100 cows, the intensity dropout young replacement for the period of growth and the duration of the productive use of cows in the herd. Average annual population groups young replacement is calculated from the theoretically calculated needs heifers and actual performance of their release.

Remount young animals, calve output per 100 cows, intensity of eliminating, productive use of cows

Increasing intensity of generational change in herds and breeds in general, low reproduction, intense of remount young animals eliminating, an absence of selection by origin and short term of cows productive use make some adjustments to the formation of remount young animals group. Study of the group features in modern dairy herds with high milk yield and optimization of this group formation was set the goal of research.

The research was conducted in herds of Ukrainian Black-and-White dairy breed on farms VCA named Schorsa, ALC “Terezino” and LLC AF “Glushky” 'Bila Tserkva district Kyiv region.

Today in dairy cattle through the using of Holstein inheritance reaches significant progress on milk yield, but reproductive parameters decreases. Such trend in the researched herds is observed: the milk yield per year in VCA named Schorsa increased in average per cow by 751 kg, calve output per 100 cows reduced by 4 heads; in ALC “Terezino” − +1042 kg and −27 heads; in LLC AF “Glushky” − +377 kg and 20 heads, respectively.

Over the study period in the herd VCA named Schorsa got 1959 live calves, including heifers 44,7 %, what is significantly lower the biologically possible separation of sexes, which is 1 : 1. In herds LLC AF “Glushky” and ALC “Terezino” got 998 and 2300 live calves, respectively, including heifers 50,4−50,8 %, correspondes to biological ability of animals. It should be noted that in ALC “Terezino” significant part of the offspring are stillborn (6,3 % comparatively 2,2 % in VCA named Schorsa and 0,1 % in LLC AF “Glushky”).

During the growing period the significant part of remount young animals prematurely eliminated from the herds. Prematurely the remount young animals eliminating mainly is due to low growth and development (4,5−7,6 % from the total number of eliminated young animals), various diseases (55,9−72,0 %), trauma (1,5−2,3 %), infertility (14,1−20,7 %) and heifers difficult calving (7,9−13,5 %). Intensity of prematurely of the remount young animals eliminating during the

growing period in the herds ranged from 22,1 to 37,5 %, besides the vast majority of remount young animals eliminating before first insemination (54,5−63,8 % from the total number of eliminated animals).

Size of the firstborn group, which is entered into the herd each year, depends on intensity of remount young animals eliminating. For example, in VCA named Schorsa to the herd each year is entered on average 74,7 % heifers (perspective remount young animals), in LLC AF "Glushky" − 77,9 %, in ALC "Terezino" − only 62,5%.

So, a high percentage of the remount young animals eliminating during the growing period complicates the efficiency of selection and breeding in the herd. After a thorough analysis of prematurely eliminate of the remount young animals courses and weaknesses can be found. Address these deficiencies or reducing to a minimum will increase of young animals survival and it is a background for the selection by desirable parameters, use in own herd of valuable animals and it gives the possibility to sale the over plus remount young animals to other farmers.

Today, significant part of farmers which dairy herds have high milk yield cannot provide the repairing of their herd through its own remount young animals. At the heart of this problem is usually a discrepancy between genotype and environment, which leads to disorders of reproductive ability of cows and as a result, the low calve output per 100 cows, the low survival of young animals and a reduction of cows productive use.

An average size of remount young animals group depends on the needs of the firstborns, that must to be entered in the herd each year, and the actual output firstborns in the herd, that depends on calve output per 100 cows and intensity of remount young animals eliminating. Need of firstborns based on the length of productive use of cows in the herd.

Based on the calculated need of firstborns and actual firstborn output per 100 cows, it is proposed to calculate the average size of remount young animals group by the formula:

$$Рм = \frac{Пп}{Вп} \times к,$$

where РМ – an average size of remount young animals group, which includes heifers group, heads; ППП − theoretically calculated firstborns need per year per 100 cows; ВП − actual firstborn output in the herd per year per 100 cows; К − cows in a herd on average per year.

If correct parameters of calve output per 100 cows, intensity of remount young animals eliminating and duration of the productive use of cows in the herd, it will change the average size of remount young animals group.

Even a slight prolongation of productive use of cows, increasing of calve output per 100 cows and reducing of the intensity of remount young animals eliminating leads to higher output of firstborns and it reduce the need to purchase of of remount young animals.

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