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Commtrcial user of cows and causes of Ukrainian-out black and white dairy cattle by absorbing crossbred

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The influence of the part of Holstein inheritance on parameters of productive use and causes of premature culling of Ukrainian Black-and-White dairy breed cows were researched. When the part of Holstein inheritance grows, at the same time there is a tendency to reduce the length of cows' productive use, the duration of their use in the herd, the milk yield per one day of life and the coefficient of productive use. Higher parameters of productive use were detected in the group of cows with the part of Holstein inheritance 75,0−99,9 %. The most often causes of premature culling of Ukrainian Black-and-White dairy breed cows were gynecological diseases, diseases of the udder and the digestive system.

Ukrainian Black-and-White dairy breed, the part of Holstein inheritance, parameters of productive use, causes of culling

Today, in Ukrainian and foreign dairy cattle breeding the factor of cows' productive use efficiency is becoming more important. Long-term productive use is the evidence of matching the animal genotype and environmental conditions, their good reproductive ability, resistance to diseases, the normal physiological and biochemical processes in animal organism.

In the research the basic parameters of cows' productive use in three dairy herds were analyzed. According to the results, the best parameters of productive use are typical for Ukrainian Black-and-White dairy breed cows of LLC AF "Matyushi", the worse − for cows of LLC "Suholiske".

Over the studied period (2006–2010) in herd LLC AF "Matyushi" average cows lifetime was 2010 days, length of productive use – 3,43 lactations, which is 145 days ($p<0,001$) and 0,72 lactations longer ($p<0,001$) compared with parameters of cows in the LLC "Suholiske". The cows' lifetime in LLC "Suholiske" in average was 1865 days, length of productive use – 2,71 lactations ($p<0,001$), which is 34 days ($p<0,001$) and 0,47 lactations longer ($p<0,001$)

compared with the same parameters of cows in the LLC AF “Glushky”, where the cows were kept in the herd 1976 days, the average length of their productive use was 2,96 lactations.

During the period of productive use of Ukrainian Black-and-White dairy breed cows in LLC AF “Matyushi” got highest lifetime milk yield. Their lifetime milk yield higher 2971 kg ($p<0,001$) and 871kg, milk fat − 66 kg ($p<0,001$) and 30 kg ($p<0,05$), milk protein − 69 kg ($p<0,05$) and 5 kg, respectively, compared with parameters of cows of LLC “Suholiske” and LLC AF “Glushky”. Depending on the length of cows’ life and lifetime milk yield, milk yield per one-day in herd LLC AF “Matyushi” was 10,0 kg, that was higher by 1,6 kg ($p<0,001$) and 0,1 kg, than in herds LLC “Suholiske” and LLC AF “Glushky”, where these parameters were 8,4 kg and 9,9 kg, respectively.

Thus, in three researched herds with increasing of the part of Holstein inheritance a tendency to a reduction of length of productive use, cows lifetime, milk yield per one-day, coefficient of productive use were studied. The higher parameters in the group of animals with part of Holstein breed inheritance 75,0−99,9 % were found.

On average, in researched herds parameters of productive use are lower in the group of cows with part of Holstein inheritance 100 % compared with the same parameters of cows with part of Holstein inheritance 75,0−99,9 %. Particularly, they had shorter length of productive use by 17,7 %, cows lifetime – 5,2 %, milk yield per one-day – 4,3 %, coefficient of productive use – by 14,3 %.

It was analyzed parameters of cows’ productive use depending on causes of culling and part of Holstein breed inheritance. In the herd LLC AF “Glushky” the most of cows were culling because of gynecological diseases (223 heads or 35,7 %), the lowest − because of digestive system disease (47 heads or 7,5 %) and low milk productivity (100 head or 16 %). In the herd LLC AF “Matyushi” overwhelming majority of cows premature culled out of the herd due to gynecological diseases (314 heads or 34,8 %), in the herd LL”Suholiske” − because of udder disease (264 heads or 31,9 %). The lowest part of cows were

culling out of these herds because of low milk productivity (100 heads or 11,1 % and 91 heads or 11,0 %, respectively).

In the researched herds weak negative correlation between the part of Holstein inheritance in the genotype of Ukrainian Black-and-White dairy breed cows and length of their productive use, cows lifetime, milk yield per one-day and coefficient of productive use were found. Reliable parameters of correlations in the herd LLC AF "Glushky" between the part of Holstein inheritance and length of part productive use ($r=-0,18$, $p<0,05$), in the herd LLC AF "Matiushi" − between the part of Holstein inheritance and coefficient of productive use ($r=-0,20$, $p<0,01$) were observed.

Thus, there is the problem of cows' productive use decreasing in herds of Ukrainian Black-and-White dairy breed occurs due to the increasing of Holstein inheritance in cows genotype. This negatively affects the number of offsprings, lifetime productivity, milk yield per one-day and general efficiency of the dairy cattle.

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