THE INFLUENCE OF GENETIC AND PARATYPIC FACTORS ON THE DURATION AND THE EFFECTIVENESS OF LIFETIME USE OF DAIRY CATTLE

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The influence of genetic and paratyphoid factors and manifestation of phenotypic characteristics on indicators of productive longevity of dairy cattle have been studied.

Studies on cows of Holstein (n=2902), Ukrainian Black- (n=14876) and Red-and-White (n=2176) dairy breeds. The variability of productive longevity of dairy cattle is significant influenced by housing conditions, a little less — by the year and the season of birth and the first calving. Born in the autumn-winter period cows had the highest rates of duration and effectiveness. The season of the first calving didn't show any consistent pattern, but birth and the first calving year had almost the same impact on productive longevity indicators. Animals that have not reached the breed standard in live weight in a certain age period, in the future, had lower indicators of lifetime use and productivity. In order to prolong the productive longevity of cow their first calving should be planned at the age of 25–29 months. Among the animals of Holstein and Ukrainian Red-and-White the cows with 121–150 days of the first service period had the longest use in herds and had the highest milk yield, and among Ukrainian Black-and-White with the duration of the indicated period 151–180 days. There was observed the significant impact of milk yield during first and best lactation regardless of breed of mothers, mothers of mothers and mothers of fathers on the milk yields of descendants of the same lactations, but not on their productive longevity. High productivity of cows and their female ancestors in most cases led to a reduction of the duration of productive use and lactation period of daughters and grandchildren, reducing their lifelong productivity and premature dropping out of the herd.

The indicators of the duration and effectiveness of life-long use of the daughters of long-lived Holstein breed were lower not only than their mothers, but also lower than the average of the herd. Descendants of Ukrainian Black-and-White, Red-and-White breeds had a little higher indicators of productive longevity, than the average per herd: lifetime yield was higher by 10.4 and 28.9 % respectively, and the number of lactations for life – by 6.4 and 22.7 %.

Such Holstein breeders as Rock 373840409, V. M. Dan 5510544, V. Teksel Kin 393522 (Canadian breeding) E. Samb 3035115974 (Hungarian selection), Lord 661288 (German breeding), Valentin 373840175, Matador 373840109 (Russian breeding) improved productive longevity of daughters by some separate features, and also the breeders of Ukrainian Black-and-White, Red-and-White breeds Abrykos 5806 and Khlor 2052.

The nonadditive type of inheritance cows for the first lactation characterized by a longer duration of productive use and higher lifelong yields than the ones with additive inheritance. During selection cows with "over-domination" and "domination of the mother" and "domination of the father" the forms of yield inheritance should be preferred since these animals were characterized in most cases by the highest rates of duration of productive use and lifetime productivity.

One-factor dispersion analysis has established that the most significant impact on the productive longevity of dairy breeds were made by genetic factors, namely, the origin of the father, conditional pedigree by Holstein breed and linear affinity. Factor "Herd" had the greatest impact on the productive longevity of cows among the paratypes factors and much smaller is birth and the first calving year and birth and first calving season.

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