



Development of dairy productivity of cows of Ukrainian Black-and-White dairy breed depending on different factors

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Introduction

Further intensification of the selection process with the aim to increase milk productivity of cows causes a need for systematic assessment of animals in herds and populations by the main selection traits and the degree of realization of genetic potential in certain conditions. Therefore, the aim of the work was to study the development of milk productivity of cows of the Ukrainian Black-and-White dairy breed depending on live weight, body measurements of first-calf heifers, linear affiliation, milk productivity of mothers and indicators of reproductive capacity.

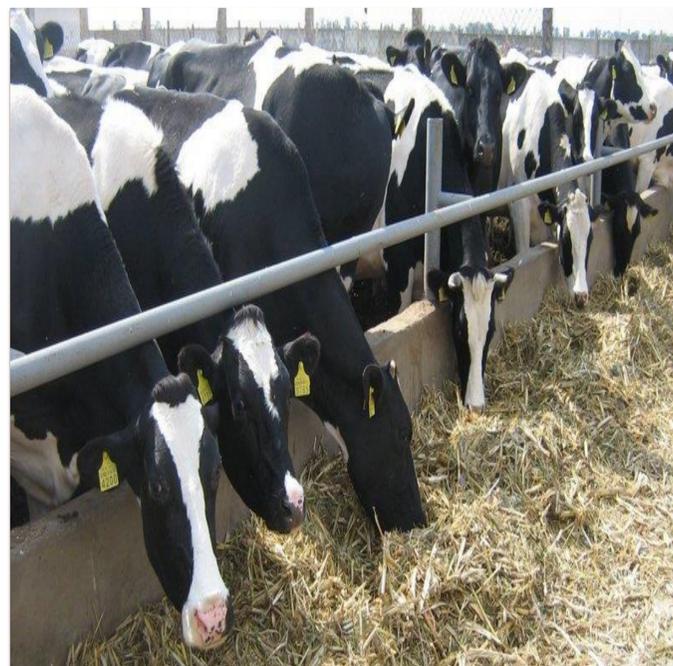
Results

The formation of milk productivity of the cows was influenced by the intensity of their weight and linear growth during the period of growth, as well as the live weight after the first, second and third calving and the size of the body of the cows after first calving. The correlative variability of the live weight of animals during the period of growth and feeding was 0.018–0.604, the body measurements during the period of cultivation and fertilization — 0.170–0.458, live weight after the first, second and third calving, and infusion — 0.413–0.551, the body measurements of the fetuses and infusion — 0.297–0.478. The most significant impact on the future dairy productivity of the cows was made by their live weight at the age of 18 months (21.6–24.6%) and after the first calving (32.3%), high-altitude measures (17.7–36.0%), the circumference of the chest on the shoulder blades (17.1–36.3%), and the skid length of the trunk (8.7–33.9), and the smallest — the live weight at birth (3.3–5.3%) and the circumference of the heel (8.6–18.2).

The influence of the lines on yield of milk, depending of the farm and lactation, was 9.6–39.0, the fat content of milk — 2.9–32.2 and the yield of milk fat — 9.7–38.8%, the strength father's influence — 6.9–49.3; 7.4–68.4 and 6.8–51.0% respectively. The coefficients of inheritance on the path along the "mother-daughter", depending of the farm and lactation, were within 0.034–0.618, fatty milk — within 0.032–0.762. The highest yield of milk were in cows, which age of the first fertile insemination amounted to 487–547 days with a live weight of 400 kg, service life period — 120 and more, for dry period — 45–54 and inter calving — 430 days or more.

Material & Methods

The research was conducted in four farms for breeding Ukrainian Black-and-White dairy breed in the western region of Ukraine: Sokal (n=2046) and Brody (n=1222) branch of *Molochni riky LLC* and *Seleksioner* breeding farm (n=1418) of Lviv region, *Yamnytsia* breeding plant (n=1217) of Ivano-Frankivsk region. The dependence of the milk productivity on live weight during rearing and after the first, second, and third calving, on live weight, body measurements of first-calf heifers, linear affiliation, milk productivity of mothers, and indicators of the reproductive capacity of cows have been studied based on a retrospective analysis of zootechnical accounting data (during the last 20 years).



Conclusions

Thus, the formation of milk productivity of Ukrainian Black-and-White dairy cows was most significantly influenced by paternal origin, linear affiliation, height measurements, shoulder girth, oblique length of the body, and their live weight after the first calving.