

EVALUATION OF THE MILK PRODUCTION AND SOMATIC CELL COUNT OF LITHUANIAN PUREBRED AND CROSSBRED DAIRY COWS

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Abstract. The research was carried out on a total of 2023 Lithuanian dairy cows on 9 dairy farms. The milk yield, milk composition (milk fat and protein) and SCC (somatic cell count) were evaluated of purebred (n=567) and crossbred (n=1456) cows of different dairy cattle breeds. Analysis of milk composition and SCC was made during control milking. The objectives of this research were to compare milk yield, milk composition and SCC between purebred and crossbred cows of Lithuanian dairy cattle populations, to determine breed combinations of crossbred cows, which are with the best traits. The highest milk yield ($P<0.001$) and SCC were estimated in purebred HO (Holstein) breed cows. The highest milk yield of cows of Lithuanian Black and White population was estimated in crossbred Lithuanian Black and White and Swedish Black and White (LB&W \times SB&W) cows and the lowest milk yield and SCC were estimated in crossbred Holstein and Dutch Black & White (HO \times DB&W) cows. The highest milk yield of Lithuanian Red and Red and White population was estimated in crossbred Simmental and Red Holstein (DSI \times HOR) cows and the lowest SCC was estimated in crossbred Angler and Red Holstein (AN \times HOR) cows. The highest milk yield (8041.45 \pm 235.62 kg) and the lowest SCC (202.67 \pm 40.08 kg) were estimated in crossbred cows of Lithuanian Black and White cattle population ($P<0.001$). The lowest milk yield (in average 7820.79 \pm 167.42 kg) was estimated in purebred cows and the highest SCC (in average 497.16 \pm 101.18 thousand/ml) was estimated in crossbred cows between different populations of Lithuanian cattle ($P<0.001$). Significant differences were not estimated for the different purebred and crossbred cows' milk composition traits. It is recommended to use crossbreeding in cows of Lithuanian dairy cattle populations raised in industrial dairy farms.

Keywords: cows, breed, milk yield, somatic cell count, purebred, crossbred