

MILK PRODUCTION AND REPRODUCTIVE PERFORMANCE IN PRIMIPAROUS COWS SIREDBY ELITE SIRES OF BULLS, PROVEN AI BULLS AND YOUNG UNPROVEN AI BULLS

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Abstract. The objective of this study was to analyse the effect of paternal origin – 3 groups of AI bulls: B_E-fathers bulls (elite sires), B_P-proven and B_{UP}-unproven (tested) young bulls, to characteristics of the production and reproduction of their daughters in the first lactation. The breeding values of elite sires of bulls and proven bulls were estimated by comparing their merit indices, including production, fertility, conformation and somatic cell score sub-indices. Daughters of elite bulls were characterized by significantly ($p \leq 0.05$) higher average yields of milk, fat and protein during 305-day lactation, compared with daughters of proven bulls and unproven bulls. Cows sired by elite bulls produced 9 429 kg milk during 305-day lactation, 784 kg milk more than daughters of AI proven bulls, and 1 044 kg milk more than daughters of AI unproven bulls during their significantly shorter lactations. Age at first calving was similar in all groups (778–803 days). ICI was longest (470 days) in daughters of sires of bulls, due to low insemination efficiency and very high milk production in the first lactation. Very high milk production was accompanied by long ICI resulting from low conception rates.

Keywords: milk production, components of milk, elite sires, proven and unproven of AI bulls, breeding value