

An assessment of the efficiency of the dairy bull dam selection methodology in Kenya

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Abstract

Data consisting of 5670 lactation records made by 2958 cows between 1990 and 2004 from 18 Ayrshire herds were used to evaluate the efficiency of the current bull dam selection method in Kenya. A univariate DF-REML procedure and the animal model with relationship was used to estimate Breeding Values (BVs) for unadjusted total lactation milk yield, as used by the current methodology. The mean milk yield was 4085 Kg with SD of 1396 Kg, and the breeding values (BVs) for milk yield for all the animals ranged from - 979 kg to + 1115 Kg. with a heritability of 0.18 ± 0.045 . The BVs were then arranged in descending order and then ranked. Based on the unadjusted lactation records, the BVs for the top 100 cows ranged from +550 Kg to +1115 Kg. Only 25 of the 113 bull dams that were included in the study were ranked in the top 100 cows. The results indicate that there are a large number of cows in the national herd with high genetic merit that had been left out of the breeding programme using the current bull dam selection methodology and that cows with lower genetic merit have been used due to the inefficiency of the current bull dam selection method. Thus, the current method of bull dam selection is inefficient and needs to be improved by genetic evaluation of all the cows before bull dam selection.