ABSTRACT

Animals with the same lactation breeding value can have different shapes of the additive genetic lactation curve, implying differences in persistency of lactation. Since environmental conditions change across lactation, animals can re-rank through the lactation, leading to genotype by environment interaction for daily milk yield. The objectives of this project is to describe the genetic curve pattern of daily estimated breeding values and to assess the extent of sire and cow re-ranking for daily milk yield across lactation in Sahiwal cattle in Kenya. Random regression coefficients for each animal were obtained from random regression test day models using Legendre polynomials. Animals were ranked within day and rank correlations estimated using spearman's rank correlation. The best cows and sires were those from cluster 1. Based on the results, cluster analysis can be used to pre-select cows and sires before ranking and selection is carried out.

Keywords: Breeding values, lactation curve, random regression test day models, sahiwal