Abstract

The use of test-day milk yield records (MY) in genetic evaluations of dairy cattle is relatively recent and can be advantageous for genetic improvement. In order to estimate the genetic parameters for MY in Mambi cows (3/4 Holstein ¼ Zebu), information from 6839 weighings of milk from 755 first-calf cows, which gave birth between 2001 and 2005 in 55 Cuban dairy herds, was used. REMLF90 software was used to estimate variance components. The program was fit to a bivariate animal model that included the group of contemporaries (dairy-test day date) as fixed effects and cow age to test day as linear and quadratic covariable; additive genetic value of the animal was the random effect. The cows were milked twice a day and milk was weighed every 30 d. Cows with at least five and up to 10 MY records were included. Milk yield decreased 7.7 to 4.9 kg between MY1 and MY10. The heritability values (h2) were higher for MY5 (0.25) and MY6 (0.28). Residual variance decreased as the lactation period lengthened, making it necessary to consider variance heterogeneity in models that predict genetic value using MY. Genetic correlations between MY in the different stages varied between 0.15 and 0.93. Use of test-day milk yield records can be an alternative for predicting genetic value of Mambi cows in Cuba.

Keywords

Mambi cattle, test-day, genetic parameters, milk production.