Heritabilities, genetic correlations and genetic trends for age at first calving and calving intervals in a Colombian Blanco Orejinegro-Angus-Zebu cattle population

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ABSTRACT

Objectives: The objectives of this research were the estimation of genetic parameters and genetic trends for age at first calving, calving intervals between the first and second calving, and calving interval between the second and third calving in a large commercial enterprise in the department of Antioquia in Colombia.

Materials and methods: Data consisting of 1,630 ages at first calving (AFC), 1,231 of intervals between first and second calving (CI1), and 1,130 intervals between second and third calving (CI2) collected at farm La Leyenda from 1989 to 2004. The farm is located in the municipality of Caucasia, department of Antioquia, Colombia and is owned by a large private cattle company (Cordoba S.A. Meñiques, Colombia). Breed represented in the dataset were Blanco Orejinegro (BO), a beef Creole breed, Angus (A), and Commercial Zebu (Z). Table 1 presents number of cows by breed-group-of-sire in a breed-group-of-dam combination.

RESULTS AND DISCUSSION

Means and standard deviations were 55.62 ± 3.06 for AFC, 73.8 ± 16.11 for CI1, and 55.2 ± 9.17 for CI2.

Breed effects: Angus and BO had a negative direct effect on AFC; CI1 was greater than that for BO; CI1 and CI2 direct effects were shorter than those for BO similar to Zebu. These direct effects suggest that punished Zebu and crossbred boers with high AFC traits to begin calving for the first time and tended to have longer calving intervals than cows with higher traits of Angus and BO.

Genetic parameters. Table 3 shows estimates of genetic parameters for AFC, CI1, and CI2. Genetic trends for AFC showed a significant negative trend of -3.33 ± 2.31 d/yr for CI1. Although non-significant, estimates of direct heritabilities for AFC and CI1 may be an indication that it could help decrease AFC and CI1, thus be economically advantageous in this population.

LITERATURE CITED


