Genetic variability of Senepol cattle in Colombia using molecular markers [

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text (article)

Analítica

The Senepol beef cattle breed was introduced into Colombia through the use of artificial insemination and embryo transfer from a small nucleus of animals. Objective: to estimate the genetic variability of Senepol cattle in Colombia by heterologous microsatellites and to estimate gene and genotypic frequencies of single nucleotide polymorphic markers through calpastatin (CAST1), calpain (CALP316), and leptin (PB) genes. Methods: 412 blood samples from 28 herds were genotyped for population genetic structure with the STR: INRA32, BM2113, ETH10, BM1824, INRA037, ETH225, INRA064, SPS115, TGLA126, and TGLA122 microsatellite markers. Three SNPs of calpastatin, calpain, and leptin genes were used. Results: all microsatellites and SNP markers were polymorphic. The number of alleles ranged from 4 (BM1824) to 11 (INRA37), and the observed heterozygosity varied between 0.21 (INRA64) and 0.89 (BM2113). Combined probability of exclusion for the microsatellites was higher than 99.99%, indicating the usefulness of this set of markers for parentage testing in Senepol. Conclusions: despite being a small and closed population, this nucleus presents high genetic variability and low inbreeding
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