Abstract

Introduction. At the moment, genetic polymorphisms in some genes related to the production and quality of milk have been described. Examples of them are kappa-casein, beta-lactoglobulin, prolactin and growth hormone. One of the most important hormones in the milk’s secretion and composition processes is the growth hormone (bGH). Among the polymorphic sites for the bGH gene, there is one at the 1547 position (intron 3) in which the GH+ allele has a citosin (C) and the GH- allele has a thymine (T). Objective. To determine the allelic and genotypic frequencies of the bovine growth hormone's gene and the association between the polymorphisms of this gene with some characteristics such as production and composition of milk in eight herds located in the Antioquia province. Methodology. 470 lactations, corresponding to 165 Holstein race individuals, were analyzed. The genotypes were determined by the use of the PCR technique, associated with RFLP. Results. The most frequent allele in the studied population for bGH was bGH+(0.85) and, while the most frequent genotype for the bGH gene was +/+ (0.72), the less frequent was bGH-/-(0.03). There were differences between the milk, fat and protein production averages among the three genotypes, but they were not statistically significant.

Keywords

Polymorphism, growth hormone, milk production, milk composition, Holstein race.