Identification of CSN1S1 polymorphisms in Malagueña goat stallions to improve the dairy production

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ABSTRACT

Motivation: Alpha-S1-casein is one of the most abundant proteins in milk of ruminants, and the extensive polymorphisms at CNS1S1 locus not only affect the quantity, but also the quality of milk (Martin et al. 2002). Up to 18 polymorphisms have been identified at CNS1S1 locus and have been classified into 4 groups based on milk production (high, medium, low, null) (Caravaca et al. 2008). Currently, there is a program to improve the Malagueña Goat breed, whose purpose is the selection of individuals based on different criteria, including the optimization of dairy production (Serradilla, 2012). One of the most important characteristic of Malagueña goat is the high milk production, both in quantity and quality; thus, our objective is to identify individuals with a favorable allelic combination to select those stallions with a value suitable for reproduction. Genotyping of 77 stallions will provide advice on best individuals for insemination in the improvement program.

Methods: Genomic DNA is obtained from blood samples. After DNA extraction, three levels of diagnostic PCRs will be performed in a progressive order based on the results obtained in each level. The results of the diagnostic PCRs will be analyzed by gel electrophoresis, obtaining the final results according to the size of fragment expected for each polymorphism (Ramuno et al. 2000; Cosenza et al. 2003; Caravaca et al. 2008).

REFERENCES

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