

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## IDENTIFICATION OF A1 AND A2 ALLELES FROM BETA-CASEIN GENE ON CRIOULA LAGEANA BREED

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Caseins are proteins that correspond to 25-30% of the protein portions of dairy milk. Among 13 variants of caseins,  $\beta$ -casein expressed by A2 allele results on a bioactive peptide which is not related to some human digestive diseases and some dairy breeds has higher frequencies of A2 allele. The Crioula Lageana breed has a double purpose (meat and milk) with high importance on Santa Catarina state. The aim of this study was carry a genotyping of A1 and A2  $\beta$ -casein alleles of these animals to identify the possible existence of genetic polymorphisms using PCR-RFLP with Hinf I, Ban II e XmnI restriction endonucleases. Were collected samples of hair follicles from 110 animals. DNA extractions were made by PCI (Phenol-Chloroform-Isoamyl alcohol) method and the region of intron I and exon VII of beta-casein gene were isolated with 5'TGACCCCAATTTCTTAACCAAACCAA3' and 5'CTGGCTTTCAGTAAAGGGCTCAACTG 3'. Primers. The RFLP analysis allow to identify genetic polymorphisms with Hinf I Enzyme, showing three patterns identified as A2A2, A1A1 e A2A1. The frequencies observed (genotypic and allelic) were 0.689; 0.01; 0.301; 0.84 and 0.16, respectively. Chi-square test showed that the studied population isn't on Hardy-Weinberg's equilibrium. The results allows to conclude that were possible to identify different genotypes of beta-casein on Crioula Lageana Breed using PCR RFLP with Hinf-I restriction enzyme.

**Keywords:**  $\beta$ -casein, *Bos taurus*, A2 milk, molecular markers

**Acknowledgments:** Fundação de Amparo à Pesquisa e Inovação do Estado de Santa Catarina (FAPESC)

Promoção e Realização:



Apoio Institucional:



Organização:

