

## Characterization of bovine calpastatin gene in nelore cattle using polymerase chain reaction-restricted fragment length polymorphisms

### ABSTRACT

**Problem statement:** In beef cattle production, of meat quality and carcass traits are important. Traditionally beef cattle breeding programs unfortunately are time consuming and also recording of carcass and growth traits need heavy cost, **Approach:** Marker Assisted Selection (MAS) should be utilized in beef herds, along with economically important phenotypic traits, for genetic progress to made with respect to improving the uniformity and consistency of beef. Blood samples were collected from 41 nelor cattle in Malaysia. Forward and reversed primers amplified a 1552 bp fragment from calpastatin gene. XmnI enzyme was used for restriction analysis of PCR products. **Result:** Overall, the frequency of alleles A and B in the studied breeds were estimated as 0.42 and 0.58, respectively. In this study we calculated genotype frequency AA, AB and BB 12.2, 58.53 and 29.27% respectively and also observed heterozygosity, expected heterozygosity and average value of heterozygosity were 0.58, 0.49 and 0.48 respectively. Highest frequency of allele was B (0.58) and lowest was A (0.42) This Nelor cattle population was in the Hardy-Weinberg equilibrium. **Conclusion:** Perhaps, this molecular genetic information helps breeders for designing the proper genetic selection program in the development direction of this breed.

**Keyword:** Bovine, Calpastatin, Polymerase, Polymorphisms