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Milk protein genotypes and milk coagulation properties of Estonian Native cattle

Keywords Estonian Native cattle, milk protein polymorphism, coagulation properties,

Abstract

The genetic variation of α s1-, α - and ϵ -caseins and b-lactoglobulin was determined and their effects on the rennet coagulation properties were examined using 335 milk samples from 118 Estonian Native (EN) cows. We found 16 aggregate casein genotypes (α s1-, α -, ϵ -caseins), of which four – namely, BB A2A2 AA (21.2%), BB A1A2 AB (16.9%), BB A1A2 AA (14.4%), and BB A2A2 AB (10.2%) – occurred among nearly two-thirds of the analysed cows. Aggregate casein genotype had a significant overall effect on rennet coagulation parameters. Better rennet coagulation properties were found for aggregate casein genotypes CC A2A2 AB and BC A1A2 BB, among frequent genotypes for BB A1A2 AB. Of the cattle breeds raised in Estonia, milk from EN had the best coagulation properties and highest frequency of favourable ϵ -Cn B allele.

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