

Influence of κ -Casein Genotype on Milk Productivity of Latvia Local Dairy Breeds

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Abstract : κ -casein is one of milk proteins which are very important for milk processing. Genotypes of κ -casein affect milk yield, fat, and protein content. The main factors which affect local Latvian dairy breed milk yield and composition are analyzed in research. Data were collected from 88 Latvian brown and 82 Latvian blue cows in 2015. AA genotype was 0.557 in Latvian brown and 0.232 in Latvian blue breed. BB genotype was 0.034 in Latvian brown and 0.207 in Latvian blue breed. Highest milk yield was observed in Latvian brown (5131.2 \pm 172.01 kg), significantly high fat content and fat yield also was in Latvian brown ($p < 0.05$). Significant differences between κ -casein genotypes were not found in Latvian brown, but highest milk yield (5057 \pm 130.23 kg), protein content (3.42 \pm 0.03%), and protein yield (171.9 \pm 4.34 kg) were with AB genotype. Significantly high fat content was observed in Latvian blue breed with BB genotype (4.29 \pm 0.17%) compared with AA genotypes (3.42 \pm 0.19). Similar tendency was found in protein content — 3.27 \pm 0.16% with BB genotype and 2.59 \pm 0.16% with AA genotype ($p < 0.05$). Milk yield increases by increasing parity. We did not obtain major tendency of changes of milk fat and protein content according parity.

Keywords : dairy cows, κ -casein, milk productivity, polymorphism

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