

Associations between Polymorphism of Growth Hormone Gene on Milk Production, Fat and Protein Content in Friesian Holstein Cattle

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Abstract : The aim of the research was to determine the associations between polymorphism of the bovine growth hormone (GH) gene (Leu/Val, L/V) and milk production of Friesian Holstein Cattle. A total of 62 cows which consist of two Friesian Holstein groups (cattle from New Zealand are 19 heads and cattle from Australia are 43 heads). We perform the PCR and RFLP method for analyzing the genotype of the target gene GH 211 bp in the part of intron 4 and exon 5 of GH gene. The frequencies of genotypes LL were higher than genotype LV. The number of genotype LL in New Zealand and Australia groups are 84% and 79%, respectively. The number of genotype LV in New Zealand and Australia groups are 16% and 21%, respectively. The association between Leu/Val polymorphism on milk production, fat and protein content in both groups does not show the significant effect. However base on the groups (cows from New Zealand compare with those from Australia) show the significant effect on fat and protein content.

Keywords : Friesian Holstein, fat content, growth hormone gene, milk production, PCR-RLFP, protein content

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