

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

PRODUCTIVE PROFILES OF DAIRY COWS IN PERNAMBUCO STATE AND ASSOCIATION WITH HSP-70.1 GENE POLYMORPHISMS

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Heat stress is one of the main causes of reduced milk production, especially in tropical regions. One possible approach to reduce this impact is the selection of animals with higher thermotolerance, thus enabling the genetic improvement of the herd. Studies demonstrate favorable genetic differences for the best thermal adaptation, with reflexes at physiological and cellular levels, confirming genetic differences between subspecies, breeds, and individual differences that praise the thermotolerance. The family of heat shock proteins (HSP) are the main responsables for promoting heat stress tolerance. The objective of this paper was to associate polymorphisms of the HSP-70.1 gene to productive characteristics in dairy cattle of the Pernambuco state. 150 animals were studied, being Holstein pure and Girolando (5/8) belonging to the Instituto Agronômico de Pernambuco, using 3,019 observations obtained between the years 2006 and 2014. ADN was extracted from whole blood samples and used for PCR amplification of the HSP-70.1 gene. Enzyme digestion was then performed with EcoRII restriction enzymes. The polymorphisms were identified by the observed pattern of marks and from them the association between the effect of the polymorphisms on the characteristics of milk production was performed using the SAS GLM procedure. Seven polymorphisms were identified, with the highest production averages being obtained by the animals that presented pattern A in the Dutch herd, and E pattern in the Girolando herd. Significant differences were observed for the milk production variable, although three standards were shared among the evaluated herds. Possibly this occurs due to the racial and environmental differences in the regions where the animals are located. The fixing of the thermotolerance characteristic is of extreme importance for dairy cows. The improvement of this characteristic can promote the racial elevation of the herds, thus enabling the improvement of the regional and state dairy exploitation.

Keywords: Milk Production, PCR-RFLP, Thermotolerance

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