

CANDIDATE GENETIC MARKERS ASSOCIATED WITH THERMO-TOLERANCE IN ANIMALS

KAMALDEEP¹, ANKIT MAGOTRA², ANIKA MALIK³ & B. L. PANDER⁴

¹Research Scholar, Animal Genetics and Breeding, Lala Lajpat Rai University of Veterinary and
Animal Sciences, Hisar, India

²Assistant Professor, Department of Animal Genetics and Breeding, Lala Lajpat Rai University of
Veterinary and Animal Sciences, Hisar, India

³Assistant Professor, Department of Veterinary Extension, Lala Lajpat Rai University of
Veterinary and Animal Sciences, Hisar, India

⁴Ex-Professor and Head, Department of Animal Genetics and Breeding, Lala Lajpat Rai University of
Veterinary and Animal Sciences, Hisar, India

ABSTRACT

Global warming, due to the drastic change in climate leads to serious consequences and a major threat to the sustainability livestock production systems in near future. Inability of dairy animals to adapt these stresses can result in a reduction in feed intake, milk production and reproductive success. Most of the negative effects of heat stress on animal performance are based on physiological adaptations to regulate body temperature. Selection approaches to reduce heat stress in animals on body temperature regulation during heat stress could increase thermos-tolerance. Rectal temperature (RT) and respiration rate (RR) are the most sensitive physiological parameters of heat tolerance. There is QTL for RT in heat-stressed dairy cattle. So SNPs could prove useful in genetic selection and for identification of genes involved in physiological responses to heat stress. Taking into consideration seriousness of the matter the present review, focuses on the markers associated with thermo-tolerance in animals.

KEYWORDS: Selection, SNP, Marker, QTL