Special Issue

Genetic Basis of Thermoregulation in Animal Agriculture

Message from the Guest Editors

Heat stress is a sustainability challenge for the animal industry and the rise in global temperatures will likely worsen this problem. When animals experience high heat load, they face increased discomfort, reduced production and fertility, increased disease risk, and, in extreme cases, mortality. Identifying animals experiencing high heat load and adopting appropriate mitigation strategies can improve animal welfare and the viability of production systems. The most common heat abatement strategies involve modifications on animal housing such as shade, fans, and sprayed water, which all rely on extensive use of natural resources and energy. However, identifying and selecting animals that are more resilient to the hot weather within our production systems can be a more efficient method to achieve sustainability. Therefore, the first step to selecting heat-stress-resilient animals is understanding the genetic basis of thermoregulation. Recognizing the role of genes and pathways associated with heat stress resilience is critical for selecting individuals that can cope better with increasing temperatures.

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Message from the Editor-in-Chief

Animals is an on-line open access journal that was first published in 2011. *Animals* adheres to rigorous peerreview and editorial processes and publishes only high quality manuscripts that address important issues in the many varied disciplines that involve animals, with a focus on animal science, animal welfare and animal ethics. *Animals* is covered in the Science Citation Index Expanded (SCIE) in Web of Science, with the latest Impact Factor: 2.7 (2024, ranks 15/86 (Q1) in 'Agriculture, Dairy & Animal Science'; 21/170 (Q1) in 'Veterinary Sciences'), 5-Year Impact Factor: 3.2.

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