

Special Issue

Advancing Meat Quality Through Genetic and Nutritional Insights

Message from the Guest Editors

Meat quality is a multifactorial trait governed by the interaction of genetic, nutritional, and environmental factors, determining muscle phenotypes at harvest and driving biochemical, structural, and physicochemical changes during meat conversion. Molecular genetics identified key loci, gene networks, and mechanisms, enabling genomic selection and precision breeding. Efficiency and quality require integrated approaches combining genetics, physiology, and nutrition to optimize meat's structural and sensory attributes. Nutrition dynamically modulates muscle growth, metabolism, and carcass composition. Beyond growth, diets optimize lipid profiles and antioxidants, shaping meat's sensory properties. Functional feeds (e.g., fatty acids, plant bioactives) enhance quality and sustainability, acting as drivers of biochemical pathways critical to meat outcomes.

The Special Issue explores how genetic and nutritional insights advance mechanistic understanding and drive practical innovation in meat quality. By integrating molecular biology, metabolism, and applied production strategies, the Issue aims to enhance product consistency, consumer satisfaction, and resilience of animal agriculture.

Guest Editors

Dr. Mariane Beline
Dr. Barbara Roqueto dos Reis
Dr. Sabrina Amorim

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About the Journal

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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