Special Issue

Genomic Selection in Pigs: Precision Breeding and Trait Optimization

Message from the Guest Editors

This Special Issue highlights cutting-edge genomic selection advances in pig breeding, bridging theory and practice. Genomic selection has transformed pig breeding by enabling precise selection of superior traits. Driven by high-throughput genotyping and advanced analytics, it accelerates genetic gains while tackling key challenges like feed efficiency, disease resistance, and meat quality. SNP arrays and whole-genome sequencing now improve causal variant detection and trait architecture analysis. Integrating genomic and traditional breeding enhances both genetic progress and biological insight. Novel statistical and machine learning methods boost breeding value prediction accuracy. Non-additive effects and multi-omics data (transcriptomics/metabolomics) further clarify genotype-phenotype relationships—critical for complex traits with slow traditional progress. We are soliciting original articles on the various applications and developments of genome selection in pig production and breeding processes.

Guest Editors

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Agriculture (ISSN 2077-0472) is an international, cross-disciplinary and scholarly journal on the science and technology of crop and animal production, and management of the natural resource base for agricultural production. We invite submissions from authors according to the aims and scope of the journal described in more detail on this page. *Agriculture* is published in an open access format – articles are published on the journal's website immediately after acceptance, giving the scientific community and the public unlimited and free access to the content.

Editor-in-Chief

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