

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

Dr. Xiuling Li
Dr. Lilin Yin
Prof. Dr. Jie Yang

Deadline for manuscript submissions

10 June 2026



Agriculture

an Open Access Journal
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Impact Factor 3.6
CiteScore 6.3



mdpi.com/si/246944

Agriculture
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agriculture@mdpi.com

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Agriculture (ISSN 2077-0472) is an international, scholarly and scientific open access journal publishing peer-reviewed research papers, review articles, communications and short notes that reflect the breadth and interdisciplinarity of agriculture.

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Prof. Dr. Les Copeland
Sydney Institute of Agriculture, School of Life and Environmental
Sciences, The University of Sydney, Sydney, NSW 2006, Australia

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