



Livestock Breeding and Conservation Genetics

Guest Editor:

Prof. Peter Dovč

Department of Animal Science,
Biotechnical Faculty, University
of Ljubljana, 1000 Ljubljana,
Slovenia

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Message from the Guest Editor

Livestock breeding is a branch of applied genetics that has achieved significant improvements in the production traits of farm animals. In the last two decades, the contribution of molecular genetics has grown. The QTL concept has identified several candidate loci with a significant impact on quantitative traits. The application of molecular markers in animal breeding has led to the so-called marker-assisted selection. The availability of many informative molecular markers has allowed for the possibility to estimate genetic variability in livestock populations and has been successfully used in modern genetic conservation programs. The last conceptual change in animal breeding was the introduction of genomic selection. This concept allows for selection decisions based almost exclusively on genotype information. This strategy will considerably speed up genetic progress and increase the proportion of individuals participating in selection schemes.

The development of efficient methods for targeted genome editing opens a new horizon for the precise genetic optimization of farm animal genomes, resulting in a new generation of more productive, healthier, and more robust livestock.





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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,
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Message from the Editor-in-Chief

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Agriculture Editorial Office
MDPI, St. Alban-Anlage 66
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