

Special Issue

Advances in Semen Preservation, Sperm Quality Assessment and Reproductive Technologies in the Ovine Species

Message from the Guest Editors

Artificial insemination (AI) and other assisted reproductive technologies (ARTs) are key for genetic improvement and sustainable livestock breeding. In sheep, their use is limited due to anatomical complexity, semen preservation issues, low correlation between sperm quality and fertilization, reproductive seasonality, and limited in vitro embryo production. Laparoscopic AI with frozen-thawed semen achieves fertility but requires specialized equipment and skills. Vaginal AI with cryopreserved semen has low success, leaving refrigerated semen as the main short-lived alternative. Unlike cattle, in vitro embryo production (IVP) is not routine due to embryo transfer difficulties. Advances in semen preservation, sperm damage detection, fertility biomarkers, and ovine-tailored ARTs are needed. Extending refrigerated semen lifespan, enabling cervical AI with frozen-thawed semen, and improving IVP and ET would expand ART adoption in sheep. This Special Issue seeks research on innovative semen preservation, sperm assessment, fertility prediction, and improved AI, IVP, and ET protocols, especially interdisciplinary studies linking reproduction, biotechnology, and livestock management.

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Deadline for manuscript submissions

20 March 2026



Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



mdpi.com/si/255048

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Message from the Editor-in-Chief

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.

Editor-in-Chief

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Sciences, The University of Sydney, Sydney, NSW 2006, Australia

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