



## Nutritional and Metabolic Regulation of Dairy Cow

Guest Editors:

**Dr. Ewa Pecka-Kielb**

Department of Animal Physiology  
and Biostructure, Wrocław  
University of Environmental and  
Life Sciences, Norwida Str. 31, 50-  
375 Wrocław, Poland

**Prof. Dr. Andrzej Zachwieja**

Institute of Animal Breeding,  
Wrocław University of  
Environmental and Life Sciences,  
Chelmońskiego Str. 38c, 51-630  
Wrocław, Poland

**Dr. František Zigo**

Department of Nutrition and  
Animal Husbandry, University of  
Veterinary Medicine and  
Pharmacy, Komenského 73, 041  
81 Košice, Slovakia

Deadline for manuscript  
submissions:

**closed (15 May 2023)**

### Message from the Guest Editors

The result of breeding work is a significant improvement in the performance characteristics of dairy cows. However, the increase in their productive capacity results in higher demands on housing and feeding conditions, which farmers are unable to meet. Due to the difficulties in properly balancing feed rations, the incidence of metabolic disorders increases, especially during the drying-out period and early lactation. Metabolic disorders limit the physiological capacity of the animals, worsening the physicochemical characteristics of the colostrum and milk produced, which reduces the quality and technological suitability of raw milk and affects the efficiency of calf rearing.

Climate change is leading to a potential reduction in the availability of feedstuffs, prompting a search for alternative plants and feed components that may be effective in the feeding of dairy cows.

Rumen fermentation processes and their products guarantee the proper functioning of the animals, their metabolism, health, and productivity. A non-invasive way to observe rumen processes and verify the impact of new ration solutions for dairy cows is in vitro analysis.





an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Les Copeland

Sydney Institute of Agriculture,  
School of Life and Environmental  
Sciences, The University of  
Sydney, Sydney, NSW 2006,  
Australia

## Message from the Editor-in-Chief

*Agriculture* (ISSN 2077-0472) is an international, crossdisciplinary and scholarly open access journal on the science and technology of crop and animal production, and management of the natural resource base for agricultural production. *Agriculture* is published in an open access format – research articles, reviews and other contents are released on the internet immediately after acceptance. The scientific community and the public have unlimited and free access to the content as soon as it is published.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), PubAg, AGRIS, RePEc, and other databases.

**Journal Rank:** JCR - Q1 (*Agronomy*) / CiteScore - Q2 (*Plant Science*)

## Contact Us

---

Agriculture Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/agriculture](http://mdpi.com/journal/agriculture)  
[agriculture@mdpi.com](mailto:agriculture@mdpi.com)  
[X@AgricultureMdpi](https://twitter.com/AgricultureMdpi)