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Editorial

Innovations in Animal Feeding

For the editorial team

Hans Marten Paulsen

Chief editor Landbauforschung

Thünen Institute of Organic Farming, Germany

As guest editor

Werner Zollitsch

Professor

BOKU–University of Natural Resources and Life Sciences, Austria



Hans Marten Paulsen



Werner Zollitsch

Dear colleagues, authors, reviewers and readers!

In view of a growing world population and of economic growth in various parts of the world, the demand for animal-derived food products continues to increase, although unevenly distributed. A hunger for feed and food resources undoubtedly has the potential to exceed planetary and social boundaries. In contrast, the development of circular bio-based economies, improved animal welfare, and gains in biodiversity and ecosystem services are still in their infancy in many parts of Europe and need to be developed worldwide. We need to transform livestock production and food production towards systems with a skillful use of natural resources and fair participation by local communities and people.

With the foreseen growth of the human population, the future of livestock production can only be secured if we succeed in reducing the competition between feed for livestock and food for humans. With a view to the planetary boundaries, livestock numbers need to be reduced worldwide. The remaining livestock production will only have a positive impact on the global food supply if animals are either raised on grassland or if they utilize non-edible by-products from food processing and other industries. With a growing gap between the quantitative availability of high-quality feed-stuffs and the rising needs of livestock producers, potential solutions will have to include the utilization of innovations in feed supply chains – even in organic farming. These will consist, among other things, of developing new or unconventional feed resources and improving the production and processing technology. Changes in the composition or physicochemical structure of feed components to improve their nutritional value and the development of new feeding strategies are also key priorities. Potential negative effects on ecosystems and the environment, and humans and animals must be considered.

The current issue of *Landbauforschung - Journal of Sustainable and Organic Agricultural Systems* provides a forum to discuss a wide range of aspects related to the challenges and opportunities mentioned above. The small number of articles we could accept address some future challenges in livestock feeding: the use of green forage legumes even for monogastric animals, possibilities to optimize feeding behaviour in animal stables with high potential livestock welfare and the use of insects as a protein component.

We hope that the articles will capture your interest and will allow a comprehensive discussion on innovations in animal feeding.

Hans Marten Paulsen and Werner Zollitsch