

**Nordic Association of Agriculture Science (NJF)**  
**Continuous international scientific conference**  
**“Challengers of Economics, Education and Society Development in the Nordic – Baltic Countries and beyond” organised by Section of Economy, Education and Society**  
**Programme for the virtual seminar on September 3<sup>rd</sup>, 2025 (Wednesday)**  
**13:00 to 14:30 Eastern European time (12:00 to 13:30 Central European time)**  
*The link for joining the conference event presented at the end of this programme*

**Presentation 1**

**Title: Innovative Microbiological Solutions with Plant Growth Regulator Function: Potential, Impact on Yield, and Economic Justification in Sustainable Agriculture**

**Speaker: Vivita Viksnina**, Latvia University of Life Sciences and Technologies

**Authors: Vivita Viksnina**, Latvia University of Life Sciences and Technologies

**Professor Baiba Rivza**, Latvia University of Life Sciences and Technologies

**Annotation:** The study evaluates the application of multifunctional microbiological products in integrated cropping systems under Latvian conditions. Field trials were established in August 2021, with yield analyses conducted for winter rapeseed (29 July 2022) and winter wheat (13 August 2022). The assessment was based on statistical analysis of yield data and a cost–benefit evaluation, with particular attention to the potential for replacing chemical plant growth regulators with microbiological alternatives. The results indicate that these solutions can maintain or increase yields while reducing the use of chemical substances, thereby mitigating environmental impact and improving the economic efficiency of production.

**Keywords:** microbiological products, microbiological growth regulators, integrated cropping, climate neutrality, cost–benefit analysis, winter wheat, winter rapeseed, yield, microbiological alternatives.

**Presentation 2**

**Title: Agro ecological Potential of Bioregions: Regional Differentiation and Innovation in Latvian Agriculture**

**Speaker: Inga Magne**, Latvia University of Life Sciences and Technologies

**Authors: Inga Magne**, Latvia University of Life Sciences and Technologies

**Kaspars Naglis-Liepa**, Latvia University of Life Sciences and Technologies

**Annotation:** The bioregional approach is gaining momentum as a tool for sustainable rural development and agro ecological transition. This presentation explores how bioregional thinking can serve as a foundation for agricultural specialization and innovation in Latvia, while promoting regional diversity and adaptation to specific landscapes and ecosystems. Bioregions, defined by landscape, soil, habitat, and cultural-historical criteria, make it possible to identify agricultural potential based on local specificities rather than generalized sectoral models.

The analysis is based on empirical data from the municipal level on agricultural specialization patterns across Latvian bioregions. It highlights differences between intensive production areas and regions with potential for higher-value agro ecological practices—such as organic farming, landscape-integrated agriculture, and the preservation of local breeds and varieties.

The aim of the presentation is to demonstrate how a bioregional approach can bridge traditional agricultural knowledge with innovative, environmentally responsible development. A comparative perspective with Nordic agro ecological zones is included, emphasizing opportunities for shared learning and adaptation across similar climatic and landscape conditions.

The presentation concludes with policy recommendations on how bioregions could be integrated into Latvia's agri-environmental planning to support specialization, innovation, and sustainability simultaneously. Bioregions are positioned as potential catalysts for agricultural modernization that maintain ecological integrity while strengthening territorial identity.

**Keywords:** Bioregions, Agro ecological transition, Regional specialization, Sustainable rural development, Agro-environmental planning.

Link to Google Meet platform:

**[meet.google.com/xqg-bnak-gae](https://meet.google.com/xqg-bnak-gae)**