

**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 **April 5<sup>th</sup>, 2023 (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: Environmentally Sustainable Growth in Agriculture across the European Union countries in 2005-2019**

**Speaker: Lina Lauraitienė, Vytautas Magnus University Agricultural Academy**

**Authors: Lina Lauraitienė and Vlada Vitunskienė, Vytautas Magnus University Agricultural Academy**

**Annotation:** Current economic development, including agriculture, is based on the increasing use of natural resources that causes climate change, deterioration of ecosystems or puts other types of pressure on the environment. Scientific publications on environmentally sustainable growth in agriculture are increasingly becoming more important but empirical research is scarce. The most commonly accepted way to assess environmentally sustainable growth in agriculture is based on the measure of multifactor productivity growth. However, the conventional productivity measures are not suitable for the assessment of environmentally sustainable growth in agriculture because they do not include environmental variables such as environmental pollution and natural capital. Both scarcities can be overcome by an environmentally adjusted multifactor productivity indicator. In this study, the environmentally adjusted multifactor productivity growth measure was applied to assess environmentally sustainable growth in agriculture of the EU's countries. For analysis, the environmental pollution of agricultural production was expressed as net GHG emissions, and natural capital was expressed as the quality-adjusted agricultural land area. The research was conducted using a literature overview, decomposition technique, and cluster analysis method. The analysis covered the period between 2005 and 2019.

### **Presentation 2**

**Title: Trends, perspectives and problems of agricultural robotization**

**Speaker: Vitalijs Osadcuks, Latvia University of Life Sciences and Technologies**

**Author: Vitalijs Osadcuks, Latvia University of Life Sciences and Technologies**

**Annotation:** Using robots for agricultural tasks proposes great opportunities to improve quality of agricultural production, labor effectiveness and sustainable land use. This presentation focuses mainly on crop farming. There are several approaches of robot integration to farming: ranging high power general purpose autonomous tractors for conventional farmers to highly specialized single task robots as well as heterogeneous multi-robot systems. The presentation also covers some problems, that still to be solved before farmers can widely utilize robots in daily tasks.

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