EGU21-5567
https://doi.org/10.5194/egusphere-egu21-5567
EGU General Assembly 2021

GHG mitigation potential of agricultural management practises on mineral and organic soils

Saara Lind[1], Marja Maljanen[2], Merja Myllys[3], Mari Räty[1], Sanna Kykkänen[1], Panu Korhonen[1], Maarit Termonen[1], Narasinha Shurpali[1], and Perttu Virkajärvi[1]

[1]Natural Resources Institute Finland, Maaninka, Finland
[2]University of Eastern Finland, Kuopio, Finland
[3]Natural Resources Institute Finland, Jokioinen, Finland

Agricultural soils are a significant source of greenhouse gas (GHG) emissions. To study these emissions, we are currently building three research platforms that consist of full eddy covariance instrumentation for determination of net ecosystem carbon dioxide exchange and fluxes of methane and nitrous oxide. These platforms will be completed with supporting weather, plant and soil data collection. Two of our platforms are sites on organic soils with a thick peat layer (>60 cm) and the third one is on a mineral soil (silt loam). To study the role of the grassland management practises at these sites, we have initiated ORMINURMI-project. Here, we will characterise the effects of ground water table (high vs. low), crop renewal methods (autumn vs. summer) and plant species (tall fescue vs. red glover grass) on greenhouse gas budgets of grass production. Also effect on yield amount and nutrient quality will be determined. In this presentation, we will present the preliminary data collected at these research platforms and our plans for the use of these data in the coming years.