[GE3] Humus: *Organic farming to protect drinking water resources* OOWV and BGR

BlueTransition
How to make my region climate resilient

Interreg North Sea
Co-funded by the European Union
Blue Transition

Pilot summary:

How can we succeed in building up permanent humus under climate-induced rising temperatures, and in preventing leaching from humus decomposition?

- Identification of humus-rich/ humus-poor sites
- Investigations on mineralization control on humus-rich sites
- Investigations on the feasibility of humus build-up in soils poor in humus

Picture: OOWV

Activities:

- Step 1. Farm and land selection:
  - Determination of farm areas in organic/conventional farms that are relatively high in humus and/or relatively low in humus, respectively
  - Possible distinguishing criterion < 2% humus, < 0.2% Nt, prio maps, or soil maps
  - Additional selection criteria will be the texture of the soil
  - Geophysical EM-mapping of the sites to determine soil heterogeneity, i.a. clay content
- Step 2. Investigation of the “humus-rich” sites (> 2% humus) (data acquisition and numerical simulations)
  - Objective: To determine if and how it is possible to maintain humus content while reducing N leaching
- Step 3. Investigation of sites with less humus: (< 2% humus) (data acquisition and numerical simulations)
  - Objective: To determine whether and how it is possible to build up the humus content
- Step 4. Investigation focus on selected sites to optimize humus build-up/ mineralization management:
  - Crop rotation
  - Choice of catch crops
  - Fertilization/ timing/ deductions from fertilization
  - Soil cultivation/ mulch management
  - Objective: Development of strategies for an improvement of soil management in conventional and ecological farming

Picture: OOWV, Johannes große Beilage

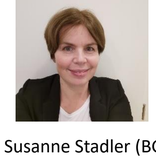
Governance:

- Close cooperation with landowners, organic farmers as well as conventional farmers
- Coordination and cooperation with the water protection consulting in the region
- Networking with the eco-model region in the district of Oldenburg
- Ongoing communication about the funding project and its progress
- Communication of the trial results to decision makers and farmers, e.g. through events like pilot impact discussion and policy day

Picture: OOWV, Johannes große Beilage


Christina Aue (OOWV)


Silke Mollenhauer (OOWV)


Susanne Stadler (BGR)


Florian Stange (BGR)


Ursula Noell (BGR)

OOWV BGR

Priority 3.0
Climate resilience and biodiversity