

SC2 and KET-B Brokerage Event

Food Security | Sustainable Agriculture and Forestry | Marine, Maritime
and Inland Water Research | Bioeconomy | KET-Biotechnology |

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Session 1: Sustainable Food Security

**Soil, closing nutrient cycles, urban agriculture
- linking with partners in SFS, RUR, FNR**

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 **#BioBrokerage**

SFS-21-2020: Emerging challenges for soil management / (a) Soil biodiversity assessment; (b) Use of plastic in agriculture

Concept: Soil biodiversity importance for soil functions and soil resistance to stresses; environmental consequences of biodegradation of wastes, plastics; natural stresses such as drought or extreme rainfalls; biodiversity stimulating crop resistance.

Our contribution:

- test EOM effects on soil biodiversity,
- microorganisms capable of degrading contaminants, wastes and plastics,
- soil biodiversity as a strategy to combat soil drought,
- isolate and test microorganisms responsible for plastics degradation in soil and test impact of the degradation residues on soil biology.

CE-RUR-08d-2020: Closing nutrient cycles / Bio-based fertilisers from waste water and sewage sludge

Concept: Focus on a range of bio-based fertilisers from waste water and sewage sludge near practical implementation. The project would evaluate efficiency and environmental consequences of organic matter and nutrient recovery and effects of biofertiliser application to soil.

Our contribution:

- access to over 50 waste water treatment plants,
- link with companies already producing bio-based products,
- test impact of bio-based fertiliser on crops, soil biodiversity, GHG emissions and ecotoxicology,
- application of microorganisms to fertiliser optimisation process.

FNR-03-2020: A comprehensive vision for urban agriculture

Concept: Linking all actors involved in urban farming, including authorities, farmers, consumers, for developing sustainable strategies and chains. Selecting best strategies that enable progress in food security and quality, better control over food safety by society, develop new businesses and deliver ecosystem services for a city. Tested across a range of case studies.

Our contribution:

- spatial assessment of role of urban agriculture in ecosystem services (e.g. water retention, biodiversity, regulating temperature),
- provide a case study,
- study quality of food produced in urban farming.

SFS-40-2020: Healthy soils for healthy food production

Concept: Proposing systems and practices enabling soil protection and remediation. Developing tools for balanced fertilisation strategies adopted to soil conditions. Assessing link between soil status and crop quality, including nitrates, micronutrients and contaminants in crops.

Our contribution:

- develop decision support for fertilisation/soil management – digital applications to calculate fertilisation needs, propose practices and forecast economic results,
- test agricultural practices optimising crop quality,
- provide farms for testing at field level,
- test soil remediation under climate change (e.g. drought).



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