EOM4SOIL

External organic matter for climate mitigation and soil health

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Summary

EOM4SOIL aims at proposing best management practices of external organic matter (EOM) pre-processing and application on soil to contribute to climate change mitigation and improve soil health.

What is EOM: manure, compost, biochar, digestates, sludges

The net budget of soil C storage and greenhouse gas emission including the pre-process steps and field application, is assessed as well as the multiple effects of EOM application on soils including contaminants are quantified.

Innovative pre-processing steps are recommended to improve C budget and soil health. The best management practices are defined from scenarios of use assessed with a multicriteria simulation tool, parameterized from long-term experiments.

International partners

INRAE / France (coordination), LUKE / Finland, CRAW / Belgium, Aarhus University / DK, CREA / Italy, Palermo University / IT, AGRIS / Italy, LAMMC / Lithuania, SLU / Sweden, Agroscope / CH, TAGEM / Turkey, CSIC / Spain

Workpackage structure

- **WP1:** Developing a database of External Organic Matter (EOM) regarding main characteristics and quantities
- **WP2:** Potentials for biomass processing technologies to contribute to carbon sequestration in soils
- **WP3:** Assessing multiple effects after application of EOM on soil
- **WP4:** Carbon balance and gas emissions
- **WP5:** Soil contamination by EOM
- **WP6:** Best management practices
- **WP7:** coordination, communication and dissemination

Benefits for Austria

- Improvement of Austrian carbon budget in the agricultural sector
- Optimized methods for soil carbon conservation and/or enrichment
- Creation of permanent carbon sinks in soil by removal of atmospheric CO_2 and transfer of the carbon to soil
- Contributing assessment methods for accountability of agricultural carbon removals in the EU-CRCF (carbon reduction certification framework)

Austrian contributions

- Inputs to EOM database (quantity, quality of EOMs in Austria)
- Field experiments with different EOMs for assessment of crop effects and soil greenhouse gas emissions in Grabenegg (Fig. 1)
- Production of biochar samples from different EOMs for further characterizations by project partners (Fig. 2)

Fig. 1: Soil greenhouse gas emission measurement

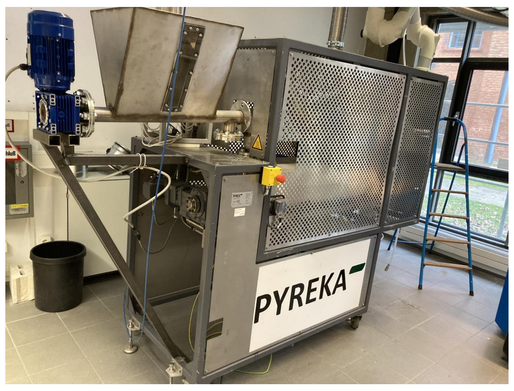

Fig. 2: Pyrolysis reactor for biochar production

EJP SOIL
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