Plant below-ground inputs to enhance soil carbon sequestration in agricultural soils (CM1)

Conveners

- Rebecca Hood (Boku)
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Programme outline

Introduction	5’
Keynote: Pr. Thomas Kätterer, SLU	20’
Four selected talks *(10’ each)*	40’
Discussion	25’

Description

Roots are generally the primary source of organic carbon in soil both because the input is often larger than that of shoots, such as in many grassland, and because root-derived C is more persistent in soil than shoot-derived C. This raises the tantalizing possibility to increase SOC stocks through enhancing root contributions to soil organic matter. However, there are key knowledge gaps for reaching such an objective. For example, what management options increase most the contribution of root C? Which pedo-climatic environments and agroecosystems are more conducive to increasing below-ground inputs for C sequestration? What are the root traits that best favour C sequestration? Can we increase below-ground carbon input without negatively affecting above-ground biomass and yields?

In this session, we will explore sound scientific evaluation of the C sequestration potential, co-benefits and trade-offs of selected management options, technologies (e.g. amendments, varieties) and agricultural systems (e.g., perennial systems) aimed at increasing below-ground C inputs. Contributions are also wecome on improved knowledge on root traits associated with increased below-ground C inputs.

Instructions for participants

Short talks (10mins) on relevant research associated with the topic. Please send one-paragraph abstracts. Suggestion for research projects are also welcomed.