MaxRoot-C

Optimizing roots for sustainable crop production in Europe

A well-developed root biomass makes agricultural crops more resilient to drought events under climate change conditions. Roots are also the main precursor of soil organic carbon.

AIM:
to assess agricultural measures that **increase root carbon inputs** and SOC stocks via selection of main crop varieties (**maize, winter wheat**) and **cover crops**.

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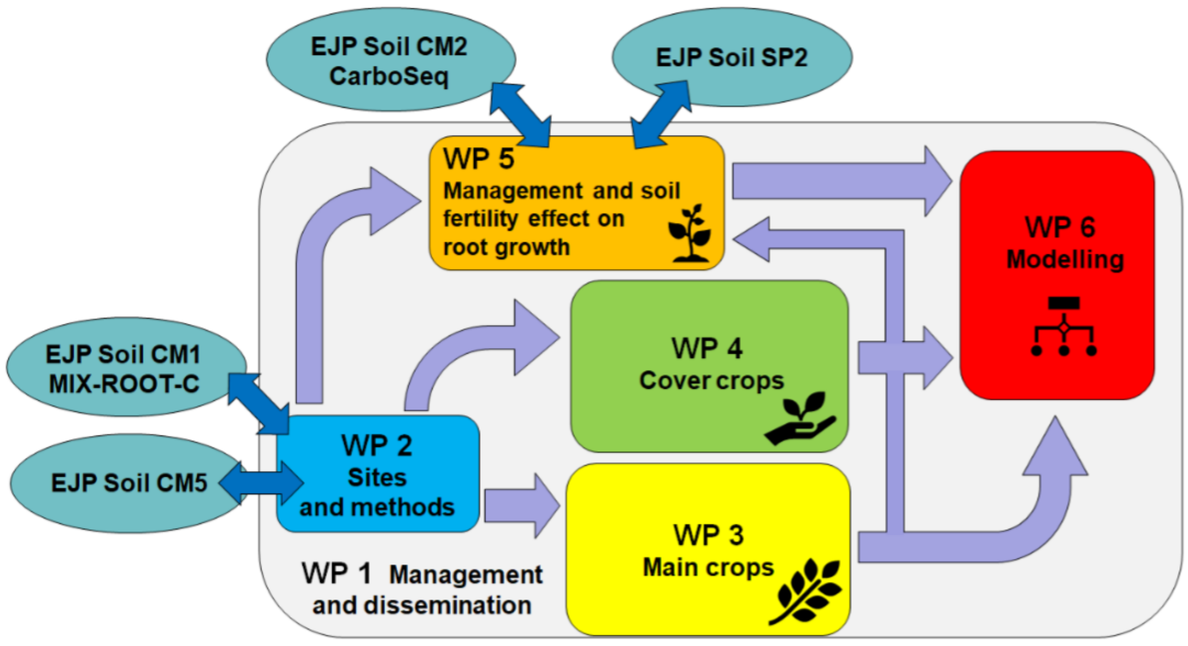
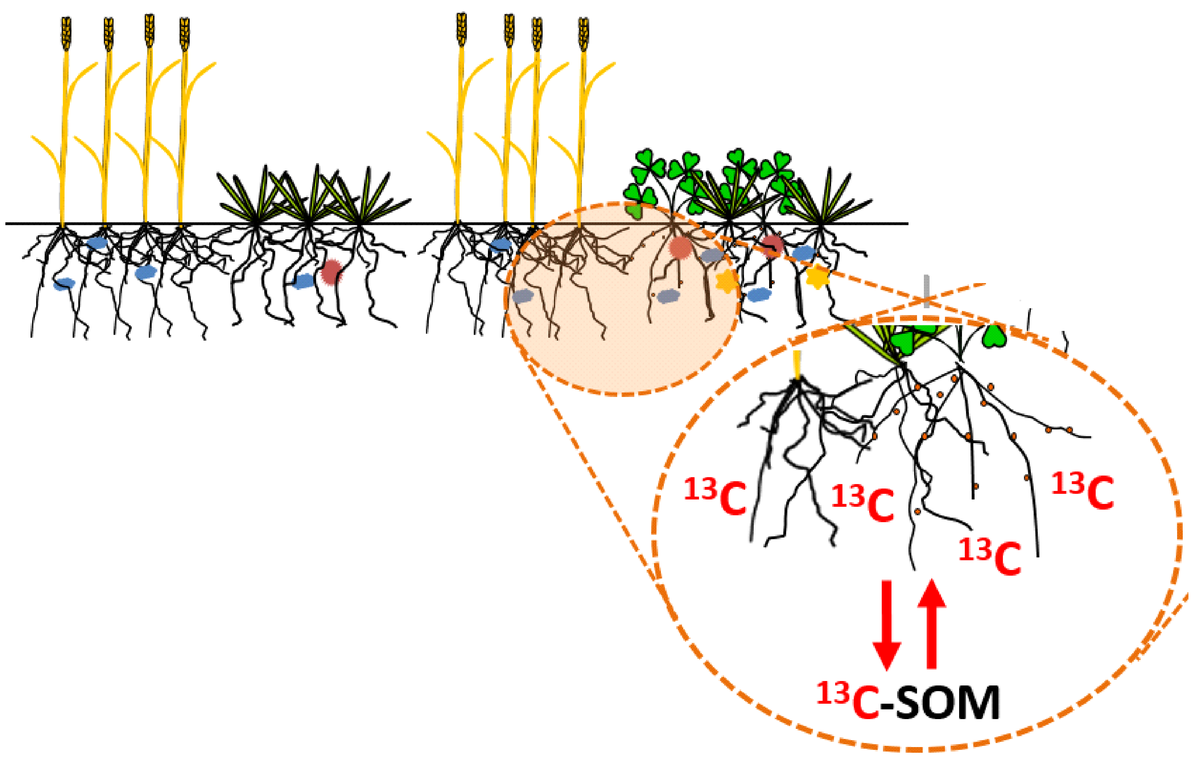
Materials and Methods



Genotype x Environment x Management interaction



Highlights and Outcomes

- **EU sampling tour** to assess root C inputs down to 1 m depth
- **11 EU field experiments**: AGES sites Großnondorf, Grabenegg
- **10 winter wheat** and **10 maize** varieties, **cover crops**
- Trans-European root **decomposition study** using ^{13}C labelled litter
- Cross EJP SOIL projects **harmonized protocol** with focus on roots
- **Presentations** (ALVA, EGU, IAEA, Bodenforum, OeBG, SINA) and **publications**
- Monthly EJP SOIL **Virtual Academy**
- MaxRoot-C **workshops** in Montpellier and Seville
- 1 **PhD** and 1 **Master** student at BOKU

Benefits for Austria

- identification of the most effective **C sequestering varieties** that don't compromise **yields**
- Information on **drought resilient** varieties
- Quantification of impacts of **cover crops** on the following main crop
- Formation of new **professional networks**

EJP SOIL
European Joint Programme

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