

MIXROOT-C and MaxRoot-C
Optimizing roots for sustainable crop production in Europe.

To reduce the effect of climate change carbon sequestration and or the implementation of negative emission technologies are essential. Sequestering carbon in soils through increased belowground sequestration, specifically increasing root carbon inputs from cropping systems could play a major role in reaching the 4 per mil targets.

The most viable yet to date neglected option is through increased and deeper root production of both main and cover crops in both extensive and intensive cropping systems. In MIX and MaxRoot-C we are developing assessment methods to estimate root C inputs of both staple and novel crops in cropland, grassland and agroforestry systems across Europe.

In this session we seek contributions which cover topics such as: measuring root traits, root biomass, root stoichiometry, root architecture, isotope labelling and rhizodeposition, in conjunction with E-environmental- factors, such as soil type, strength and fertility, to predict the effect of root systems on SOC stocks. We would also like to see results from the ongoing projects that might be of interest to the root community and the initial data or approaches from those working on modelling.

In this session we hope to go beyond current knowledge, to evaluate the potential impact of promising C sequestering management interventions, such as: cover cropping, targeted-breeding, and soil management in these diverse agricultural production systems aiming at widespread adoption of more sustainable carbon sequestering and soil restorative practices.