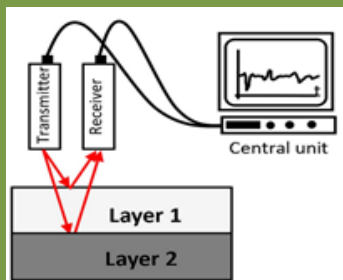




### AGROFORESTRY SYSTEMS...

...are more resilient to climate change and offer advantages related to soil health and biodiversity



### LIVING SPACE

Arable crops and agroforestry tree roots colonise different soil depths



### NO TILLAGE

Most roots found at 0.3-0.55m depth

### TILLAGE

Few roots till 0.4m, most roots between 0.6 - 0.75m depth plus additional roots.

Tree rooting systems provide 'safety net' for nutrients and water



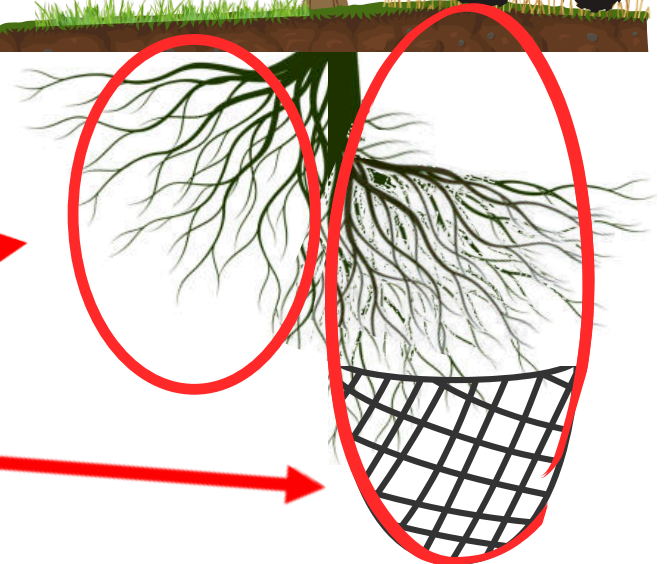
### AUTHORS

Johannes Hugenschmidt and Sonja Kay (2023)

## UNMASKING ADAPTION OF TREE ROOT STRUCTURE

### IN AGROFORESTRY SYSTEMS IN SWITZERLAND USING GPR\*

\*ground penetrating radar



### Significant impact of root distribution if tilled or not tilled

Agroforestry trees root deeper: The potential volume of water and nutrient intake was enlarged, which might enhance the resilience of the combined production systems.

# EJP SOIL INNOVATION HIGHLIGHTS



## EJP SOIL CARBOSEQ

### TOWARDS CLIMATE-SMART SUSTAINABLE MANAGEMENT OF AGRICULTURAL SOILS

EJP SOIL is a European Joint Programme on Agricultural Soil Management addressing key societal challenges including climate change and future food supply. <https://ejpsoil.eu/>

The goal is to improve the understanding of agricultural soil management by finding synergies in research, strengthening research communities and raising public awareness.

1100+ experts, 24 countries, addressing multiple aspects of soil management across different European agroecosystems.

### EJP SOIL FUNDED PROJECT CARBOSEQ

*The aim of project CarboSeq is to estimate the feasible SOCsequestration potential taking into account technical and socio-economic constraints. The project is aligned with the current FAO activity for a “global SOC-sequestration potential map” (GSOCseq).*

#### PROJECT COORDINATOR:

Axel Don

[axel.don@thuenen.de](mailto:axel.don@thuenen.de)

### TARGET EJP SOIL EXPECTED IMPACT AND SOIL MISSION OBJECTIVES

Understanding how soil-carbon sequestration can contribute to **climate change mitigation** at the regional level and **accounting for carbon**.

Mission SOIL: conserve soil organic carbon stocks

#### HIGHLIGHT FACTS FROM:

EJP SOIL funded project:  
CarboSeq



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