



## DIFFERENT TILLAGE TREATMENTS

### IN WHICH WAY ARE THEY INFLUENCING SOIL INHABITANTS AND SOIL PROPERTIES?



#### CLIMATE CHANGE

Soils hold a great potential for carbon storage.



#### TECHNIQUE

Agricultural management techniques can foster soil C sequestration



#### REDUCING...

...soil tillage intensity facilitates microbial abundance and hence increases SOC sequestration in the top layer of agricultural soils



#### AUTHORS

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Katharina Keiblinger (2022)



### Tillage treatments: Conventional vs. Conservation

Aggregate stability

Soil carbon

N pool

Fungal biomass

Microbial necromass

Conservation tillage leads to greater **DOC** contents. This increased C availability facilitates **fungal abundance** which affects **soil aggregate stability** and promotes formation of **microbial necromass**. This leads to a built up of **SOC** through increased microbial C assimilation and the subsequent accelerated turnover of microbial biomass to necromass.

# 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).*

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## TARGET EJP SOIL EXPECTED IMPACT AND EU MISSION SOIL 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



Applicability:  
all climatic zones according to  
Metzger et al. (2005)  
<https://doi.org/10.1111/j.1466-822X.2005.00190.x>

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