



EQUILIBRIUM IN SOIL CARBON STORAGE – THE PATH IS SHORT



GREEN ENERGY TARGETS

Cereal straw is an important source for bioenergy production to meet green energy targets and for the maintenance of soil organic carbon.



IMPROVING SOC CONTENT IN SOILS

Cover crops may substitute straw removal and serve as a sustainable management option for maintaining or improving SOC content in agricultural soils.



LONG-TERM EVALUATION

Assessment of SOC sequestration potential requires long-term evaluation.

Reliable assessments of SOC sequestration potential require frequent soil sampling until reaching steady-state conditions.



AUTHORS

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Bent T. Christensen (2022)



Straw incorporation and cover crops promotes SOC

Effect of straw addition and rye grass cover crop on SOC sequestration peaks after 10–15 years when a new equilibrium between input and output of C is reached.

EJP SOIL INNOVATION HIGHLIGHTS



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.

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

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

EJP SOIL STUDY RESULTS FIELD EXPERIMENTS INITIATED IN 1981

Based on a field experiment initiated in 1981 on a sandy loam soil at Askov Experimental Station (Denmark), the effect of annual additions of spring barley straw (0, 4, 8 and 12 Mg ha⁻¹) and undersown ryegrass CC on SOC storage in the 0- to 20-cm layer has been examined.

TARGET EJP SOIL EXPECTED IMPACT AND EU MISSION SOIL OBJECTIVES

Fostering understanding of soil management and its influence on climate change mitigation and adaptation, sustainable agricultural production and environment.

SOIL MISSION: Conserve soil organic carbon stocks

HIGHLIGHT FACTS FROM:

Field experiment initiated in 1981 on a sandy loam soil



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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