CZECH ACADEMY OF AGRICULTURAL SCIENCES

Open Access CAAS Agricultural Journals

Soil and Water Res

Changes of soil organic matter under minimum tillage in different soil-climatic conditions

O. Svobodová, J. Jančíková, J. Horáček, P. Liebhard, V. Čechová

https://doi.org/10.17221/1/2010-SWR

Citation: Svobodová O., Jančíková J., Horáček J., Liebhard P., Čechová V. (2010): Changes of soil organic matter under minimum tillage in different soil-climatic conditions. Soil & Water Res., 5: 146-152.

download PDF

Quantitative and qualitative soil organic matter properties were observed in a specific large area experiment (Chernozem – Gross Enzersdorf, Austria) and in a medium-term field experiment (Cambisol – Studena, Czech Republic). Two technologies – minimum tillage (MT) and conventional tillage (CT) – were compared by means of the determination of quantitative and qualitative soil organic matter parameters of the soil samples in the years 2004–2005. Cambisol showed higher values of quantitative soil organic matter parameters in MT compared to those in CT over the whole soil profile. For Cambisol, the qualitative parameters were almost comparable for both technologies. Chernozem showed more favourable values of the quantitative parameters in the surface layer in MT, however, the values had rather a contrary trend in deeper soil layers. CT showed slightly more favourable values of the qualitative soil organic matter parameters in Chernozem. It can be said that Chernozem organic matter reaction to tillage technology changes is slower and of minor rate in comparison with that of Cambisol organic matter. The results of quantitative and qualitative parameters do not conform with the generally recognised values for the Chernozem soil type.

Keywords:

Cambisol; Chernozem; humus content and quality; humus fractionation; minimum tillage

download PDF

Impact factor (Web of Sc Thomson Reuters)

2017: 0.882

5-Year Impact Factor: 1.11

SJR (SCImago Journal Ra SCOPUS)

2017: 0.379 – Q3 (Aquatic Q3 (Aquatic Science)

Abstracted/indexed in

AGRIS/FAO database
Biological Abstracts
BIOSIS Previews
CAB Abstracts
CNKI
Czech Agricultural and Fo Bibliography
DOAJ (Directory of Open Journals)
EBSCO – Academic Searc Ultimate
Google Scholar
J-GATE
Journal Citation Reports/ Edition, Current Contents®/Agriculture, B and Environmental Scien
Science Citation Index Ex
SCOPUS
Web of Science®

Contact

Ing. Markéta Knížková
Executive Editor
phone: + 420 227 010 373
e-mail: swr@cazv.cz

Address

Soil and Water Research
Czech Academy of Agricu
Sciences
Slezská 7, 120 00 Praha 2,
Republic