THE WHAT AND WHY

Tillage can be a threat to soil biodiversity and needs to be further investigated

Intensive tillage practices such as conventional mouldboard ploughing is used commonly worldwide in agroecosystems for the efficient incorporation of crop residues, seed bed preparation and weed management. However, intensive ploughing may cause negative physical, chemical and biological changes in soil. Intensive and frequent tillage reduces soil quality due to the loss of carbon and other nutrients and destructs soil structure. Tillage caused changes in the composition of soil communities such as lowered abundances and diversity of beneficial soil organisms. Microbes and soil animals are irreplaceable decomposers of soil organic matter, recyclers of carbon and other nutrients, biological regulators in controlling other soil organisms, and formers and maintainers of favourable soil structure. Since the contribution of soil organisms to ecosystem service provision in agricultural soils is so large it demands our understanding of the impacts of tillage on soil biodiversity. Reduced- or no-tillage systems are already suggested to promote soil biodiversity. There is still much that we don't know yet about the impacts of tillage. Thus there is a need to further develop and investigate alternative managements practices in order to preserve soil biodiversity and improve the sustainability of agriculture.

1. Field experiment tillage.

2. Mechanical prevention of weed tractor tillage.

3. Mouldboard ploughing

KEYWORDS

Tillage, mouldboard ploughing, soil biodiversity.

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