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What's new in Plant-Soil-Microbe Interactions

GRR VASI Végétal - Agronomie - Sols - Innovation

Do you know ...

... that perennial bioenergy crops have the potential to increase belowground faunal diversity in contaminated soils!

Soils of contaminated agrosystems represent potential arable land surfaces for the production of non-alimentary crops. The aim of this study is to monitor changes in belowground biodiversity (Collembola), potentially occurring following establishment of perennial biomass crop systems on contaminated agricultural land. We selected, within an agricultural trial, two different biomass crops, miscanthus (*Miscanthus x giganteus*) and switchgrass (*Panicum virgatum*) and an annual wheat crop (*Triticum sp.*) used as a control. About 20-fold more individuals were found under miscanthus and switchgrass than under wheat. The highest mean number of species was found under miscanthus being 30% greater than in switchgrass and 424% than in annual wheat. Furthermore, abundance and species richness of the three collembolan life-forms (epedaphic, hemiedaphic, and euedaphic) differed between the crops leading to distinctly different assemblages.

On metal contaminated soils, perennial bioenergy crops have the potential to increase belowground faunal diversity and abundance with the identity of crops as a critical factor driving soil animal assemblages.

