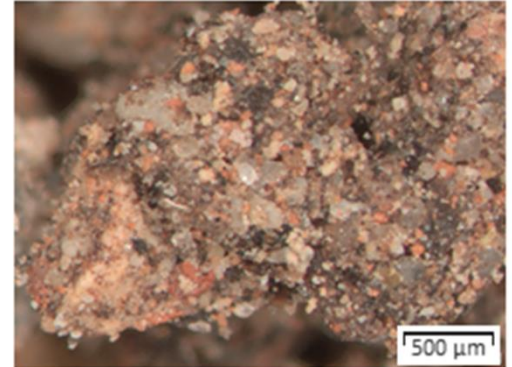
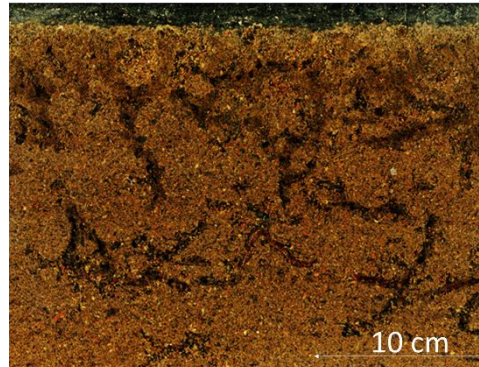


Can we improve soil hydrology using organic amendments and earthworms?



Project Description

Climate change leads to more frequent drought and high intensity rainfall events. In recent years, arable production suffered from both, with droughts being particularly impactful on sandy soils. Innovations are needed to prevent freshwater reserves from being depleted and crop production from being water-limited. Against this background we wish to design measures to improve infiltration and soil water retention through selective amendment of organic matter that promotes soil water. However, we do not know which quality of organic matter is particularly effective in promoting soil water retention. Additionally earthworms in combination with organic matter might speed up soil structure formation and enhance the influence of organic amendments on soil water retention.

In this thesis study, you will design an experimental set-up to test several types of organic matter on their capacity to improve soil water retention. On the long run, we would like to link this capacity to chemical characteristics of organic amendments, such that we are better able to advise farmers on organic matter management with the purpose to mitigate the impact of droughts and heavy showers. Optionally the combined influence of the organic matter amendments and certain earthworm species on soil water retention might be included in the study.

Host institute: Soil physics laboratory Wageningen University

Country: Netherlands

Starting date: any time

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