

Fine root biomass and dynamics in a mature broad-leaved deciduous forest differing in tree species composition

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In this project we want to analyse effects of various tree species compositions on fine root biomass and root growth in a mature broad-leaved deciduous forest of the Hainich National Park (Thuringia, Central Germany). In order to investigate effects of tree species identity on the fine root system, we selected 100 study plots ("tree clusters") consisting of three canopy tree individuals in the forest area. The clusters consist of one, two or three different tree species. Tree species included in this approach were *Acer pseudoplatanus*, *Carpinus betulus*, *Fagus sylvatica*, *Fraxinus excelsior* and *Tilia cordata*. All possible species combinations (25 options) were realised and each combination had four replicates.

We conducted an inventory of fine root biomass (< 2 mm in diameter), at three different sampling dates. The various tree species were distinguished by morphological attributes. Furthermore, we investigated differences in fine root morphology among the species.

This poster presentation will give an overview on the study approach and preliminary results.

Keywords: fine roots, mature broad-leaved deciduous forest, biomass.