**Response of roots of two tree species to different brick added substrates**

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*Research topic:*

Root traits of plants are an underestimated part of functional plant ecology although root traits are important for the performance of species under stress (drought, lack of nutrients). Bricks could increase water availability and store nutrients, but increases the pH of a substrate.

My project is a cooperation with a brickyard (Leipfinger-Bader) and an environmental service company (Wurzer Umwelt). This project aims to re-use waste bricks for tree substrates.

*Research question:*

How do the roots of *Acer platanoides* and *Tilia cordata* respond to different soil conditions? Does the vegetation react more plastically in terms of biomass allocation (more biomass above or below ground) or root morphology (root length density, specific root length)?

*Methods:*

100 trees are growing in five blocks at TUM Greenhouse Center in Dürnast near Freising since Spring 2019. Treatments encompass brick rubble admixture (5%, 30%) to the substrate, different soils (with/without humus), and with/without mycorrhiza. The student should cut the trees and roots will be washed, scanned, then analysed with an image recognition software (WinRhizo). Mixed-effect models will be calculated with R.

*Time schedule:*

The greenhouse experiment has to be harvested at the end of June or begin of July. Afterwards, root analyses will be done.