SOIL BIOTA DEVELOPMENT IN POST MINING SITES ON CLIMATIC GRADIENT FROM EAST TO MID-WEST OF USA

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Abstract: Soil and soil biota was studied in four post mining sites across USA (TN, IL, IN, WY) using two parallel chronosequence in each state. Each chronosequence contain 2-5 and 15-20 year old post mining sites and climax vegetation for given area, all sites was samples twice in spring 2008 and 2010. Microbial biomass, respiration and composition (using PLFA), soil microscopic fungi and algae, abundance and community composition of soil micro, meso and macrofauna and soil microstructure were studied.

In all sites, soil biota development progress gradually towards the climax. In 15-20 year old sites many quantitative parameters such as microbial respiration or biomass was close to climax site or in some cases even higher. However community composition in both microflota and fauna community develop much more slowly. Generally faster development of soil biota can be observed in more were location in eastern part of USA.

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