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Is carbon sequestration on post mining sites driven by earthworm activity?

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Carbon storage was measured in seven types of forest (alder, oak, lime, willow-birch, pine, spruce and larch) about 30 years old developed in on e large post mining site as split plot design. The carbon storage in soil wary substantial and represent 10-100% of carbon storage in aboveground wood biomass. Carbon storage in soil do not show any correlation with litter input but correlate significantly and positively with earthworm abundance, and micromorphological traces of earthworm activity. Field and laboratory microcosm experiment showed that earthworm mediated soil mixing support carbon storage in soil. Detailed study of soil aggregates created by worms and other forces indicated that worm aggregates contain much larger content of POC.
This indicate that soil bioturbation by earthworms may significantly increase carbon storage in soil.