O and below: mites, worms, roots and humus forms as pedological factors. (S05-boyle151904-Oral)

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Abstract:

Soil fauna and plant roots are key factors and/or agents in the processes of soil structure formation, nutrient cycling and carbon dynamics.In forest ecosystems these factors and agents, the processes they influence and detrital inputs to the soil, are most often studied in the forest floor and Ah horizon. Variability in the forest floor and the Ah and the degree to which they are associated can be described using the concept of the humus form. The humus form, identified by its classification, is a critical link that reflects and integrates factors, agents and processes important to forest ecosystems.Humus form classification also provides a framework to scale up results from process-level studies to the stand and ecosystem level.Research has linked humus form types to site productivity.The theory underlying humus form genesis is being successfully applied to model soil organic matter dynamics in several forest ecosystems over a variety of scales in time and space.The links amongst factors, agent and processes in the forest floor, the humus form, site productivity and soil organic matter dynamics modeling will be discussed using results from research in North America and Europe.

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