

# Microbial necromass as a significant source of soil organic matter: origin, pathways and implications for C sequestration

*Monday, October 14, 2024 1:30 PM (20 minutes)*

Soil microorganisms utilize plant-derived organic compounds as their C source for growth. From their substrates, they produce biomass. After cell death, the microbial biomass residues contribute to soil organic matter (SOM) formation. We investigated the fate and the C balance of bacterial and fungal biomass residues in soil. 20-40% of the biomass residue-derived C remained in the soil until the end of the incubation experiments. More detailed analyses indicated that bacterial biomass residues were first consumed by fungi and then stabilized in the form of fungal residues. Microbial biomass residues thus are an important direct source of SOM and should be considered when assessing C sequestration in soils.

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