

Interactive comment on “Relevance of aboveground litter for soil organic matter formation – a soil profile perspective” by Patrick Liebmann et al.

Paul Hanson

hansonpj@ornl.gov

Received and published: 8 January 2020

The following 5 papers report on field studies of enriched background ^{14}C isotopic tracers for multiyear controlled litter additions and the transfer of those labels into the soil. You might modify your statement on line 65 to recognize these efforts. The Kramer et al. 2010 paper is probably the most relevant, and you have already cited the related mesocosm study (Froberg et al. 2009)

1. Tipping E, Chamberlain PM, Fröberg M, Hanson PJ, Jardine PM (2012) Simulation of carbon cycling, including dissolved organic carbon transport, in forest soil locally enriched with ^{14}C . Biogeochemistry 108:91-107, doi 10.1007/s10533-011-9575-1. 2.

Printer-friendly version

Discussion paper



Parton WJ, Hanson PJ, Swanston C, Torn M, Trumbore SE, Riley W, Kelly R (2010) ForCent model development and testing using the Enriched Background Isotope Study (EBIS) experiment. *JGR-Biogeosciences* 115:G04001, doi:10.1029/2009JG001193

3. Kramer C, Trumbore S, Fröberg M, Cisneros-Dozal LM, Zhang D, Xu X, Santos G, Hanson PJ (2010) Recent (<4 year old) leaf litter is not a major source of microbial carbon in a temperate forest mineral soil. *Soil Biology and Biochemistry* 42:1028-1037.

4. Riley WJ, Gaudinski JB, Torn MS, Joslin JD, Hanson PJ (2009) Fine-root mortality rates in a temperate forest: estimates using radiocarbon data and numerical modeling. *New Phytologist* 184:387-398.

5. Fröberg M, Hanson PJ, Trumbore SE, Swanston CW, Todd DE (2009) Flux of carbon from ¹⁴C-enriched leaf litter throughout a forest soil mesocosm. *Geoderma* 149:181-188. [Mesocosm study in support of the larger field EBIS effort.]

Interactive comment on *Biogeosciences Discuss.*, <https://doi.org/10.5194/bg-2019-465>, 2020.

BGD

Interactive
comment

Printer-friendly version

Discussion paper

