

Interactive comment on “Vertical partitioning of CO₂ production in a Dystric Cambisol” by Patrick Wordell-Dietrich et al.

Anonymous Referee #2

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The present study investigated the contribution of fresh litter-derived C to CO₂ production in the three soil profiles, the design and the methodology adopted was adequate, and the MS. is well written. However, the contribution of new C to CO₂ emissions can't be fully assessed by the ¹³C labelling experiment. And the conclusion of the importance of roots and the rhizosphere for CO₂ production, should be evidenced by input of labelled root or root exudate analog in additional treatments. This study is a two-year experiment. How to reduce the cross-feeding effect? Especially, the young beech litter can be assimilated into microbial biomass C. Did the formulas already take into account the cross-feeding effects between different C decomposition stages?

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