

Interactive comment on “Dynamics of microbial communities during decomposition of litter from pioneering plants in initial soil ecosystems” by J. Esperschütz et al.

C. Hinz (Editor)

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Both reviews clearly indicate that the study is original with interesting results and use of appropriate methodologies. Referee 1 requires the authors' to explain variable decomposition rates of *Calamagrostis* and *Lotus*. Furthermore, the author should demonstrate if leaching of FA from litter may occur that could explain high levels of FA 18:3 and 18.2w6,2. Referee 2 confirms the soundness of methodology and results. The English needs improvement. I suggest that the author consult a native speaker to fix the English.

Furthermore, there are very few references on litter decomposition and biogeochemical

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cycles drawn from restoration ecology. The issue of how microbial activity commences in an “abiotic substrate” is a central question to restoration ecology and could aid in formulating a more precise hypothesis.

Some methods need further information to ensure reproducibility by either adding references with accurate and detailed description or by adding supplemental materials/appendices.

The author should be able to easily address the issues raised by the referees. Overall, the paper is publishable after minor revision.

Detailed comments:

Page 14986

Lines 10-12: Statement of expectation in the introduction is ambiguous: for example “. . .the amount of N derived from plant litter highly influences the performance of the litter degrading microbial biomass . . .” Can you be more specific how the influence will be and what you mean by performance?

Lines 18-19: Texture information of the substrate used would be very useful to make the experiment reproducible. Also, indication of what type of clay would help.

Lines 22-25: Refer to a publication in which technical details of the tent method are outlined.

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Lines 7-9: Add reference concerning light fraction analysis.

Pages 14990-14991

Shouldn't you add a reference concerning the calculations – this is not the first time that for example delta 13 C is being defined.

Page 14998

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Lines 10-15: The presentation of the conclusion is not compelling. It starts with a statement confirming what other studies have already shown followed by indicating that further research is needed. I suggest you go through the points you make and start with a positive message of what you have achieved and ending with a suggestion of what should be studied (and how) next.

I have attached a pdf file with an annotated introduction, in which I tried to improve the presentation. Improving the English to that extent is not the role of the editors and reviewers. So please have your paper thoroughly checked by a native English speaker.

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/9/C9428/2013/bgd-9-C9428-2013-supplement.pdf>

Interactive comment on Biogeosciences Discuss., 9, 14981, 2012.