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## ***Interactive comment on “Stable soil organic carbon is positively linked to microbial-derived compounds in four plantations of subtropical China” by H. Wang et al.***

**H. Wang et al.**

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Interactive comment on “Stable soil organic carbon is positively linked to microbial-derived compounds in four plantations of subtropical China” by H. Wang et al.

O. Sun sunjianx@bjfu.edu.cn Received and published: 27 December 2013

We thank the reviewer for the specific and very helpful comments and corrections. We have thoroughly revised the manuscript and addressed all comments. The manuscript has been improved considerably and we hope that the revised manuscript has adequately addressed the reviewer’s comments. In the following, we respond to all comments. The manuscript is attached with changes marked.

C8255

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H. Wang et al. whui1919@gmail.com 28 December 2013

This is a soundly executed study and results are clearly presented. My concerns are mainly with some editorial and linguistic issues. Throughout the manuscript, the English grammar needs to be carefully checked. Specific comments and editorial corrections:

P18095, L8-9: Give specific study location than simply a vague description of “subtropical China” Answer: We changed “subtropical China” to “Pingxiang City, Guangxi Zhuang Autonomous Region in subtropical China”. Please see the revised manuscript Page 2, line 7.

P18095, L23: Insert “that are readily useable by bacterial communities” after “(O-alkyl C)” Answer: We rewrote this sentence in the revised manuscript. Please see the revised manuscript Page 3, line 3-10.

P18096, L6: Give the scientific name for “loop pine” Answer: We added the scientific name “*Araucaria cunninghamii*”. Please see the revised manuscript Page 3, line 16.

P18097, L8: Referring to what component? Litter layer, surface soil layer, or a mixture of both? Answer: The forest floor in the literature is Oe + Oa horizon. We added it in the revised manuscript. Please see the revised manuscript Page 3, line 18.

P18096, L28: all differ Answer: We revised it. Please see the revised manuscript Page 4, line 12.

P18096, L29: were found to remain Answer: We revised it. Please see the revised manuscript Page 4, line 13-14.

P18097, L8: omit “the” before “vegetation”, and remove “different” Answer: We revised it. Please see the revised manuscript Page 4, line 21.

P18097, L15-19: quoted values for what specific time point or period? Answer: the quoted values are from the 7th national forest inventory 2004-2008. We added it.

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Please see the revised manuscript Page 5, line 6-7.

P18097, L23-24: enhancing Answer: We revised it. Please see the revised manuscript Page 5, line 13.

P18097, L25: delete “replace” Answer: We revised it. Please see the revised manuscript Page 5, line 14.

P18097, L28: in forest plantations with different tree species Answer: We revised it. Please see the revised manuscript Page 5, line 17.

P18098, L1: In a previous study; in several broadleaf plantations Answer: We revised it. Please see the revised manuscript Page 5, line 18.

P18098, L3: a pine plantation Answer: We revised it. Please see the revised manuscript Page 5, line 20.

P18098, L4: 2010a). However, the Answer: We revised it. Please see the revised manuscript Page 5, line 21.

P18098, L7: What are the four plantation types? Answer: They are *P. massoniana*, *Castanopsis hystrix*, *Michelia macclurei* and *Mytilaria laosensis*. We revised it. Please see the revised manuscript Page 6, line 2.

P18098, L18-19: for Tropical Forestry of the Chinese : : : Answer: We revised it. Please see the revised manuscript Page 6, line 13.

P18098, L19: replace “located in” with “in the outskirt of” Answer: We revised it. Please see the revised manuscript Page 6, line 14.

P18098, L21-22: May through August Answer: We revised it. Please see the revised manuscript Page 6, line 16.

P18099, L2-12: re-organize this part. Suggested revision “Four types of plantations were : : :; these plantations include : : :. The four tree species ...” Answer: We revised

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it. Please see the revised manuscript Page 7, line 3-8.

P18099, L14: from March through September Answer: We revised it. Please see the revised manuscript Page 7, line 11.

P18099, L22: coarse roots; fine roots : : : Answer: We revised it. Please see the revised manuscript Page 7, line 20.

P18100, L1: the plantations studied Answer: We rewrote it. Please see the revised manuscript Page 8, line 3-8.

P18100, L23: For the NMR analysis Answer: We revised it. Please see the revised manuscript Page 9, line 5.

P18101, L9: is used as Answer: We revised it. Please see the revised manuscript Page 9, line 17.

P18102, L5: Comparisons : : : Answer: We revised it. Please see the revised manuscript Page 10, line 18.

P18102, L9: were made with Duncan's multiple-range test Answer: We revised it. Please see the revised manuscript Page 10, line 18-19.

P18102, L17-21: Why not incorporating these information in Table 1 so that comparisons with C chemical compositions in litter and roots can be easily visualized? Answer: We incorporated these information in the Table 2. Please see the revised manuscript Table 2.

P18103, L16: total PLFAs of soil microbial community Answer: We revised it. Please see the revised manuscript Page 12, line 7-8.

P18103, L18: What do you mean by "the control plots"? They are not described in your experimental design or setup. Answer: We revised it. Please see the revised manuscript Page 12, line 8.

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P18104, L1: Total PLFAs of soil microbial community Answer: We revised it. Please see the revised manuscript Page 12, line 17.

P18104, L2: were all positively correlated with : : : Answer: We revised it. Please see the revised manuscript Page 12, line 18.

P18104, L4: with either : : : or : : : Answer: We revised it. Please see the revised manuscript Page 12, line 21.

P18104, L9: three broadleaf plantations Answer: We revised it. Please see the revised manuscript Page 13, line 17.

P18104, L13: Similar differences Answer: We revised it. Please see the revised manuscript Page 13, line 21.

P18104, L16-18: Confusing sentence. Please revise for clarity Answer: We revised it. Please see the revised manuscript Page 14, line 1-3.

P18104, L26: not correlated with the initial : : : Answer: We revised it. Please see the revised manuscript Page 14, line 11.

P18104, L27: may not be Answer: We revised it. Please see the revised manuscript Page 14, line 12.

P18105, L1: primary driver of the differences Answer: We revised it. Please see the revised manuscript Page 14, line 12.

P18105, L2: by the findings from a three-year Answer: We revised it. Please see the revised manuscript Page 14, line 13.

P18105, L7: are likely Answer: We revised it. Please see the revised manuscript Page 14, line 18.

P18105, L17: intermediate metabolites Answer: We revised it. Please see the revised manuscript Page 15, line 4.

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P18105, L18: significant differences Answer: We revised it. Please see the revised manuscript Page 15, line 5.

P18105, L24: have been found to exist Answer: We revised it. Please see the revised manuscript Page 15, line 11.

P18105, L25-29: This can be omitted as it does not bear direct relevance to your study Answer: We deleted it. Please see the revised manuscript Page 15, line 12.

P18106, L4: have been shown to be related Answer: We revised it. Please see the revised manuscript Page 15, line 16.

P18106, L5: and microbial species dependent Answer: We revised it. Please see the revised manuscript Page 15, line 17.

P18106, L10: is found to be higher Answer: We revised it. Please see the revised manuscript Page 16, line 3.

P18106, L16: is linked Answer: We revised it. Please see the revised manuscript Page 16, line 8.

P18106, L17: contain Answer: We revised it. Please see the revised manuscript Page 16, line 9.

P18106, L21: are supported by the finding of greater : : : Answer: We revised it. Please see the revised manuscript Page 16, line 13.

P18106, L26: Indicate Table 1: Spell out the full scientific names of the tree species and indicate general location of study sites Figures 1 – 4: Indicate the general location of study sites in captions Answer: We revised it. Please see the revised manuscript Tables and Figures.

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Interactive comment on Biogeosciences Discuss., 10, 18093, 2013.

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