

***Interactive comment on “Intra-versus inter-site macroscale variation in biogeochemical properties along a paddy soil chronosequence” by C. Mueller-Niggemann et al.***

**Anonymous Referee #1**

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I have a few comments/questions: Although the soil/mineralogical properties and variations therein have been described in other papers, I think that they should be (partly) included in this paper to explain the biogeochemical differences. Basic parameters such as soil pH, moisture, grain-size, clay mineralogy etc. can have profound effects on the transformation and preservation of organic matter.

What is the composition of the TLE along the chronosequence? The reason of only focusing on n-alkanes, which represent generally a very small fraction of the total lipids in soils is not clear, alkanols, fatty acids, terpenoids etc. are source specific as well.

n-alkanes can be easily oxidized to form 2-methylalkanones even in wet soils (see e.g.

C4549

Jansen et al., *Org. Geochem* 40 (2009) 61–69). Thus their ‘stability’ is not that trivial.

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Interactive comment on Biogeosciences Discuss., 8, 10119, 2011.