

Interactive comment on “Distribution of tetraether lipids in agricultural soils – differentiation between paddy and upland management” by C. Mueller-Niggemann et al.

Anonymous Referee #3

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The presented paper describe the occurrence of tetraether lipids in agricultural soils from various locations in the tropical and subtropical area. Despite the article is well presented, it is difficult to understand which is the motivation behind this research. The argument is novel, but it seems only to report the data about tetraether lipids without giving any exhaustive explanation about which are the implications and the importance of their occurrence in soil. Which is the relevance of the study? I think it can be relevant, but it should be made clear. The research questions as well as the findings of the study should be improved. I think the article needs major revisions so to better explain the importance of this study. The lack of data is not a research question. The discussion should indicate clearly the relevance of the findings from this study, not only

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indicate that now there are more data concerning this topic. Which are the implications related to a different content of GDGT in soils? Which are the implication also for other types of environments? and of managements?

Below are reported some specific comments:

Page 16712 line 10: What does ANME-1 means? Please give the full name and then the acronim.

Page 16714 line 4: remove e.g. Alternatively rephrase the sentence to indicate some parameters, other than to soil moisture, affecting Eh.

Page 16714 line 20-29: here you should state clearly which are the motivation of your research and the scientific questions you want to address. Also the global implication should be made clear. The lack of data concerning the topic is not enough for conducting a reaserch.

Page 16715 line 8. I am not sure if the Italian site can be considered in this study as representative of a subtropical location. Which kind of climtic subdivision it was used to identify the sites?

Page 616715 line 24: Please be clearer. Are you referring to the dike chronosequence in CIXI for this composite sample? Or in general to all the sites? Which was on average the area covered by each field? You state that seven samples were representative for the complete field but you should specify the area covered by the fields.

Page 16716 line 13: have you analysed the three composte samples for each site? Please specify the number of samples you analysed in each area.

Page 16718 line 18: Why percentage symbol in reporting pH values? It is not the correct way to report pH values. Remove the % symbol.

Page 16718 line 22: you mean comprised between 20 and 80? it is not clear

Page 16719 line 3: report first the full name than the acronim in brackets

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Figure 1: Pay attention that in Italy the blue zone is exactly covering all the Alpine area, where climate is not "subtropical".

Figure 2: what does numbers in the gap means?

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