

Interactive comment on “Organic wastes from bioenergy and ecological sanitation as soil fertility improver: a field experiment in a tropical Andosol” by A. Krause et al.

A. Krause et al.

krause@ztg.tu-berlin.de

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We are thankful for providing us thoughtful feedback and valuable comments to support the improvement of our manuscript. We discussed the provided comments, the raised issues, criticism and suggestions thoroughly among the authors team. Please find our responses below and also see the final author’s comment.

Best regards,

Ariane Krause, on behalf of the author’s team

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Comment #1: This manuscript is a very valuable contribution to validate improved management of biogenic wastes into African real cropping systems.

Response: We are thankful for the recognition of our work as valuable contribution to the journal as well as to validate approaches of waste and nutrient management in the context of African agriculture.

Comment #2: The approach is very complex, considering several issues including nutrient balance, the use of liquid and solid waste fluxes compared to composted ones, etc.

Response: We definitely agree with this comment and the fact that this is a complex study of a complex problem.

Comment #3: Some issues should be better explained, especially the application rates of compared treatments, the volatilization of ammonia especially in the urine treatment, etc.

Response: In our opinion, the application rates are sufficiently explained by mentioning them in section 2.2 as well as in Table 2. However, we agree that the readability of section 2.2 generally needs to be improved. When rephrasing this section we will also work on better explanation of the application rates. Concerning the ammonia volatilization when applying urine we agree, that this is an important parameter to consider. However, we decided to erase all results of urine application from this manuscript, as these were not possible to evaluate because we had problems with the urine’s quality as mentioned in section 2.2 (p. 1227, line 6-8). (Please also see the Authors’ comment on the issue of results from urine treatment.) In another part of our cumulative work, when applying material flow analysis and soil nutrient balancing to integrate the tested soil amendments into farm-scale nutrient management, we consider N-losses from ammonia volatilization.

Comment #4: The Carbon stock related to the treatments could be also a good point to

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go abroad especially to include the non-chemical fertility related to organic resources.

Response: We apologize but we didn't understand this comment very well. We evaluated changes in C stocks due to the used soil amendments. However, we did not observe any significant effect on soil carbon content. Hence, we did not further discuss results related to carbon provided by the treatments. We discussed the amount of biochar contained in CaSa-compost and the C content in comparison to other work to argue that is not likely to observe significant changes in the soil C stock in a short-term experiment and after only one application. However, we will try to make that point more clearly in the revision of our manuscript.

Interactive comment on SOIL Discuss., 2, 1221, 2015.