

## ***Interactive comment on “Effects of land use changes on kinetics of potassium release in sweetpotato garden soils of the highlands, Papua New Guinea” by B. K. Rajashekhar Rao***

**Anonymous Referee #2**

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General comments The paper submitted by Rao it is interesting and it is under the scope of Solid Earth. I think it is a very good contribution. The paper is short, but very well organized, the results well discussed and the synthesised in the conclusions. Despite this there are few questions that need to be clarified. In the introduction, some background is missing regarding studies outside of PNG. This will put the study in a wider context. Other important question is the criteria for new and old “gardens” definition, as the low, medium and high K exchangeability. Overall I recommend a minor revision. Bellow I send some minor comments.

Abstract Line 1: Change “K”, by “Potassium (K)” Line 2: Change “garden” by “Farm”. Please do it here and everywhere.

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Introduction Page 3 Line 23: Change “K”, by “Potassium”

Page 4 Line 21: Change “Potassium”, by “K”

Materials and methods Page 5 Line 3-4: Can you provide the name of the four regions. Is it possible to write in the table 1 the region where the soils were collected? Line 5-6: Please describe the values for optimum to very deficient available K status. Line 7-11: Please provide the reference to the classification of these soils Line 17: Change “Total C” by “Total Carbon (C)”.

Page 6 Line 25: Where the data normality and homoscedasticity evaluated previous to statistical analysis? Please explain.

Page 7: Line 2: At which level differences were considered significantly different? At  $p < 0.05$ ? If yes please write it. “Statistixs” or “Statistica”? Please clarify.

Results and Discussion Line 7-8: This information should be placed in the item “study location and sampling sites” Line 8-9: Delete “About 48% samples were from old gardens and 52% were from new gardens” Line 10 and 11: Change “Total carbon” by “Total C”. Line 11: Is there some reason that could explain the high content in Total C? Line 15-19: Is it possible to know the available K a according to soil group, depth, type/origin? What was the criterion for you to classify “low”, “medium” and “high” exchangeable K?

Page 8: Line 14: Change “greater K” by “greater cumulative K released”

Page 10: Line 4: Change “K+ release” by “K release” Line 6: Change “K” by “Potassium”

Figures Use colours in the figures it will be easy for the reader to understand it.

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Interactive comment on Solid Earth Discuss., 6, 2843, 2014.

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