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# *Interactive comment on* "Base cations in the soil bank. Non-exchangeable pools may sustain centuries of net loss to forestry and leaching" *by* Nicholas P. Rosenstock et al.

**Anonymous Referee #2**

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In relation to biomass harvest, especially whole tree harvesting, I'm also interested in quantification of sustainable levels of biomass harvesting or soil productivity without nutrient inputs in forest ecosystem. By the subtraction of each extraction of base cations, it is meaningful to demonstrate the sources of base cations or availability for plant uptake. In addition, as the report of the potential size of soil nutrient pools in base cations is fewer than that in nitrogen, the data of soil base cation concentration from different soil fraction in each horizon are valuable.

However, soil sampling depth was discrete and not continuous from surface soil to lower in each soil pit. Moreover, soil bulk density was not shown in each depth. There-



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fore, estimation of all amounts of soil base cation was unsatisfied with the prerequisites of mass-balance method and improper as utilization of mass-balance method; this estimation was not able to indicate correctly the all amounts of base cations in each soil pit although comparison of the amounts and trends of base cations among the horizons in each soil would be possible from surface soil to lower or from upslope soil to downslope. Furthermore, if the comparison of uptake fluxes of base cations among the soil pits with the difference of the hydrological gradient, as in the difference of moisture condition of the soil pits, amounts of uptake of base cations by plants should be different among the soil pits, you should examine the uptake by the soil pit.

Finally, although this manuscript provides some interesting scientific results, due to misuse of mass balance method and rough estimation mentioned above, it is difficult to accept for publication in Soil in this time, and I suggest to submit to other journals or resubmit to.

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