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Interactive comment on “Biochar as growing media additive and peat substitute” by C. Steiner and T. Harttung

Anonymous Referee #2

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The authors have designed a study to determine whether or not biochar could replace soilless potting mixes as a peat substitute. The objectives are meritorious. The experiment was done satisfactory and provides some data that would support their contention that biochar could function as substitute without appreciable loss of quality of the test plant, sunflowers. My major concerns are that 1.)the authors make statements about nutrition, but do not make an attempt to provide the analysis of the mineral composition of the biochar or the plants and 2.) the study was not repeated. If the authors can address these concerns, I think the paper is acceptable. 1. Introduction If biochar is being assessed as a replacement for lime, this is more reason to know the mineral composition of the biochar since Ca, Mg along with pH adjustment are the major reasons for applying lime. EC and structural similarity are important, but less so. Secondly biochar are notoriously variable depending on feedstock and pyrolysis temperatures.

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Some biochar are damaging to plants while other sources are beneficial. The authors need to include disclaimers that allow for this. 2.2 There is no mention that this study was repeated in time. Repetition is the hall mark of good science. If this true, then the study should not be published until results can be verified in repeated experiments. 3.2 The authors should also present dry weight as it is more consistent and it avoids the issue that comes with differences in the water-holding capacity that biochars have great influence on in soils. Line 1029 line 23 “pieces” misspelled There are many references available on the role of biochar at the International Biochar Initiative’s web page (<http://www.biochar-international.org/>) that could enrich the overall discussion.

Interactive comment on Solid Earth Discuss., 6, 1023, 2014.

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