

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

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Dear anonymous Referee,

I am very grateful for your valuable comments and questions. I will revise the manuscript accordingly and will answer your questions in this response:

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”

We mentioned that the nutrient content of the particular biochar is low and that a low nutrient content is favourable for growing media. Therefore we fertilized is a balanced slow-release fertilizer and our focus was not on plant nutrition. We tried to avoid any limitations by nutrients. We will add a table showing the mineral composition of the

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biochar. We provided some relevant information about the biochar in lines 9 to 11, page 4. We also provided some information on feedstock (free from bark) and production temperature. The low mineral content of the feedstock is responsible for a biochar with low ash content. The relatively high production temperatures avoid a high content of labile carbon in the biochar. Both characteristics are important if biochar is used at high concentrations. Reviewer 2 is right, some biochars (not heaving this characteristics) may be damaging to plants at high concentration. We will expand this discussion in the manuscript and include a disclaimer.

2) “The study was not repeated”

Each treatment was established in 4 replicates. This is common in scientific experiments. Repeated experiments are rather exceptional. However we did repeat the experiment with different crops and growing media. We also conducted a trial with organic fertilization. We planted several ornamental flowers, tomatoes and peppers in peat and biochar with similar results. The research was conducted with the intention to develop a product. The sunflower trial is the most complete experiment and therefore published. We provided pictures as supplemental information showing the pepper plants.

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