

Interactive comment on “Nitrous oxide emission reduction in temperate biochar-amended soils” by R. Felber et al.

Anonymous Referee #2

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This work adds to the several which are currently coming into press that address the effect of biochar (BC) addition on the production of GHG from temperate agricultural soils. While the stated hypotheses are sound, the work is flawed and cannot test them. Overall, this work does not advance our understanding of BC effects on the GHG of temperate soils. Major flaws are:

1. The work is conducted over a period of only 3 months. This is by far too short a period to inform about the “evolution of GHG emissions from soils over time” as a result of BC additions – which is a prime aim of this study.
2. Not only the laboratory incubation was conducted for only 3 months – but during this period gas emissions were sampled only at the beginning and end of the incubation. Again too little a sample to be really informative.

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3. The work is basically conducted on pseudo-replicates. The soil collected from the field was homogenized into one sample - divided into subsamples for BC additions. Each Biochar was added to a one soil subsample - homogenized - and then divided into lab replicates.

Additionally the biochar used in this study have a pretty low C concentration (55-67%), and I wonder how representative would, anyway, be those findings. This assuming that the concentration was measured correctly – often on BC samples the EA has to be tuned (higher temperatures of combustion) to combust the charred material – and I would suggest the authors to look into this possibility.

Overall the work is poorly structured – with as many as 20 tables and no headings in the material and methods and results, and the English language needs significant revision.

Interactive comment on Biogeosciences Discuss., 9, 151, 2012.

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9, C86–C87, 2012

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