

## ***Interactive comment on “Impact of 40 years poplar cultivation on soil carbon stocks and greenhouse gas fluxes” by C. Ferré et al.***

### **Anonymous Referee #2**

Received and published: 10 August 2005

Review of BGD-2-897\_p: “Impact of 40 years poplar cultivation on soil carbon stocks and greenhouse gas fluxes” by Ferré et al.

#### General

The paper describes differences in soils and GHG emissions at a 40 year old poplar plantation in relation to natural forest at the same location. Non-CO<sub>2</sub> GHGs made only a minor contribution to the overall GHG balance at both sites. Spatial variability in emissions is related to spatial soil characteristics and patterns of flooding. Overall, the most visible differences between the sites after 40 years are in soil carbon stocks.

The study is well conducted and well reported with all of the appropriate techniques and methods used in the study and in the analysis. The use of only a 10cm depth is the only limitation (with redistribution of SOC and SON in the profile a real possibility). There are relatively few samples, but this is often the case with such studies.

It is a useful contribution to the literature. The English is sometimes a little clumsy. I have suggested a number of places in the text (below) where it could be improved.

Editorial / minor comments:

Page 898, line 17-18: Change “not significant different at both sites” to “not significantly different between the sites”

Page 898, line 20-21: Change “contributed minor” to “made only a minor contribution”

Page 899, line 2: Change “Despite of this” to “Despite this”

Page 899, line 11: Change “integer” to “integrated”

Page 899, line 16: Change “Janssens, 2003” to “Janssens et al., 2003” and add the many additional authors to the Science paper in the reference list

Page 900, line 24: Change “highlight on” to “highlight”

Page 903, line 3: Change “microorganism” to “microorganisms”

Page 903, line 13: Change “under usually” to “usually under”

Page 907, line 3: Change “next chapter” to “section 3.2”

Page 909, line 19: Delete “Anyhow”

Page 911, line 20: Smith et al. (2003) should presumably be appended to the previous list of studies

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Interactive comment on Biogeosciences Discussions, 2, 897, 2005.

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