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Biogeosciences Discussions



# *Interactive comment on* "Predicting the global warming potential of agro-ecosystems" *by* S. Lehuger et al.

**Anonymous Referee #1**

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The paper presents the evaluation of the CERES-EGC model based on data from two sites in France namely Grignon and Rafidin. The paper gives a quite long introduction into the necessity to simulate the full GHG balance of croplands in order to understand their global warming potential. In the method section the paper extensively describes the setup of the experimental sites. I do not understand the philosophy of CERES-EGC because the authors deliver no explanation for the acronym and they do also not give any equations to enlighten the reader about the model structure and parameters. If the main purpose of the paper, as the author explain in the introduction, is the evaluation of a model I do not understand the focus on the experimental site layout. The authors need to explain their model approach in the context of actual literature of biogeochemical and agricultural models to explain why their approach is more holistic than others.



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I also do not agree with the originality of the approach if the authors can not prove that by comparison with other models. I would also highly emphasis to consider the uncertainty of both the measurements and the models results. Overall the paper can contribute to our understanding of cropland GHG balance and their dynamic if the authors focus on the purpose of their study to use a model to understand the dynamic of an ecosystem by the application of a bio-geophysical model. The paper can be accepted after moderate revisions that consider the points mentioned above.

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Interactive comment on Biogeosciences Discuss., 4, 1059, 2007.