

Interactive comment on “Forest conversion to poplar plantation in a Lombardy floodplain (Italy): effects on soil organic carbon stock” by C. Ferré et al.

Anonymous Referee #1

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This is a generally well planned and correctly carried on work, carrying real-world data in a field swamped by modelling exercises. Editor should weigh out the balance between this and the relatively limited scope of the data presented. The work is overall quite good on technical account, but I have three points of discussion. The first one is of major relevance, and could question the whole paper:

"How did the authors account for the obviously significant difference in stone content between the soils under the two land uses?"

Second, it was not, in my opinion, warranted to estimate bulk density of the deepest layer from a regression established on the shallowest layers, also considering the pre-

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vious point. A similar regression from a limited number of direct measurements, or a mixed one, would have been better; direct measurement better still. As a minimum, data concerning the performance of this regression should be presented for readers to see for themselves, and results not be discussed mixed up with real measurements.

Second, I think the geostatistical processing was not necessary and possibly misleading. Again, readers must be supplied with data allowing them to judge for themselves the goodness of the processing; description given is not very encouraging. This way of proceeding introduced an unnecessary difference in data treatment between the two theses, and the resulting higher SOC stocks in the PP might well be a complete artifact.

Overall, these technical questions, apart from the first, do not detract from the value of the results presented; however, the second and third point represent, in my opinion, slack-standard methodology.

Finally, there is a point about introduction; given the issue being dealt with, it looks like literature review was somewhat lazy. The quite long reasoning between lines 5 and 15, page 9603, which represents the main rationale of the work, is supported by only two references. I really think a somewhat larger effort could have been done to review the literature and correctly reference researchers having published on these issues.

Interactive comment on Biogeosciences Discuss., 11, 9601, 2014.

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