

Interactive comment on “Assessing winter cover crop nutrient uptake efficiency using a water quality simulation model” by I.-Y. Yeo et al.

I.-Y. Yeo et al.

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Dear Editor I would like to submit my responses to the reviewers' comments and a revised manuscript that has been improved following all of the comments and suggestions made by the two reviewers. The major revision includes the following changes: (1) Expanded the discussion on the land use information, the spatial arrangement of the crop rotations during the simulation period (over 9 years), and the impacts of the 2-year crop rotations on the model simulation results (with regards to the cornfields). (2) Clarified the discussion on the question of “what has been simulated and compared?” We clarified that the simulation included the entire watershed area providing the catchment scale benefits of winter cover crop scenarios, and also specified the

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level of spatial analysis in the presented figures to articulate what has been compared from the watershed scale simulation. (3) Improved the discussion on the cover crop scenarios, particularly on the early planting scenarios. (4) Modified the abstract and the introduction slightly to emphasize our new method on plant growth calibration with multi-temporal satellite based biomass estimates, as we felt this is an important contribution of this study. This discussion is now presented in a new section (2.2.4. Calibration for plant growth parameter). (5) Included additional references to compare the model simulation outputs (i.e., the watershed-scale benefits of cover crops) with previous studies (mostly field-based studies). (6) Clarified the model simulation periods and the time frame of available dataset. (7) Updated graphics and tables, after carefully reviewing the reported statistics/modeling results and data sources.

Attempt has also been made to proofread the revised manuscript for improving the quality of the writing. The response letter to the reviewers' comments shows the specifics changes made in this revision point by point. For the changes made, we have provided page and line numbers and we also highlighted the revised manuscript (enclosed with the response letter) to explicitly pinpoint where the changes were made or the discussion was presented.

Looking forward to hear if this revision is adequate and please let us know if any further improvement is needed. With your approval, I will promptly upload my revised manuscript. Thank you very much and appreciate your attention on this manuscript. Sincerely yours, In-Young Yeo iyeo@umd.edu

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/10/C8403/2014/hessd-10-C8403-2014-supplement.pdf>

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