

Interactive comment on “Prediction of dissolved reactive phosphorus losses from small agricultural catchments: calibration and validation of a parsimonious model” by C. Hahn et al.

p. vadas

vadas@wisc.edu

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This is a well-written, well-organized paper, for which I have few comments.

P1474L11. Can you give the relationship between soil P and runoff P for new water. On L13, please give an indication of appropriate time frames for model use. For example, is a constant DRP soil concentration true for all simulations, or just for this study because the simulation period was short? Can the model be applied to longer periods where the soil concentration is expected to change?

P1474L15: What is the timeframe for varying DRP_{soil} concentrations? Is this a daily time step, or something less or greater? Also, how is the time zero DRP_{soil} concentra-

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tion determined? IS this a function of P application rate? Finally, Vadas et al. (2006, nutrient cycling in agroecosystems) showed that decreases in DRPipl are more a function of cumulative rain than time itself. This is because leaching of manure by rain is the primary mechanism for decreases P content of manure on the soil surface, and not time itself. Models may be more accurate by using a decreasing function of cumulative rain instead of time.

P1483L9: What kind of manure is this? Is this applied manure or dung from grazing cows? This dominance of soil to contribute P to runoff is not expected for all situations. Is this model able to simulate situations where manure may dominate?

P1485L3: Is the h unit for hectares or hours. If hectares, ha should be used.

P1487L20: This statement suggests that the low input data means that relatively more calibration of the model is needed to get good predictions. Is this correct? If so, perhaps a statement about the tradeoff between inputs needed and calibration would be useful to the reader.

P1488L20-22: This statement suggests the model may be limited to areas similar to the Swiss plateau. Is this correct. If so, maybe state that for the reader.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 1465, 2013.

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