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Interactive comment on “Nitrate leaching from intensive organic farms to groundwater” by O. Dahan et al.

Anonymous Referee #1

Received and published: 17 September 2013

GENERAL COMMENTS

The manuscript touches a highly relevant topic and it fits well with the scope of the journal. It presents and discusses field data gathered with a rather novel monitoring system. The paper is well-structured and mostly written in a concise way. The presentation of methods and results is appropriate. The discussion, however, appears a bit biased (see below).

I suggest that the paper is accepted after minor revision.

SPECIFIC COMMENTS

According to your results (page 9925/26), nitrogen leaching is controlled by the way of

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how the fertilizer is applied (solid fertilizer vs. 'fertigation'). You mention that fertigation is commonly used in conventional farming while in organic farming the application of solid organic material is more common. However, you also mention that fertigation is nowadays practiced in organic farming as well.

Please check the manuscript for all statements of the kind "conventional farming = low N leaching rates; organic farming = high leaching rates". Given your own findings (low N losses from organic farms relying on fertigation), statements of this kind seem inappropriate. You should clearly relate the N losses to the type of fertilizer application rather than to the concept of farming in general. In your conclusions, you could give practical advices how N losses from organic farms could be reduced.

TECHNICAL CORRECTIONS

Figures 4 and 5: Axis labels (VSMOW) should be explained in caption or text.

page 9924, line 17: Make clear that 4 years is time since the establishment of the greenhouse cultivation.

page 9924, line 24: Missing word.

page 9925, line 10: I presume you want to refer to Fig. 6 (not Fig. 4).

page 9927, line 4: Missing word. Replace 'relay' by 'rely'.

page 9928, line 25: Replace 'relay' by 'rely'.

page 9928, last sentence starting at line 28: Check grammar. Split sentence.

page 9929, final sentence: Rephrase.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 9915, 2013.

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