Dear Mr. Joachim Rozemeijer
We highly appreciate your constructive comments and suggestions that will surely improve our manuscript.

General comments
This paper presents a solid study on the effects of controlled drainage on nutrient losses from an agricultural field. The paper is well written and well structured.
I have one major comment. The authors conclude that the water discharge and nitrate losses to surface water via the subsurface drainage system has considerably reduced after implementing controlled drainage. This raises the question where this water and nitrate goes instead. There was no influence on the harvest yield, so probably no extra evapotranspiration and crop uptake. Denitrification was also not markedly enhanced. The authors report that no overland flow was observed. The water and nitrate must have infiltrated to the upper groundwater. From there, the fate remains uncertain. The extra nitrate load may have polluted the deeper groundwater resources. In this case, pollution swapping did occur; less nitrate loss to surface water, more nitrate loss to groundwater. The other option is an enhanced shallow groundwater flow towards the surface water. In this case, there is no reduction of the nitrate load to surface water. The uncertainty about the fate of nitrate is described in the discussion (p7 L11-21) and in the conclusion (p9 L6-11). However, this crucial aspect is missing in the abstract, which only presents the positive effects of controlled drainage.
Thanks for stressing this aspect. We agree that the unknown fate of nitrate must be included in the abstract.

In the discussion, I would expect a more thorough discussion about the potential negative effects. Furthermore, an evaluation of the research methodology could be added to the discussion. How can the total effects of controlled drainage be quantified in future studies? The authors only suggest tracer additions and 3D modelling (p7L18-19). Could more intensive hydrological and chemical monitoring of different flow routes also add to this? A sentence evaluating the monitoring setup could also be added to the abstract and the conclusions.
Thanks for this comment; you raise a very important and highly useful point. We will revise the discussion with this in mind. With respect to how controlled drainage can be quantified in future studies, it will be difficult to give general recommendations as controlled drainage is used in very different ways and locations. However, we believe that knowledge of the location of the redox zone is of great importance with respect to assessing whether groundwater is reduced or not, which should also be included in the paper.

Minor comments: P1L12: 'For the first time': it's unclear what exactly was for the first time. A controlled drainage pilot in Denmark? A controlled drainage pilot on a field with winter crops? Controlled drainage as mitigation for nitrate losses? Etc.
Thanks for raising this point. This sentence will be rephrased.

P4L33-35: Could you add more information about the regulation level management of the controlled drainage system? This should be part of section 2.
We appreciate that you emphasis this. This has also been suggested by the other referees therefor we will add a scheme containing this information.

Plots with CD	IP1 and IP2	
Plots without CD	CP1 and CP2	
Management of regulation well at IP 1-2	closed	opened
Y1 Y2	10-dec-13 17-nov-14	11-mar-14 09-mar-15
Reference period	Y0 (21-nov-2012 to 21-apr-2013)	
Regulation level in Period 2 Period 3	 50 cm * 70 cm	
Number of piezometers pr. plot with pressure transducer	1	
Number of piezometers pr. plot without pressure transducer	8	
Frequency of water sampling in piezometers	2-3 times a month	
Frequency of water sampling in the measuring well	Weekly	
Frequency of drain water flow measurement	Every 10th minute	
Frequency of ground water level measurements in piezometer with pressure transducer	Daily**	
Frequency of ground water level measurements in piezometer with continuous pressure transducer	2-3 times a month	

* until 28 January 2013 for CP1 hereafter 70 cm.
** Often lower frequency due to low inflow time of soil water, thus data from IP2 from all periods was unusable. Dysfunctional pressure transducer at CP1 in beginning of Y0 and at CP2 in Y3.

P2L45: In addition to anoxic conditions, you also need organic matter or pyrite for denitrification.
Thanks for the suggestion. Other factors controlling denitrication will be addressed here as you suggest.

P2L13-17: These 'hypotheses' are formulated here as questions. Replace hypotheses with research questions?
We agree and will replace hypotheses with research questions.

P4L27-30: Higher and more fluctuation groundwater levels due to more evenly distributed precipitation events?
Thanks for noticing this. Fluctuation should have been fluctuating. What we meant to describe was that in Y2 the precipitation events were occurring more often during the whole period compared to Y0 and Y1, which led to higher groundwater and also more fluctuating groundwater levels.

P4L32:"The implementation: : :(Table 1)" I don't understand how this follows from table 1.
The reference here should have been Table 2. This will be changed in the revised paper.

P4L35: 5 cm per day? Why per day?
It was stated this way to stress that the BACI effect is an average difference of all groundwater monitoring data (which ideally was per day, however due to practically problems we did not have data from all dates), however it is more confusing than helpful, so this statement will be rephrased.

Again, we appreciate all of your insightful and useful comments. We have tried to take into consideration all of your comments and will improve the manuscript accordingly. Again we are thankful to you for taking the time and energy to help us improve the paper.