Interactive comment on "Deriving a per-field land use and land cover map in an agricultural mosaic catchment" *by* B. Seo et al.

Anonymous Referee #1

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The manuscript by Seo et al. describes the creation of a vector based land use and land cover (LULC) map for an agricultural landscape with diverse management activities. Based on repeated annual census dates, 2009-2011, the authors create several LULC maps with varying degrees of thematic resolution, and compare these with a global land cover dataset from MODIS, using the IGBP classification.

Because the vector land cover map is based on ground-based observations, it far exceeds the thematic accuracy of other available products, and provides an important perspective for mosaic agriculture at high spatial resolution. However, the authors argue in their Introduction that they aim to overcome limitations posed by global land cover datasets, but the proposed solution presented for the Haean catchment is obviously not practical at larger scales.

What is a very interesting outcome of their study is the comparison between the survey approach and the MODIS IGBP data. This comparison provides an opportunity to evaluate bias in the MODIS product for land cover and land cover change.

Recommendations 1. Please define the meaning of "Per field" – this term occurs only in the title and needs to be defined for readers. 2. Section 2.4.1 – please define what types of 'quality issues' you encountered 3. P 284, Line 11, here you make the suggestion that MODIS may be more accurate than your surveyed land cover dataset. I find this very unlikely given the census intensity and ground-based approach used to develop your land cover map. In the context of uncertainty and accuracy, please can you add a section on how you can quantify the land cover land use survey map and provide something like a kappa statistic. 4. Section 4.0 – please provide more information on the data archived on Pangea – do you provide separate files for each year, are the transition areas included? Providing the data as a raster would be useful for users to make their own transition maps. 5. Section 5.0 – please add a discussion on how your methodology can be used to advance MODIS, GLOBCOVER, GLC2000, type land cover datasets, where you point out in the Introduction their shortcomings.

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