Interactive comment on "Evolution of soil and plant parameters on the agricultural Gebesee test site: a database for the set-up and validation of EO-LDAS and other satellite-aided retrieval models" *by* Sina C. Truckenbrodt and Christiane C. Schmullius

Anonymous Referee #2

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This manuscript presents a database of soil and vegetation parameters and variables collected during a two year field campaign over an agricultural test site in Thuringia, Germany. The authors describe in great detail which parameters were measured and how and provide some outlook for potential uses of the database.

General comments: Generally, the paper is well written and provides a thorough overview of the contents and generation of the database and as such represents a

useful resource for potential users of the database. My main concern is the science merit (or lack thereof) of this paper. While a thorough description of the database and field campaign is certainly useful, I think that by itself it is more appropriate for a data documentation or technical memorandum rather than a scientific article. That being said, the authors do mention that several satellite images are available for the study period and domain and that the database is meant to validate land data assimilation systems. So one option would be to include a short comparison of the collected in situ measurements against the satellite or data assimilation estimates as a short illustration for potential applications. In such a comparison, the authors could also try to show how the combination of a large number of parameters and a high temporal resolution (compared to other in situ datasets as indicated in the text) helps to better validate the satellite or data assimilation products.

Specific Comments: - In the abstract, it might make sense to add a qualifier that the data collected during the field campaign are mostly focused on supporting the validation of data products based on visible and (near-) infrared satellite observations. - P. 1 Ll. 36-37: Could you please include half a sentence or so on what temporal resolution is 'sufficiently high'. That is, what are the temporal scales on which the collected plant and soil parameters typically change in the study domain? - P.4 ll. 11-12: Does this mean 10 images per species per ESU? How did you deal with the mixed crop ESU? - P.6 ll. 39-40: Could you please indicate in the text what potential causes for this increased afternoon bias are? - P.7 ll.29-30: Could you please indicate the reason for the increased number of measurements in the potato field? Is an increased heterogeneity expected in a potato field?

Technical Corrections: P. 1 l. 9: Replace 'elaborated' with 'developed'. P. 1 l. 16: Please change to '... are available'. P. 1 l. 17: Replace 'In the article,...' with 'Here' or 'In this study...' P. 1 l. 19: Change to 'These data will contribute....' P. 1 l. 23: I would suggest removing the 'other', since data assimilation systems are not quite the same as retrieval models. P. 2 l.1 : please change 'elaborated' to 'developed' P.2 l.3 :

Same comment as above that retrieval algorithms and data assimilation systems are not quite the same. P.2 l. 23: Maybe better 'An eddy covariance flux tower in the center of field 430 has been operated since 200.' P.2 l.28: Please change to '. . .data for winter rape. . .' P.4 l.34: Please change to 'oriented' P.5 l.7: Please change to '. . .were taken at a distance of. . .' P.5 l. 22: Please change to 'border'. P.5 l.22: Please change to 'The circular area of interest corresponds to. . .' P.5 l. 26: Please change to '. . .on each day of field work. . .' P.7 l.33: Is this once per week per ESU? P.10 l.36: Could you please spell out 'cv.' And remove the full stop? It is a bit confusing to read this otherwise.