Interactive comment on "Uncertainties in global crop model frameworks: effects of cultivar distribution, crop management and soil handling on crop yield estimates" *by* Christian Folberth et al.

Anonymous Referee #2

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The poor presentation of "Uncertainties in global crop model frameworks: effects of cultivar distribution, crop management and soil handling on crop yield estimates" hampered me from making an in-depth evaluation of the research presented in the manuscript. The presentation of the study should be largely improved before this study becomes acceptable for publication in any outlet.

From my current understanding of the study, the research itself would also require a lot of additional work to become of interest to the readership of Biogeosciences. The manuscript does not mention the objectives of the study. Furthermore, it was not pos-

sible to derive the objectives from the structure, the results or the discussion. Any revision should be structured around clear objective(s). The analyses are very much focused on different versions of the EPIC model, it is not clear what the readership outside the EPIC community can learn from this analysis. The study includes a couple of GGCM but it was not clear what these models contributed to the analysis as a whole. It appears as if they were added to satisfy administrative issues rather than their contribution to the science. The analyses appears superficial; differences between models are reported but not explained, it is not clear which of the differences should be considered valuable (e.g., representing a lack of process understanding) and which problematic (e.g., a poor representation of a well-known process). In the absence of clear objectives, the analysis itself appears flawed. Given that all of the EPIC models have a common ancestor, one could expect than harmonization will decrease the CV of the results because the harmonization mimics going back in time. If this approach would be used for models which are thought to be independent, such an exercise could reveal that they have a common ancestor anyway (for example, the same photosynthesis model). Failure to substantially decrease the CV following harmonization could then be interpreted that the tested models are indeed independent. What can be learned by applying this method on models that are known to be dependent? In my opinion the discussion lacks a biogeochemical component.