

Interactive comment on “Effects of environmental and management factors on worldwide maize and soybean yields over the 20th and 21st centuries” by Tzu-Shun Lin et al.

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Although the impact of climate change on future crop yields has been subject to a large number of previous studies (e.g. Lobell et al. 2008 Science), the presented manuscript is innovative in terms that it considers the different influences of not only climate but also management practices. It is not an incredible discover but deserves publication given the well-organized and concise presentation.

I have only a few minor comments:

Abstract –> it should be finished with the implications of these results to climate

C1

change adaptation in the agricultural sector.

L118: Please provide the reference for the irrigated land extension in addition to the reference to Text S2.

L220: Isn't the fact that maize is a C4 grass and soybean is a C3 plant a more precise explanation for this?

L225: I wonder if the yield increase due to CO2 fertilization wouldn't change nutritional contents (e.g. C:N ratios) of harvested parts of soybean.(?)

L246: The sentence ends abruptly, please revise.

L256: Statements like “not shown here” are increasingly less recommended by scientific journals like Biogeosciences. I suggest this spatial comparison is shown in the supplementary material.

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2020-68>, 2020.

C2