

Interactive comment on “Modeling impacts of farming management practices on greenhouse gas emissions in the oasis region of China” by Y. Wang et al.

Anonymous Referee #3

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This paper tests the DNDC model only by comparing the one year measured and simulated values of CO₂ and N₂O fluxes. However, for the validation of the biogeochemical model as DNDC, more comparisons should be provided. Comparisons between the measured data and model output parameters such as carbon/nitrogen content in soil and plants, soil temperature and soil water content should also be provided to verify the applicability of the model. The limitation of the DNDC model should be addressed. The text contains numerous minor problems, with respect to syntax, word usage, and other grammatical issues. There are several other points that need to be addressed.

P3122, Line 10: Change "indicate" to "indicated". Past tense should be used since this

C807

sentence is reporting observations that were made in the past. Line 11: Change "are" to "were". Insert "included" after "to".

P3123, Line 3: Recent references should be cited. Line 4: Change "managing" to "management".

P3123, Lines 20-21: from 1980 to 2000, which increased not only the productivity but the GHG emissions (FAOSTAT, 2002).

P3124, Line 7: few studies. Line 13: Change "of" to "on". Line 14: Change "can" to "could". Line 15: Change "exceed" to "exceeded". Line 17: What are the four factors?

From P3123 Line 6 to P 3124 Line 18: This paragraph is too long.

P3126, Lines 7-15: The material size and number of the chambers, the sampling frequency and sampling time for N₂O flux should be described in detail. The measurements of CO₂ flux were not clear since the frequency of observation, the number of repetitions, the measurement times were all unknown. The reader can not determine how the fluxes of N₂O and CO₂ were measured. Lines 13-15: I can not find the close relationship between the avoidance of human disturbance and the remove of all live vegetations in the bases.

P3130: Fig. 2 could not demonstrate adequately the good relationship between modeled and observed daily N₂O fluxes since the distributions of scatter points in Fig.2 were not homogeneous. More detailed analyses should be provided about the differences between modeled and observed N₂O fluxes. Additionally, how the daily N₂O and CO₂ fluxes were obtained from the measurement data are confusing and need further explanation.

P 3130, Lines 14-15: Figure should be provided to demonstrate the relationship between CO₂ flux and air temperature. Lines 17-19: Data or Figure should be provided to support the results.

P3133, Lines 14-16: Rephrase the sentence.

C808

P3136, Line 9: Change "under" to "in".

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C809