

## ***Interactive comment on “Biochar can be used to recapture essential nutrients from dairy wastewater and improve soil quality” by T. A. Ghezzehei et al.***

**T. A. Ghezzehei et al.**

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**RESPONSE TO:** Interactive comment on “Biochar can be used to recapture essential nutrients from dairy wastewater and improve soil quality” by T. A. Ghezzehei et al.

**Anonymous Referee #2**

Received and published: 12 May 2014

**Our responses are presented in indented, bulleted, bold points under each numbered item.**

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Paper try to be a review about the idea of capture essential nutrients from dairy wastewater by biochar describing the environmental and agricultural benefits of this practice.

The idea is innovative but the paper has a some gaps that must be solved.

First, a review paper must be included papers and data of different parts of the world and authors. i am agree that you can focuse on an specific case (California) to calculate the data

For this reason, it will be interesting that:

1. You must include references about the use of dairy wastewater in other parts of the world

- **To address this comment, we have revised section 2.2 and provided citations for examples of dairy wastewater use in cultivated systems from around the world.**

2. Also, you propose the use of biochar to retain nutrient of the dairy wastewater. For this reason, it would be positive to include a review about the use of biochar to remove this nutrients for water. You can put in a table and discuss them.

- **To address this comment, we have added more text in section 3.2 that highlights the potential of biochar to sorb nutrients and pollutants from solution.**

3. Other gap is that you are speaking about dairy wastewater, you should put a table with the main properties of it.

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- It is somewhat difficult to generalize about the properties of dairy wastewater because it depends on a lot of factors including: the type of cattle feed, the environmental conditions in the site, and the type of processing the flushed dairy manure would experience before it arrives in the lagoons. However, we accept this comment and in recognition of the importance of providing at least some representative data we have included data that was collected over a year from two types of lagoons. The new data is presented as Table 1.

4. I do not see why you include the point 4.3. Value-added benefits of biochar as soil conditioner. can you explain it?

- This section was added to demonstrate that there is a potential for multiple, overarching benefits from this technique.

5. It would be very interesting that you make a economical study of the California case. You should put the data on a table.

- We agree that an economic study on the California case (or other relevant case studies) would be interesting. But, this is outside the scope of our study.

**We appreciate the thoughtful comments from the reviewer, Thank you!**

~ Teamrat, Deoyani, Asmeret