Reviewer’s report

Title: Vinasse Fertirrigation Alters Soil Resistome Dynamics: An Analysis Based on Metagenomic Profiles

Version: 0 Date: 30 Aug 2016

Reviewer: Jaebum Kim

Reviewer’s report:

The authors analysed the effect of vinasse fertirrigation on soil resistome, and found the changes of abundance and interactions of AMR protein families, which is quite interesting. The analysis procedure and interpretation of results look fine, but there needs some improvements in terms of presentation as follows.

1. The authors used 18 datasets from total 57 in the MG-RAST server. It would be better if readers can find more information of those 18 datasets.

2. The authors used three main tools, PRODIGAL, HAMMER3, and ResFam search. Used parameter values (specific values or default ones?) need to be provided.

3. After the screening using the above three tools, 45 AMR protein families were selected. What is the criteria for the selection?

4. The 45 AMR protein families were listed in Table 1 with relative abundance values. But just listing so many numbers in a table makes it difficult to find patterns. It would be great if the authors can more summarize the numbers by using a graphical form.

5. In Table1, "DAA" may be "DAP".

6. On page 5, the authors discussed the keystone families RF0103 and RF0171 for V+ and V- datasets. But Figure 1 is not that informative to support that. It would be better if Figure 1 can be modified to show more information.

7. One interesting finding in Table 1 is that the relative abundance of V+ is smaller than V- at 7th and 157th, but the pattern is reversed at 217th. Any reason? It would be great if the authors add some discussions for this result.

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