Biogeosciences Discuss.,
https://doi.org/10.5194/bg-2017-129-RC2, 2017

Biogeosciences Discussions
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Interactive comment on "Organic exudates promote Fe(II) oxidation in Fe limited cultures of *Trichodesmium erythraeum*" *by* Hanieh T. Farid et al.

Anonymous Referee #2

Received and published: 14 September 2017

Farid and coauthors report a study aimed to examine the influence of organic exudates released by Fe-limited Trichodesmium on Fe(II) oxidation. My major concerns with the study are on the experimental design and culturing techniques (please see below), and I believe only after these points are fully addressed we can start to evaluate the findings presented in the manuscript.

1) No biological replication! This is problematic. I am not convinced at all that there was a significant difference in growth rate between the two treatments. Without replicated cultures, how did the author perform statistical analysis and obtain a p value 0.05 (Fig 1)?

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2) Albeit the ASW was treated with chelex resin, there was no information (e.g., trace metal concentrations) on how efficient the treatment was. If background trace metals had not been sufficiently removed, background Fe can easily be at nM levels, concentrations comparable to the amount of Fe added (i.e., 10 nM), which could significantly change Fe chemistry in the media.

3) Why did the authors choose to change Fe' by changing EDTA but not Fe concentrations? 0.05 μM EDTA cannot provide a sufficient buffering capacity for all the trace metals including Fe added in YBCII medium. How Fe precipitation would affect the chemistry of other metals and how would this influence change the experimental results?

4) How did the authors prove that the cultures were Fe-limited? And why there was no Fe replete treatment?

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