

***Interactive comment on “Acute glyphosate exposure does not condition the response of microbial communities to a dry–rewetting disturbance in a soil with long history of glyphosate–based herbicides” by Marco Allegrini et al.***

**Anonymous Referee #1**

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General comments: In this manuscript, the authors evaluate the potential conditioning effect of an acute glyphosate exposure (first imposed perturbation) on the response of soil microbial communities to a single dry-rewetting event (second imposed perturbation), in soils with a long history of exposure to glyphosate-based herbicides. The topic under study is relevant, the hypothesis is sound, and the experimental design is suitable for the aim of the study. In addition, the manuscript is concise, well written and organized; therefore I recommend its publication after some minor revisions.

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Technical corrections:

L27-28: The phrase “(e.g. pesticides)” is repeated in both sentences; maybe it’s not necessary to mention it twice.

L124-125 and Table 2: I’m not sure that this table is really necessary here. Maybe the information of R2 and %Efficiency could be simply put in a sentence in the methods section? I suggest a brief sentence, like: “The efficiencies of qPCR assays were 84.1% (amoA-AOB), 78.57% (amoA-AOA), 91.07% (total bacteria 16S rRNA) and 93.67% (Actinobacteria 16S rRNA); and R2 values were  $\geq 0.99$  in all assays”.

L145-146: I’m not sure that I’m getting this right. How does the lack of interaction between the two disturbances support the absence of a PICT response? Can you briefly clarify what a clear PICT response would be? Is it possible that even if there was a PICT response, there wasn’t interaction with the second perturbation (desiccation)?

L147 and L155: Can you please check Table numbers? I believe it’s Table 3.

L152: “does not necessarily result”

L161: Tables 3 and 4.

L173: Maybe “even though” instead of “even that”?

Figure 3: I’m sorry, what do lowercase letters mean? Replicates within treatments sometimes have different lowercase letters, e.g., CD/SG\_a, CD/SG\_b and CD/SG\_c.

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