The authors present a very nice paper looking at the effects of dry storage temperature of three biocrust moss species on viability of the mosses in terms of regeneration and some physiological attributes. They demonstrate that optimal storage temperature varies by species, and can have an impact on the heath and gametophyte reproduction. This is a nice addition to the literature, as mosses contribute great ecosystem benefit to drylands, and can be used in restoration. Dry storage is essential to this endeavor. It also speaks to how much more there is to learn about the ecology of these dessication tolerant species. I highlight below a few issues where more information, clarification or interpretation need to be addressed. A careful edit for proper English grammar could be benefit, but overall the manuscript is well written.

Thank you for your highly praise and helpful comments on our manuscript. We will modify English in the revised manuscript and address each issue below:

Methods Line 23, page 3: "average accumulated temperature...3733 and 3283C" is an odd way to share the temperature range. Instead, please present mean annual temp, mean annual high and mean annual low.

Agreed. We will add the three temperatures in the revised manuscript.

How were mosses collected? How were moss storage temperatures maintained? Were they in incubation chambers? I'm unclear on your sampling/splitting design. Did you collect from one colony and split this many ways (for initial, and then the 5 temperature gradients)? You say you have 3 duplicates or subsamples. Does this mean you originally collected from 3 colonies per species, or you split the one colony into "replicates" for each temperature level?

In fact, we stored samples at 0 ° C and 4 ° C in two refrigerators, respectively. Other samples were stored at 17 ° C, 25 ° C and 30 ° C in three growth chambers, respectively. In our sampling design, we collected moss crusts of a given species from many colonies, and then moss crusts were packed in 3 ziplock baggies. After stored, we collected some gametophytes from moss crusts as subsamples. Thus, we will revise the sentence.

Germination parameters: what do you mean by "5 inocula" (line 39 page 4). Does this mean 5 stems?

Yes. The "5 inocula" means five 2-mm stems of living mature gametophytes.

Results For the physiological parameters, it might be more helpful to say the change from the initial condition, rather than the total. In this way, we can look at positive or negative effects of storage more easily.

We also consider that readers can look at effects of storage from changes of physiological parameters more easily. However, we found bigger standard errors than true value appearing in figures of change percentages. It might cause misunderstanding. Therefore we described percentages of parameter changes in words. In addition, Reviewer #3 suggested adding the initial values (depicted by horizontal lines) into Fig. 2, which may be easier to comprehend.

The grey incidence analysis is over-interpreted. Most of the values overlap and thus, cannot be interpreted as greater or lesser than one another.

We tried to quantify the impact of physiological parameters on vegetative propagation by

using grey incidence analysis, which can help to determine if there were different impacts between physiological parameters. We think the method is more suitable the analysis of moss vegetative propagation with few information. Bigger incidence degree meant relatively more impact on vegetative propagation, and even little difference might be meaningful in a grey system. Nevertheless, more precise method or model will be required to quantify the impact of physiological parameters in further studies.