

Peer Review

Review of: "Share a Tiny Space of Your Freezer to Preserve Seed Diversity"

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The major problem with this manuscript is that it gives the impression of ignoring how a Genebank works, and this is to some extent demonstrated by the terminology used, as pointed out in most of the points 1 to 11 below.

The safe storage of seed is one of the most evident activities of a Genebank, and there is ample technical evidence of the most appropriate conditions to do so. However, and this is where the manuscript fails, what is stored is a) properly documented in most cases in a transparent and accessible way, b) periodically rejuvenated at intervals that depend on the storage conditions and the species, and c) distributed upon request. In the paper, there is no mention of a, b, and c, and for this reason, the paper cannot be accepted.

Should the paper be rewritten and resubmitted, these are some recommendations

1. Line 4 on page 1: Svalbard is not a Genebank.
2. The first line on page 2. The sentence is too vague: "The Earth is losing plant genetic diversity at an unparalleled rate." The following is more appropriate: "The Earth is losing biodiversity at an unparalleled rate, and plant genetic diversity is no exception." The authors should cite a recent paper in Nature (Shaw et al. 2025. Global meta-analysis shows action is needed to halt genetic diversity loss. Nature <https://doi.org/10.1038/s41586-024-08458-x>).
3. Line 11 on page 2. Delete "Specific," as resistance to heat and drought are quantitative traits.
4. Line 13 on page 2. Replace "Institutions" with "Genebanks."
5. Line 17 on page 2. Replace "they produce fresh material when needed." with "they rejuvenate their collections periodically."
6. Lines 25-26 on page 2. There is no independent information about the ICARDA Genebank in Syria, and therefore the sentence needs to be rephrased. A suggestion: replace "restock an

international genebank destroyed by the war in Syria.” with “ICARDA, as their Genebank was no longer accessible due to the war in Syria.”

7. Line 26 on page 2: add proper punctuation to 1267127.
8. The legend of Figure 1 and the first three lines below it are wrong. Those Genebanks that are under the Crop Trust umbrella have all their collections duplicated in a Genebank in a different country, and Svalbard is NOT considered as a duplication. Therefore, in several cases, the sample in Svalbard may have been deposited by a single Institution but could well be the third replicate of the same seed sample.
9. Line 5 below Figure 1: add proper punctuation to 171193.
10. Lines 9–10 on page 3, the statement will be more convincing if the specifications are clearly spelled out.
11. Line 12 on page 4: Wouldn’t “Diffuse” be a better term than “Distributed”?

Declarations

Potential competing interests: No potential competing interests to declare.