

Peer Review

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

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1. Independent researcher

I would reject this manuscript because, in my view, the problem it sets out to solve is not, in fact, a problem for the conservation of genetic diversity, and because the proposed solution neglects fundamental aspects of the necessary workflows that would be needed for implementation.

For me, the very first sentence is a warning that the author does not have a deep understanding of genetic erosion. The estimate of a 75% loss of agricultural biodiversity is a tired and almost meaningless statistic that really is not informative. There are better, quantitative studies of loss, admittedly under more restricted contexts, if you want to cite a number, but frankly, the number itself is not necessary for any subsequent argument about the value of genetic diversity. See, for example, <https://nph.onlinelibrary.wiley.com/doi/10.1111/nph.17733> Crop genetic erosion: understanding and responding to loss of crop diversity for a review.

"Seed diversity" is a new way of phrasing what is usually referred to as "genetic diversity," and I question the value of the phrase, especially when this sentence also adds the additional complication of multiple species per crop. It also fails to acknowledge the genetic diversity present in vegetatively propagated crops, some of which, *pace* the following paragraph, are also stored in genebanks.

At this point, I stopped making detailed notes because I did not see any need for the proposed solution, which involves some faddish ideas (blockchain, internet of things) and which gives no indication of how the airtight container and its packaged, labelled agricultural biodiversity arrives at my freezer. Picking on a single species of crop wild relative to suggest that "The low level of redundancy in the availability of seed samples backups for the majority of the species, might have serious consequences," is a giant leap and does not recognise either that Svalbard itself is not a

working collection or that there are additional safety duplicates of many crop cultivars and landraces.

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<p>While I accept that the paper offers a proof of concept, I do not see any need for the concept.</p>

Declarations

Potential competing interests: No potential competing interests to declare.