

# Review of: "Meta-Omics Analyses of Organic and Conventional Fermented Vegetables Reveal Differences in Health-Boosting Potential"

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Potential competing interests: No potential competing interests to declare.

The manuscript entitled Meta-Omics Analyses of Organic and Conventional Fermented Vegetables Reveal Differences in Health-Boosting Potential describes how a multi-omic approach serves to classify and characterize naturally fermented vegetable products according to their production system. The study seems innovative, presenting a novel strategy to study fermented foods and their implications in health that could set a precedent for future analysis. Overall, the paper is complete, and experimental sections are correctly presented. Results are well explained and properly discussed. However, some revisions need to be made. The abstract needs improvement and should emphasize why it is important to classify organic vs. conventional vegetables, as they influence microbiome composition, especially when using a natural fermentation process based on naturally occurring bacteria.

In the M&M section, it is unclear whether the vegetables studied are of the same variety. The manuscript mentions *Daucus carota subsp. sativus* for carrots, but peppers are referred to as conventional *Capsicum* and organic *Capsicum annuum*, while radishes are listed as *Raphanus sativus*. This should be revised, as it is well known that metabolomic differences exist between different varieties of the same species, which could affect the observed results in this manuscript (DOI: 10.1021/jf5014555).

Another suggestion is to replace HQ and DC in the LC-MS analysis with more descriptive phrases, such as "for organic acids determination" or "for amino acids determination." The manuscript structure and language should also be improved (there are several grammar mistakes in the abstract, introduction, and highlights).