

Reviewer 2.

Brief summary

Very interesting manuscript that addresses the use of reclaimed water in hydroponic rocket cultivation. It presents a clear and concise introduction. Material and methods are sufficient to understand the experimental design, the determinations necessary to achieve the objectives and their implication in meeting the estimated needs of dietary intake and the potential health risks associated with their consumption. The statistical treatment is adequate. Results are presented in an orderly and coherent manner; however, the results Tables could be improved to facilitate the reading of the manuscript. Although a full and clear discussion of the results is presented, the conclusions should avoid repetition of the results and respond exclusively to the hypothesis and objectives of the study.

We sincerely thank Reviewer 2 for appreciating our work and for her/his comments, which has helped us improve the quality of the manuscript.

We reply to Reviewer's comments point by point below.

Comment: Tables 4, 5 and 6 could be simplified by eliminating the standard deviation. The average values are justified in their significance by the letters that follow them, and the standard deviation is not used either in the description of the results or in the discussion, so it can be considered as superfluous and unnecessary information that makes the manuscript difficult to read. Conversely, references to deviations can be maintained in all references to the mean values presented in results and discussion, if they serve to make sense to data. Although it is not strictly necessary, the letters of significance could also be eliminated when there are no differences in the Tukey-Kramer analysis in both Tables and Figures. Figures 1, 2 and 3 could be clarified by removing the letters in cases where there are no differences for the parameters analyzed.

Reply: As requested, standard deviations have been removed from Tables 4, 5, 6. However, we prefer to retain the significance letters in both Figures and Tables, including cases where statistical differences were detected by the Tukey-Kramer analysis.

Comment: The GI and I values in Table 3 are represented as a percentage, so the number of decimals presented for the average value can be reduced (or eliminated). The same can be applied to the percentage values presented in Table 7 for % RDI and % A I.

Reply: As suggested, we have reduced the number of decimals in Table 3 and Table 7. We have retained one decimal to better highlight values below 1%.

Comment: Lines 106 to 112. At the end of the introduction, the working hypothesis should be specified before presenting the objectives of the study.

Reply: As suggested, the working hypothesis has been specified before the objective of the study (Lines 106-109).

Comment: Line 156: Why is the phytotoxicity test not performed on the fertigation solutions used in the experiment (TWW1DH and TWW2DH), which are the ones used in the culture conditions?

Reply: The phytotoxicity test was conducted as a preliminary assessment to exclude the presence of phytotoxic compounds in the TWWs (in their native and diluted form), to ensure their safety when used as nutrient solutions or a base for preparing nutrient solutions for hydroponics.

Comment: Lines 344, 358 and 396. (Tables 4, 5 and 6). Why were the two collections analysed separately? Are they statistically different? Shouldn't I analyse this factor in a two-factor ANOVA (Treatment x harvest) in order to separate the effects of treatments or harvests? Is it strictly necessary to present the standard deviation data in these Tables?

Reply: A two-way ANOVA (Treatment × Harvest) was not performed because the number of treatments differed between the two harvests (four treatments in the first harvest and three in the second), making a full factorial analysis unfeasible. Specifically, plants grown with native TWW1 did not regrow sufficiently to allow for a second harvest. For this reason, we analyzed each harvest separately to ensure that all treatments, including TWW1, could be considered in the analysis of the first harvest.

As suggested, standard deviation has been removed from the Tables 4, 5, and 6.

Comment: Line 36 et seq. (Section 3.4). It does not refer to nutrient consumption, only water consumption.

Comment: It would be convenient to express the results of WUE in the widely accepted sense of "amount of carbon assimilated per unit of water used by the crop and express it as such: (g· L⁻¹). This should apply specifically to fig. 2B.

Reply: Section 3.4 indeed refers to the volume of nutrient solution consumed (L), which was used to calculate Water Use Efficiency (WUE) by dividing this consumption by the total rocket production (kg). This is in accordance with Palmitessa et al., 2024. To improve clarity, we have slightly revised the relevant paragraph in the Materials and Methods section (Lines 229-232), and we have included a citation to the above-mentioned reference.

Regarding the concept of WUE, we acknowledge that WUE can be defined in physiological terms, as the amount of carbon assimilated per unit of water transpired, typically expressed in g·L⁻¹. However, in this study, our approach follows an agronomic perspective, which we believe to be more suitable for assessing water productivity at the crop level (see also: Parada et al., 2021. Optimizing irrigation in urban agriculture for tomato crops in rooftop greenhouses. Science of the total environment, 794, 148689).

Comment: lines 427 to 441. (Tables 7 and 8). The information contained in both tables is the same, expressed in a different way. Would it be sufficient to present Table 7 by eliminating Table 8? This would simplify reading and avoid unnecessary repetitions.

Reply: Actually, Tables 7 and 8 provide distinct types of information.

Table 7 refers to minerals that are essential nutrients for human health, where the EDI% indicates how much of a nutrient in a food serving contributes to the total daily recommended intake of that nutrient.

In contrast, Table 8 presents data on elements that may pose potential health risks. The EDI_{bw} normalizes the element intake by dividing the total intake by body weight, providing a dose per kg of body mass, which is crucial for risk assessment (HRI calculation). Therefore, the two tables address different aspects (nutritional contribution VS potential health risk), and we believe that presenting both is important for a comprehensive assessment of nutritional quality of rocket and food safety.

Comment: Lines 506-507 What do you mean by (used only in the first cycle)? There is only one crop cycle.

Reply: By "first cycle," we meant that TWW1 and TWW2 were used only during the first phase of the experiment, up to the first harvest. However, we agree that the phrase in brackets may cause confusion, and we have therefore removed it from the text.

Comment: Line 580-581. This conclusion is not supported by the results.

Comment: Lines 588 to 593. It presents results, not conclusions.

Reply: The Conclusion Section has been rewritten following the observations and suggestions of the Reviewer, avoiding repetitions of the results and conclusions not supported by the results.