

Dear Ms. Vicca,

First, we sincerely apologize for submitting a version that was not fully finalized. This time, we have carefully addressed all the required corrections with the utmost attention.

As you previously suggested, we removed the elemental analysis of the plants from Table 2 and instead included shoot biomass, root biomass, root-to-shoot ratio, phosphorus (P) concentration, and total P content (calculated as shoot biomass multiplied by P concentration). We also added p-values for each parameter.

Additionally, we have moved Figure 5 to the Results section, as recommended.

We are submitting a revised version of the manuscript, including both a tracked-changes version and a clean version. All line and page references in our responses correspond to the tracked-changes document. Our responses to your comments are provided in **bold**.

- It is still unclear what the p value in Table 2 is for. 'Biomass' is too generic. Should this be shoot biomass? Why are statistics not provided for the other variables in the table? Please provide statistical results for all variables presented in the Table (but see remarks below).

**R: Thank you for your constructive feedback. In response to your comment, we have clarified the p-values in Table 2. The p-values now correspond to comparisons between the control group and the dust and ash treatments under both aCO<sub>2</sub> and eCO<sub>2</sub> conditions, as well as between the +P and -P treatments under both conditions. We have also provided statistical results for all variables presented in the table, including shoot biomass, root biomass, root-to-shoot ratio, phosphorus concentration, and total P content (P11 L309).**

The text of section 3.2 is named 'Elemental analysis of plants' but only describes biomass responses and does not mention the treatment effects on the elemental concentrations. I previously suggested to remove the elemental analysis from the Table,

but you opted not to. If the elemental analyses are presented in Table 2, you should (1) provide statistical results, (2) describe the treatment effects on the element concentrations and (3) incorporate the findings in the discussion. Moreover, biomass data should be presented in section 3.1, not in section 3.2.

**R: As you suggested previously, we have removed the elemental analysis from Table 2. We also combined Section 3.2 with Section 3.1, now focusing on shoot biomass, root biomass, root/shoot ratio, P concentration, and total P, including their statistical p values, rather than providing full elemental results. Additionally, we have added Section 3.3 to describe Figure 5, which has been moved from the discussion section (P9 L278-283, P14 L379-386, P16 L407-414).**

I had overlooked this before, but similar to Table 2, Figure 5 should (1) report statistical results of the treatment effects, and (2) be incorporated in the Results section. Currently, this figure is only presented in the Discussion, without sufficient statistical support.

**R: Figure 5 has been moved to the Results section as requested (P19 L454-489). Statistical results and p-values are now provided in the figure legend (P19 L488-489).**

Further textual improvements are also needed for the text that is currently in section 3.2. The first 2 sentences merely describe Table 2. Such sentences that merely describe display items ('this table shows that') should be avoided and replaced by a relevant observation (e.g. Shoot biomass was significantly higher for +P than for -P treatments) followed by a reference to the table. Also the further description of the results needs to be improved. On l. 356-357, you write: "The results, based on a post hoc Tukey test, show that +P plants are significantly larger than -P plants." This is not sufficiently clear. Do you mean that shoot biomass was larger? The next sentences have similar issues regarding clarity and need further improvement.

**R: Thank you for your valuable comments. We apologize for the oversight and have revised the text as per your suggestion. We have merged sections 3.2 and 3.1 for improved clarity and flow (P9 L278-283).**

- Please also verify the reporting of the statistics. I noticed that some of the figure legends mention for example 'Asterisks represent statistically significant differences between bars ( $P < 0.05$ , Tukey test).' This is not a standard way to report statistical results. This should be rephrased: statistical differences are between treatments, not between bars and the Tukey test is only the posthoc test. The ANOVA analysis should be mentioned here.

Put in legend of every figure and make sure you have P value and \* in each figure and legend

**R: We have made the necessary corrections as per your suggestion. We rephrased the figure legends to clarify that statistical differences are between treatments and not between bars. Additionally, we now specify that the Tukey test is a post-hoc analysis following ANOVA. We have also ensured that the P values and asterisks are clearly indicated in the legends for each figure (P12 L339-340, P13 L367-368).**