

## REVIEWER REPORTS

### Reviewer Comments:

#### Reviewer 1

Dear Reviewer, thank you for your comments and feedback on improving the manuscript. Each suggestion will be addressed below. All changes in the manuscript are highlighted in red.

**Comments 1:** Materials and Methods are not clear enough. How many sprays were used in T1, T2, T3 and T4? Please add the manufacturers of all chemical insecticides and the three commercial biological control agents, and list a spray schedule to make the methods more clearly.

#### Response 1:

Thank you for the observation. We agree with this comment. We revised and improved its description, as indicated in the manuscript (lines 215-219; 228-232). In addition, we developed an application schedule for the chemical and biological treatments used for the management of *Bactericera cockerelli*. This file is provided in Supplementary Table 1, mentioned in the manuscript (line 248).

**Comments 2:** L190-195, the control treatment (T0) consisted solely of water. But all other treatments included an agricultural adjuvant, a pH regulator and a plant growth promoter was applied during the first three spray applications of the crop cycle. L200-205, why the control used 4 times of fungicides, but the 4 treatments did not. I wonder if these differences make the 4 treatments and the water control become not comparable.

#### Response 2:

Thank you for the comment. We apologize for the error regarding the mention of T0, which should have referred to T1, the chemical control, where conventional pest management was applied. The correct description has been updated in line 222.

**Comments 3:** L108-172 are too long. These parts can be shortened as they are not very closely related with the topic.

#### Response 3:

Thank you for the comment. To ensure the reproducibility of the study, we have incorporated more precise description of the climatic conditions, the crop under study, and the target insect. The inclusion of this information is pertinent, given that the presence of this insect in Peru is recent, and we consider it necessary to provide both textual and visual information that facilitates its identification and contextualizes the edaphoclimatic conditions during the research period. Additionally, following the suggestion of Reviewer 2, the description of variables related to agronomic management, landscape, and the crop was expanded, as these factors are closely linked to psyllid population dynamics. Nevertheless, we ensured that the Materials and Methods section remains concise and focused on the essential aspects required for reproducing the study.

**Comments 4:** L177, What does “the second row” means? How many rows were used?

**Response 4:**

Thank you for pointing this out. We have improved the wording. This description has been clarified in Section 2.4 Statistical design and treatments (lines 194-195).

**Comments 5:** L283, how to calculate the probability of purple-top? Why not the same as incidence of zebra chip disease (%)?

**Response 5:**

Thank you for the comment. This point has been clarified in item 2.8, Methodology for the Diagnosis of the Purple-Top Complex and Zebra Chip Disease. The probability (%) of the purple-top complex was then calculated for each treatment and replication based on the proportion of symptomatic plants relative to healthy plants, in order to allow the corresponding analysis (lines 312; 321–326). The results data were also modified according to the new calculation (lines 424–426).

**Comments 6:** The scientific names of potato and potato psyllid are not necessary after the first presence, such as potato *Solanum tuberosum* in L100, L141 and L158, potato psyllid *Bactericera cockerelli* in L139, 403 and 468.

**Response 6:**

Thank you for the comment. We agree with this comment. The scientific name of potato, *Solanum tuberosum*, was removed from lines L100, L141, and L158. Likewise, the scientific name of the potato psyllid, *Bactericera cockerelli*, was removed from lines L139, L403, and L468.

**Comments 7:** L313, “3.1 Insect Behavior” should be “population dynamic of potato psyllid”

**Response 7:**

Thank you for pointing this out. We agree with this comment. The text “3.1 Insect behavior” was replaced with “3.1 Population dynamics of the potato psyllid” (line 371). Due to the sequence of the document, the change was also made in the Discussion section: “4.1 Insect behavior” was replaced with “4.1 Population dynamics of the potato psyllid” (line 468).

**Comments 8:** Footnote fig 5, 6, and 7, to make them more self- explained. What is the unit of the vertical axis of Fig. 5? Is that number of per plant?

**Response 8:**

Thank you for pointing this out. We agree with this comment. Therefore, we have clarified the information in the footnotes and on the vertical axes of Figures 5, 6, and 7 to make them more self-explanatory. Yes, the data presented correspond to measurements per plant. These clarifications have been incorporated into the revised manuscript (lines 414-415; 434-438; 458-459).

**Comments 9:** In figure 5, the statistical analyses results of different time are different. The accumulated psyllid numbers (total psyllid number) are worth to analyses.

**Response 9:** Thank you for the comment. The authors consider it important to analyze the cumulative number of psyllids in order to enable an understanding of the population dynamics of the insect across its three developmental stages. This information has allowed for a discussion in relation to the statistical results among the different evaluation times, and it underscores the importance of considering the total number of psyllids.

**Comments 10:** How about the cost of the 4 control agents? It is worth to compare.

**Response 10:** Thank you very much for the information. Although the objective of the study was to evaluate the most effective control measure for the potato psyllid, the treatments assessed did not achieve an efficient level of pest suppression. For this reason, we consider that the cost information of the four control agents is not relevant for comparative purposes, as their limited efficacy prevents a meaningful economic or technical evaluation.