Research article

Response to Reviewer 3 Comments

1. **Summary**

Thank you very much for taking the time to review this manuscript. Please find the detailed responses below and the corresponding revisions/corrections highlighted in the re-submitted files.

2. **Point-by-point response to Comments and Suggestions for Authors**

General Comments: This manuscript provides information on the use of pesticidal plants in combination with organic and inorganic soil inputs for managing bean fly and *Fusarium* wilt damage to common beans. It lacks a working hypothesis, which I recommend including at the end of the introduction.

Response: Thanks for this constructive suggestion. The hypothesis has been included (Page No. 2, Paragraph No. 4, Line No. 85-87).

REVIEWER COMMENT ON INTRODUCTION:

Comment 1: A paragraph discussing the effect of soil fertility on the management of bean fly and Fusarium wilt damage to common beans is missing. The authors should clarify the novelty of this work and its contribution to scientific advancement. Additionally, a working hypothesis is lacking.

Response 1: Thank you for the keen observation. A paragraph discussing the effect of soil fertility on the management of bean fly and Fusarium wilt damage to common beans, novelty of our work and its contribution to scientific advancement novelty of this work and its contribution to scientific advancement a working hypothesis has been added (Page No. 2, Paragraph No. 4, Line No. lines 76-92).

Comment 2: Lines 40-41: Please correct: the Americas and …. [1,2].

Response 2: Thank you for the keen observation. The correction has been done (Page No. 1, Paragraph No. 2, Line No. Lines 39-40)

Comment 3: Line 66: Please correct the word: famers.

Response 3: Thank you for the keen observation. The correction has been done (Page No. 2, Paragraph No. 2, Line No. Line 66)

Comment 4: Line 71: Please put the full name of *T. vogelii*.

Response 4: Thank you for the keen observation. The correction has been done (Page No. 2,

Paragraph No. 3, Line No. Line 71)

REVIEWER COMMENT ON MATERIALS AND METHODS:

Comment 1: Line 91: Please use italics for *Fusarium*.
Response 1: Thank you for the keen observation. The word has been italicized (Page No. 3, Paragraph No. 2, Line No.100)

Comment 2: Line 158: Please provide more details about soil chemical and physical conditions, fertility, N and P availability, etc.
Response 2: Thank you for your comments. The details about soil chemical and physical conditions, fertility have been provided (Page No. 4, Paragraph No. 3, Line No.172-173).

Comment 3: Lines 238-241: Please provide more details about soil chemical and physical conditions, fertility, N and P availability, etc.
Response 3: Thank you for your comments. Details about soil chemical and physical conditions, fertility and P availability have been provided (Page No. 6, Paragraph No. 1, Line No. 261-263).

Comment 4: Line 253: The authors must provide details of the compost used.
Response 4: Thank you for your comments. Details of the compost used have been provided (Page No. 6, Paragraph No. 2, Line No. 275).

Comment 5: Line 253: Please provide more details of the DAP synthetic fertilizer used.
Response 5: Thank you for your comments. Details of the DAP synthetic fertilizer used have been provided (Page No. 6, Paragraph No. 2, Line No 276)

REVIEWER COMMENT ON RESULTS:

Reviewer comment 1: In all figures caption, please indicate that the displayed values represent averages and include ± SD or SE.

Author's response: Thanks for this constructive suggestion. The figure captions have included average ± SD or SE.

Reviewer comment 2: On table 1, please indicate that the displayed values represent averages and include ± SD or SE.

Author's response: Thank you for your suggestion. The table caption has included average

Reviewer comment 3: Lines 322-323: Please use italics for *Ophiomyia phaseoli.*

Thank you for the keen observation. The correction has been done (Lines 358)

Reviewer comment 4: Lines 327-328: Please remove the "a" from the phrase "where *T.*

minuta a had the highest yield." Additionally, there were no statistically significant differences observed between *T. minuta, A. indica, C. citratus,* and *T. vogelli*. The authors should explain the rationale for selecting *T. minuta.*

Author's response: Thank you for your comments. The "a" has been removed. It's true that there were no statistically significant differences observed between *T. minuta, A. indica, C. citratus,* and *T. vogelli*. The rationale for selecting *T.minuta* based on highest yield in grams not in statistic difference

Reviewer comment 5: Lines 342-343: Please provide the complete name of treatment.

Author's response: Thank you for your suggestion: The complete name of treatments have been provided (Lines 360-362).

Reviewer comment 6: Lines 349-351: No statistically significant differences were observed between the treatment *T. minuta* and *T. minuta* + 2g DAP + 120 g compost, and the other treatments (except for *T. minuta*+ 2g DAP + 30 g compost and the control-untreated).

Author's response: Thank you for your keen observation. Changes have been incorporated (Lines 367-370).

Reviewer comment 7: Lines 350-351: Please provide the complete name of treatment.

Author's response: Thank you for your suggestion: The complete name of treatments have been provided (Lines 367-370).

REVIEWER COMMENT ON DISCUSSION

Comment 1: This section is the least strong part of the manuscript.

Response 1: Thank you for your comments. Changes have been made to solidify the discussion

Comment 2: Lines 376-386: The authors should compare the results obtained with previous reports to determine if the observed effects are consistent with expectations or provide an explanation for any deviations from expected results.

Response 2: Thank you for your comments. The results obtained have been compared with previous reports (Page No. 12, Paragraph No. 1, Line No. 410-421).

Comment 3: Lines 402-404: The authors should expand on this explanation, as if the effects are due to an increase in soil fertility, the explanation of the obtained results should be modified or at least delve into the combination of enhanced soil fertility and the antifungal compounds of the applied extracts.

Response 3: Thank you for your comments. Further explanations have been provided (Page No. 2, Paragraph No. 4, Line No. 440-444).

Comment 4: Lines 410-411: Please elaborate on this argument: "Combining seed coating and foliar spray may have caused physiological disturbance to the bean plants which may have lowered yield.". What are the physiological effects that the applied treatments can cause? What information do the authors base on to suggest this effect?

Response 4: Thank you for pointing this out. Elaboration on the argument have been made (Page No. 13, Paragraph No. 2, Line No. 450-455)

Comment 5: Lines 424-427: Since the authors do not provide information on the fertility of the soils used (farmers and forest), it is difficult to follow this line of discussion. I suggest including information regarding the soils used in the Materials and Methods section.

Response 5: Thank you for your comments. The soil information for forest soil and farmers soils have been included (Page No. 4, Paragraph No. 3, Line No. 171-173) and (Page No. 6, Paragraph No. 1, Line No. 261-263) respectively.

Comment 6: Lines 445-446: There is no statistical support to substantiate this claim; if the authors followed a different strategy to choose this treatment, they should explain it in detail.

Response 6: Thank you for your comments. Hope the lines mentioned were 448-449. The reason for choosing the treatment have been provided (Page No. 14, Paragraph No. 1, Line No. 486)

Comment 7: Lines 459-462: The authors should expand on this explanation: "However, combination of pesticidal plant with DAP and 30 g of compost resulted into low yield compared to their single treatment which could be due to one season experiment where it was difficult to discern systematic variation in the treatments from the different inputs, due to high levels of variability".

Response 7: Thank you for your comments. Explanation have been provided (Page No. 14, Paragraph No. 2, Line No. 501)

Comment 8: Lines 464-467: The authors should display the values of soil fertility for both treatments (compost or DAP fertilizer) at the end of the experiment. Otherwise, this argument remains highly speculative.

Response 8: Thank you for pointing this out. However, value of soil fertility for both treatments were not measured. However, explanation about their rationale in common bean have been provided (Page No. 14, Paragraph No. 2, Line No. 513-517)

REVIEWER COMMENT ON CONCLUSION:

Comments: The authors should rewrite this section according to the comments made in the discussion.

Response: Thank you for your comments. The conclusion has been adjusted (Page No. 15, Paragraph No. 1, Line No. 538-540).