We would like to sincerely thank the referee for the evaluation of our manuscript and for the constructive comments. We highly appreciate the time and effort invested in reviewing our work. The suggestions provided have been extremely valuable in improving the clarity and scientific rigor of the manuscript.

In response, we are thoroughly revising the manuscript to better clarify the novelty, strengthen the soil-science perspective, and improve methodological transparency.

Below, we provide a detailed, point-by-point response to the comments.

Reviewer comment: The manuscript lacks sufficient clarity in terms of novelty, soil-science focus, hypothesis, and methodological description, and therefore requires major revision.

Response: We fully agree that these aspects required strengthening. Accordingly, we will make substantial revisions throughout the manuscript to:

- clearly define the knowledge gap and scientific contribution of the study,
- reinforce the soil-science framework, particularly the role of rhizosphere processes in saline environments,
- explicitly formulate a clear scientific hypothesis,
- and significantly improve the description of the sampling design, soil characteristics, and analytical methods.

These changes will considerably improve the scientific positioning and clarity of the manuscript.

Reviewer comment: The Introduction does not clearly define the knowledge gap, lacks sufficient contextualization within PGPR research, does not justify the relevance of *Lotus creticus*, and does not include a clear hypothesis or strong soil-science focus.

Response: We thank the reviewer for this important comment. We acknowledge that the initial version of the Introduction did not sufficiently emphasize the novelty and scientific positioning of the study. To address this, we will revise the Introduction as follows:

1. **Clarification of the knowledge gap**

We will explicitly define the knowledge gap by emphasizing that, although PGPR have been widely studied, rhizobacteria associated with native halophytic legumes growing in Mediterranean coastal saline soils remain insufficiently explored, particularly under combined salinity and nutrient limitation conditions.

This clarification allows the study to be better positioned within the existing literature and highlights its contribution.

2. **Improved contextualization within PGPR research**

We will expand the literature review to better integrate recent studies on PGPR mechanisms, including nutrient mobilization, phytohormone production, and stress alleviation under saline conditions. This provides a clearer framework for understanding how the selected strains contribute to plant growth promotion.

3. **Justification of *Lotus creticus* as a relevant study system**

The Introduction will be revised to better highlight that *Lotus creticus* is:

- a native halophytic legume adapted to saline and nutrient-poor coastal soils,
- widely recognized for its role in ecological restoration, soil stabilization, and nutritive quality.
- and therefore, represents a relevant ecological niche for selecting stress-adapted rhizobacteria.

This clarification strengthens the ecological and scientific relevance of the study.

4. **Strengthening of the soil-science perspective**

We will reinforce the soil-science dimension by explicitly linking:

- the constraints of saline soils (nutrient limitation, osmotic stress, ionic imbalance),
- the role of the plant growth-promoting functions of PGPR.

This improved framing will highlight the importance of microbial-mediated processes in nutrient cycling and plant adaptation under saline conditions.

5. **Clarification of the representativeness of the study area**

We have clarified that the studied soils are representative of Mediterranean coastal saline ecosystems, characterized by alkaline pH, sandy texture, and low nutrient availability. Their relevance extends beyond the local scale, as such environments are increasingly widespread under global land degradation and climate change.

6. **Addition of a clear scientific hypothesis**

We have now included a clear hypothesis in the Introduction: we suggest that the rhizosphere of *Lotus creticus* in saline and nutrient-limited environments may host a diverse community of bacteria with strong plant growth–promoting traits, which could enhance tolerance and performance of *Lotus creticus* under stressful conditions. Accordingly, this study aims to explore the diversity and functional capabilities of these associated bacterial strains.

7. **Clear statement of novelty**

Finally, we have explicitly clarified the novelty of the work, which lies in:

- the exploration of native halophyte-associated rhizobacteria,
- their multi-trait functional characterization,

- and their potential application in saline soil rehabilitation and sustainable agriculture.

We believe that these revisions will significantly improve the clarity and scientific contribution of the manuscript.

Technical Corrections

We thank the reviewer for these careful and valuable observations, which have helped us improve the accuracy and clarity of the manuscript. All the points raised have been carefully checked and corrected as detailed below.

1. **Figure 3 readability**

Reviewer comment: Some values are close to zero and difficult to distinguish; the figure should be improved.

Response: We agree with the reviewer that the original scale of Figure 3 limited the readability of low values. The figure has been revised to improve clarity by:

- increasing the visual contrast between bars,
- and improving the resolution and labeling.

These modifications allow for a clearer distinction between treatments, particularly for values close to zero.

2. **Inconsistency in the salinity tolerance of strain R8**

Reviewer comment: Table 5 indicates 9%, while line 256 reports 11%.

Response: We thank the reviewer for identifying this inconsistency. After verification, we confirm that the correct salinity tolerance value for strain R8 is 9% NaCl, as reported in Table 5.

The text has been corrected to ensure consistency throughout the manuscript.

3. **Root length inconsistency (Figure 4 vs text)**

Reviewer comment: Figure 4 suggests a significant decrease in root length under R150, while the text states no significant difference.

Response: We appreciate the reviewer for highlighting this discrepancy. Upon re-examination of the data and statistical analysis, we confirm that:

- The root length under R150 treatment is indeed significantly lower than the control and some other treatments, as correctly shown in Figure 4.

The statement in the text has therefore been revised to accurately reflect the statistical results and ensure consistency with the figure.

4. **Chitinase activity wording for P79**

Reviewer comment: Chitinase activity is “moderate” in Table 4; wording in text should be more cautious.

Response: We agree with the reviewer. The description of chitinase activity for strain P79 has been revised to reflect its moderate level, in accordance with Table 4.

The wording in the Discussion has been adjusted to ensure consistency and avoid overinterpretation.

Final Statement

Once again, we sincerely thank the referee for the thorough evaluation of our manuscript and for the constructive comments provided. We believe that the revisions that will be made in response to these comments will significantly improve the clarity, scientific rigor, and overall quality of the manuscript. We hope that the revised version adequately addresses all the concerns raised and meets the expectations for publication. We remain at the disposal of the referee and the editor for any further clarification or additional revisions if required.