

With reference to article #52899 titled “The Microphenotron: A novel method for screening plant growth-promoting rhizobacteria” a revised version of the article is submitted for further consideration and processing. The article has been revised as per reviewer suggestions. Point to point response follow below:

## **RESPONSE TO EDITORS’ COMMENTS**

We are very thankful to the Editor to provide us with another opportunity to revise this article. All the sections of this article have been revised keeping in view the ‘reviewer 3’ comments. The introduction, methods, results, and discussion have been modified in the revised version. Figures 4 and 5 have been converted to “Box and Whisker plot” according to the reviewer’s suggestion. Moreover, an effort has been made to remove the grammatical errors in this article.

## **RESPONSE TO “REVIEWER 3” COMMENTS**

### ***Basic Reporting***

We are very thankful for the worthy ‘reviewer 3’ comments to improve the text of this manuscript. Abstract and introduction sections have been revised according to his valuable suggestions. Abstract has been divided into different sections i.e., background, methods, and results/ conclusion.

For the introduction, we have also followed the reviewer’s outline for revision. In the first paragraph, we have given the critical role of PGPR in field study and other factors that can influence microbial performance in the field. However, we have retained literature related to the role of phytohormones in plant growth promotion as we have used mutant lines of *Arabidopsis thaliana* impaired in auxin/ ethylene signaling. In the previous revision, we have already discussed the significance of ‘Microphenotron’ to select effective PGPR. Nevertheless, in this revision, we have also given the importance of ‘Microphenotron’ in the screening of PGPR for pot trials.

### ***Experimental design***

For pot trials, the confusion related to the number of replicates is already addressed in the previous revision. For each strain, three pots were placed, and the experiment was repeated three times. In this way, we collected data for 27 seedlings from three experiments. It has been mentioned in lines 278-280 in the revised manuscript. Figure 7 has been revised and converted into 2 figures i.e., 7 and 8. Moreover, information for the respective control treatment is also

given for each growth parameter. Boxplot and whiskers analysis showed the growth response for different vegetative growth parameters.

Moreover, in the discussion section, we have included “Figure 9” to show the comparison growth in ‘Microphenotron’ and pot trials. We have made a comparison of ‘root length’ from Microphenotron and ‘rosette fresh weight’ from pot trials as per the reviewer’s suggestion.

### ***Response to Additional Comments***

1. Bars in figure 4 and 5 have been replaced with Box and Whisker plots according to reviewer’s suggestion.
2. Line 25: Phrase is revised to “that uses 96-well”
3. Line 26: “of *Arabidopsis*” is deleted
4. Line 29: “or” is replaced with “and”
5. Line 30: Authority citation is removed, and species name revised to “*Acacia arabica*”
6. Line 30: “The final taxonomic status of bacterial strains was confirmed through” is replaced with “The phylogeny of these rhizobacteria was determined by...”.
7. Line 34: Strains have been defined according to reviewer’s suggestion. Moreover, “and the highest activity was exhibited by *Bacillus endophyticus* S-6” replaced with “A strain (S-6) of *Bacillus endophyticus* exhibited the highest activity”.
8. Line 35: Methods section is added in the revised abstract as suggested by worthy reviewer.
9. Line 38: Sentence has been revised to “Two strains (S-7 and S-11) of *Psychrobacter alimentarius* produced the most IAA, ICA and ILA.”
10. Line 54: Phrase is revised to “(PGPR) play a critical role in soil fertility.” Moreover, “and plant growth promotion” is deleted from the sentence.
11. Line 55: Sentence is revised to “An incomplete understanding of the mechanisms of plant growth promotion hinders the application....”
12. Line 57: “the” is deleted
13. Line 60: “bacterial metabolites” is deleted and “has” replaced with “have”
14. Line 61: Phrase is replaced with “does not consistently predict”
15. Line 62: Sentences have been amended to remove the confusion about greenhouse and *in vitro* techniques.
16. Line 65: Sentences have been reordered as per reviewer’s suggestion.

17. Line 69: Contradiction in these sentences has been corrected.

18. Line 345: Sentence is started with “Forde et al. (2013) developed.....”