

### Review Form 3

Journal Name:	<a href="#">Journal of Advances in Microbiology</a>
Manuscript Number:	Ms_JAMB_128572
Title of the Manuscript:	Evaluation in vitro of potential for plant growth promotion detected in nodule endophyte bacteria of Bambara groundnut ( <i>Vigna Subterranea L.</i> ) from agricultural soils in Cote d'Ivoire
Type of the Article	Original Research Article

#### General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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#### PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<b>Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.</b>	This manuscript holds significant value for the scientific community as it explores sustainable alternatives to chemical fertilizers by studying plant growth-promoting endophytes. The identification of bacterial strains with high efficiency in phosphate solubilization, IAA production, and siderophore production offers practical insights for enhancing crop productivity in an environmentally friendly way. The use of endophytic bacteria from Bambara groundnut nodules is a novel and region-specific approach, which adds value to the research.	
<b>Is the title of the article suitable? (If not please suggest an alternative title)</b>	<p>The current title of the article, "Evaluation in vitro of potential for plant growth promotion detected in nodule endophyte bacteria of Bambara groundnut (<i>Vigna Subterranea L.</i>) from agricultural soils in Cote d'Ivoire," is informative but could be made more concise and engaging. While it effectively conveys the study's focus, the phrasing is lengthy and somewhat cumbersome.</p> <p>Suggested Alternative Titles:</p> <ol style="list-style-type: none"> <li>"In Vitro Evaluation of Plant Growth-Promoting Endophytes from Bambara Groundnut Nodules in Côte d'Ivoire"</li> <li>"Potential Biofertilizers: PGPR Traits of Bambara Groundnut Nodule Endophytes in Côte d'Ivoire"</li> <li>"Plant Growth-Promoting Endophytes Isolated from Bambara Groundnut Nodules: In Vitro Assessment"</li> <li>"Exploring Endophytic Bacteria for Sustainable Agriculture: A Study on Bambara Groundnut"</li> </ol> <p>Additional comments: -proper formatting according to scientific conventions. The scientific name should always be italicized, with the genus name capitalized (<i>Vigna</i>) and the species name lowercase (<i>subterranea</i>). Additionally, the authority abbreviation ("L.") is part of the name and should not be italicized but still included.</p>	

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<p><b>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</b></p>	<p>The abstract provides a general overview of the study, highlighting the objectives, methods, and key findings. However, it could be made more comprehensive by improving its structure, providing more detail on the context and significance of the study, and clarifying key points.</p> <p>Background: Briefly explain the significance of using biofertilizers and the environmental context of the study. For example, mention the need for sustainable agriculture and the problems with chemical fertilizers.</p> <p>Methodology: Provide a clearer summary of the methods used, such as the number of bacterial strains tested and the specific assays performed (e.g., phosphate solubilization, IAA production).</p> <p>Significance: Highlight the potential real-world applications of the findings, such as reducing chemical fertilizer dependence or improving crop yields.</p> <p>Field Testing: Mention the ultimate goal of validating the findings in field trials to emphasize practical relevance.</p> <p>The abstract provides a general overview of the study, highlighting the objectives, methods, and key findings. However, it could be made more comprehensive by improving its structure, providing more detail on the context and significance of the study, and clarifying key points. Below are specific suggestions for improvement:</p> <p>Strengths of the Abstract:          Purpose: The objective of the study is clearly stated—evaluating the plant growth-promoting potential of endophytic bacteria isolated from Bambara groundnut nodules.          Key Results: Specific findings, such as the production of IAA, phosphate solubilization, and siderophore production, are mentioned with quantitative details, making it informative.          Conclusion: The mention of multi-PGPR traits and the suggestion to test strains under field conditions provide a forward-looking perspective.          Suggested Additions:          Background: Briefly explain the significance of using biofertilizers and the environmental context of the study. For example, mention the need for sustainable agriculture and the problems with chemical fertilizers.          Methodology: Provide a clearer summary of the methods used, such as the number of bacterial strains tested and the specific assays performed (e.g., phosphate solubilization, IAA production).          Significance: Highlight the potential real-world applications of the findings, such as reducing chemical fertilizer dependence or improving crop yields.          Field Testing: Mention the ultimate goal of validating the findings in field trials to emphasize practical relevance.</p> <p>Suggested Deletions or Refinements:          Technical Jargon: Avoid excessive technical details in the abstract, such as specific strain names (e.g., RFK12, RFK34). Instead, focus on broader trends and significant outcomes.</p> <p>Repetition: Streamline phrases to avoid redundancy, such as repeated mentions of IAA and phosphate solubilization ranges.</p>	
<p><b>Is the manuscript scientifically correct? Please write here.</b></p>	<p>The manuscript is scientifically correct, but its overall impact could be strengthened by addressing the following:</p> <ul style="list-style-type: none"> <li>• Expanding the context and discussion to include broader ecological and practical implications.</li> <li>• Enhancing the language to improve clarity and professionalism.</li> </ul>	
<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p>	<p>The references in the manuscript provide a solid foundation for the study, covering key topics such as PGPR traits, biofertilizers, and sustainable agriculture. However, there are areas where the references could be enhanced, particularly in terms of recency and comprehensiveness.</p> <p>Suggestions for Additional References:          Recent Reviews on PGPR and Biofertilizers:</p> <p>Adesemoye, A. O., &amp; Kloepper, J. W. (2009). Plant–microbes interactions in enhanced fertilizer-use efficiency. <i>Applied Microbiology and Biotechnology</i>, 85(1), 1-12. <a href="https://doi.org/10.1007/s00253-009-2196-0">https://doi.org/10.1007/s00253-009-2196-0</a></p> <p>Radhakrishnan, R., Hashem, A., &amp; Abd_Allah, E. F. (2017). Alleviation of salt stress in crop plants by plant growth-promoting rhizobacteria: Current development and emerging challenges. <i>Frontiers in Microbiology</i>, 8, 1900.</p>	

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	<p><a href="https://doi.org/10.3389/fmicb.2017.01900">https://doi.org/10.3389/fmicb.2017.01900</a></p> <p>Ecological and Environmental Impact of PGPR:</p> <p>Bhardwaj, D., Ansari, M. W., Sahoo, R. K., &amp; Tuteja, N. (2014). Biofertilizers function as key player in sustainable agriculture by improving soil fertility, plant tolerance, and crop productivity. <i>Microbial Cell Factories</i>, 13, 66. <a href="https://doi.org/10.1186/1475-2859-13-66">https://doi.org/10.1186/1475-2859-13-66</a></p> <p>Recent Studies on Specific Traits:</p> <p>Ma, Y., Rajkumar, M., &amp; Freitas, H. (2009). Improvement of plant growth and nickel uptake by nickel resistant-plant-growth promoting bacteria. <i>Journal of Hazardous Materials</i>, 166(2-3), 1154-1161. <a href="https://doi.org/10.1016/j.jhazmat.2008.12.020">https://doi.org/10.1016/j.jhazmat.2008.12.020</a></p> <p>Commercial Applications of PGPR:</p> <p>Backer, R., Rokem, J. S., Ilangumaran, G., et al. (2018). Plant growth-promoting rhizobacteria: context, mechanisms of action, and roadmap to commercialization. <i>Frontiers in Plant Science</i>, 9, 1473. <a href="https://doi.org/10.3389/fpls.2018.01473">https://doi.org/10.3389/fpls.2018.01473</a></p> <p>Field Validation of PGPR:</p> <p>Choudhary, D. K., Prakash, A., &amp; Johri, B. N. (2007). Induced systemic resistance (ISR) in plants: mechanism of action. <i>Indian Journal of Microbiology</i>, 47(4), 289-297. <a href="https://doi.org/10.1007/s12088-007-0054-2">https://doi.org/10.1007/s12088-007-0054-2</a></p>	
<p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	<p>The scientific merit of the manuscript is clear, but the language quality needs significant improvement to meet the standards of scholarly communication.</p> <p>The paper has frequent grammatical errors and typos, which detract from its professionalism. Examples include:          "can promote plant growth trough mobilization nutrients..." (should be "through mobilization of nutrients").          "the capacities of these strains would be linked to their intrinsic characteristics..." (should improve clarity and structure).</p> <p>Numerous instances of missing articles (e.g., "the") and inconsistent verb tenses.</p> <p>Improving language quality is essential for better readability and comprehension.</p> <p><b>Suggestions for Improvement</b>          Editing and Proofreading:</p> <p>Professional editing is required to address grammar, syntax, and typographical issues. This would make the paper more accessible to a broader audience.</p>	
<p><b>Optional/General</b> comments</p>	<p>This paper has a solid foundation and addresses an important topic in sustainable agriculture. However, its impact could be significantly improved through better language quality, expanded literature context and a more critical discussion.</p>	

**PART 2:**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Are there ethical issues in this manuscript?</b></p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

**Reviewer Details:**

<p>Name:</p>	<p><b>Rachel J. Sarol</b></p>
<p>Department, University &amp; Country</p>	<p><b>Sugar Regulatory Administration, Philippines</b></p>