

Review Form 3

Journal Name:	Journal of Advances in Biology & Biotechnology
Manuscript Number:	Ms_JABB_128802
Title of the Manuscript:	A COMPARATIVE STUDY OF BIOFERTILIZERS AND BIOINOCULANTS ON YIELD PARAMETERS, NUTRIENT STATUS AND SOIL MICROORGANISMS OF MANGO CV. MALLIKA IN MIDDLE GUJARAT CONDITION
Type of the Article	Original Research

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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>
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.	This manuscript provides valuable insights into sustainable agricultural practices by evaluating the effects of biofertilizers and bioinoculants on mango cultivation under the middle Gujarat conditions. By addressing both yield parameters and soil health, it demonstrates how these biological amendments can enhance fruit production while improving soil microbial activity and nutrient status. Such findings are pivotal for transitioning towards eco-friendly and sustainable horticulture, reducing dependency on chemical fertilizers, and promoting international standards for export-quality mangoes. The study's implications are especially relevant in the context of improving productivity and profitability in mango orchards while supporting environmental conservation.	
Is the title of the article suitable? (If not please suggest an alternative title)	<p>Suggestions for improvement:</p> <ol style="list-style-type: none"> The title is a bit long, which could make it less appealing or harder to grasp quickly. The phrase "Middle Gujarat condition" could be rephrased more succinctly. <p>Revised Suggestion: "Comparative Effects of Biofertilizers and Bioinoculants on Yield, Nutrient Dynamics, and Soil Microorganisms in Mango cv. Mallika under Middle Gujarat Conditions"</p>	

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<p>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.</p>	<p>The abstract of the manuscript presents a good summary of the study but has room for improvement to enhance its comprehensiveness and clarity. Below is an analysis:</p> <p>Areas for Improvement:</p> <ol style="list-style-type: none"> Structure and Flow: <ul style="list-style-type: none"> The abstract lacks a clear structure with distinct sections (e.g., introduction, methods, results, conclusion) and could improve readability by organizing it logically. Conciseness: <ul style="list-style-type: none"> Some parts could be expressed more succinctly without compromising the information. Lack of Context for Significance: <ul style="list-style-type: none"> The abstract does not explain why the findings are significant or how they advance knowledge in sustainable agriculture or mango cultivation. Clarity of Technical Terms: <ul style="list-style-type: none"> Some technical terms (e.g., "pea stage," "Bio NPK Consortium," "VAM") are not explained, which may confuse readers unfamiliar with the subject. <p>Suggested Revision:</p> <p>Abstract: The study investigates the effects of biofertilizers and bioinoculants on yield, nutrient status, and soil microorganisms in mango (<i>Mangifera indica</i> L.) cv. Mallika under middle Gujarat conditions. A two-year field experiment (2019-21) was conducted using a factorial CRD design with biofertilizer drenching treatments [Bio NPK Consortium, VAM, combination of both, and control] and bioinoculant sprays [seaweed extract, novel organic liquid nutrient, jeevamrut, and control]. Results revealed that the combined application of Bio NPK Consortium (10 ml/tree) + VAM (10 g/tree) with novel organic liquid nutrient (2% spray) significantly enhanced fruit yield, nitrogen, phosphorus, and potassium content in leaves, and microbial population in soil. These findings demonstrate the potential of integrating biofertilizers and bioinoculants for improving sustainable mango production while maintaining soil health.</p>	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>The manuscript appears to be scientifically accurate based on the provided content. It systematically explores the effects of biofertilizers and bioinoculants on yield parameters, nutrient status, and soil microorganisms in mango cultivation under Middle Gujarat conditions. The study aligns with established scientific methodologies, such as field experimentation using a factorial completely randomized design (CRD), replication, and pooled analysis of results across two years.</p> <p>Key Scientific Aspects:</p> <ol style="list-style-type: none"> Experiment Design: <ul style="list-style-type: none"> The use of CRD with replicated treatments ensures statistical rigor and reproducibility. The application of biofertilizers and bioinoculants with clear treatment combinations is well-defined. Parameters Studied: <ul style="list-style-type: none"> Evaluation of fruit yield, leaf nutrient status (NPK), and soil microbial population are relevant for assessing the impact of biofertilizers on crop production and soil health. Analysis methods, like Kjeldahl digestion for nitrogen and flame photometry for potassium, follow standard protocols. Findings: <ul style="list-style-type: none"> The findings are logically interpreted and supported by citations from previous studies, ensuring consistency with existing literature. Practical Implications: <ul style="list-style-type: none"> The research emphasizes sustainable agriculture by replacing chemical inputs with bio-based alternatives, which is both scientifically and socially significant. <p>Minor Suggestions:</p> <ol style="list-style-type: none"> Explanatory Details: 	

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	<ul style="list-style-type: none"> • Some technical terms and methodologies (e.g., the concept of "pea stage" in mango development) might need clearer explanations for a broader audience. <p>2. Data Representation:</p> <ul style="list-style-type: none"> • Including graphical or visual representations (if not already present) would help in visualizing interactions between treatments. <p>3. Generalizability:</p> <ul style="list-style-type: none"> • While results are valid for Middle Gujarat, the manuscript could briefly discuss how findings might apply to similar agro-climatic regions. 	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>Assessment of References: The manuscript includes a substantial number of references covering topics like biofertilizers, bioinoculants, nutrient management, and soil health, which are essential to the study. However, there are areas where improvements can be made:</p> <p>Suggested Additional References: Here are some recent references that might be useful for enriching the manuscript:</p> <ol style="list-style-type: none"> 1. Advances in Biofertilizers: <ul style="list-style-type: none"> • Kalayu, G. (2019). "Phylogenetic Diversity and Potential Application of Plant Growth–Promoting Rhizobacteria for Sustainable Agriculture." <i>International Journal of Agronomy</i>, 2019. This paper discusses recent advancements in biofertilizers and plant growth–promoting rhizobacteria, which align with the manuscript's theme. 2. Sustainable Mango Cultivation: <ul style="list-style-type: none"> • Chaves, S. A., and Oliveira, M. T. (2021). "Integrating organic amendments and beneficial microorganisms in mango orchards: Effects on yield and soil health." <i>Agronomy</i>, 11(2):234-239. 3. Microbial Interactions in Soil Fertility: <ul style="list-style-type: none"> • Meena, V. S., et al. (2021). "Harnessing Microbial Interactions to Improve Nutrient Use Efficiency and Crop Productivity." <i>Frontiers in Microbiology</i>, 12:701224. This provides insights into how microbial consortia like VAM can enhance nutrient dynamics and soil fertility. 4. Emerging Role of Biostimulants: <ul style="list-style-type: none"> • Rouphael, Y., and Colla, G. (2020). "Biostimulants in Agriculture." <i>Frontiers in Plant Science</i>, 11:40-45. This discusses biostimulants like seaweed extract, further justifying their inclusion in the experimental treatments. <p>Final Recommendation: While the references currently cited provide a solid foundation, incorporating these more recent studies would add value to the manuscript and reflect the latest advancements in biofertilizers and sustainable agriculture. I recommend updating the reference list and aligning the discussion with contemporary findings.</p>	

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language quality of the manuscript is generally understandable for scholarly communication, but there are areas that can benefit from refinement for better readability, clarity, and adherence to academic writing standards. Here is a detailed assessment:</p> <p>Areas for Improvement:</p> <ol style="list-style-type: none"> Grammar and Syntax: <ul style="list-style-type: none"> Instances of inconsistent sentence structure and unnecessary repetition can be simplified for precision and coherence. Example: <i>"Yield, nutrient status of leaf and soil microorganisms were counted after harvesting of crop under different biofertilizers and bioinoculants treatments and effects were determined."</i> <ul style="list-style-type: none"> Suggested Revision: <i>"The effects of different biofertilizer and bioinoculant treatments on yield, leaf nutrient status, and soil microorganisms were evaluated post-harvest."</i> Clarity and Brevity: <ul style="list-style-type: none"> Overly complex sentences can obscure meaning. Breaking them into shorter, clearer sentences will improve comprehension. Example: <i>"Maximum number of fruits per tree might be due to supply of all the nutrients in adequate right from starting of the experiment to the harvesting of the crop, which induced more retention of fruits by supply of photosynthates at critical requirement stage and that resulted into the higher number of fruits per tree and increased fruit yield."</i> <ul style="list-style-type: none"> Suggested Revision: <i>"The maximum number of fruits per tree may be attributed to the adequate nutrient supply throughout the experimental period, which improved fruit retention by providing photosynthates at critical stages, ultimately increasing fruit yield."</i> Professional Tone: <ul style="list-style-type: none"> Certain phrases lack a polished scholarly tone. Example: <i>"Demand of chemical free mangoes has increased and farmers are able to receive higher prices by exporting of mango fruits and farmers are also diverted towards the INM cultivation."</i> <ul style="list-style-type: none"> Suggested Revision: <i>"The rising demand for chemical-free mangoes has incentivized farmers to adopt Integrated Nutrient Management (INM) practices, enabling them to meet export standards and achieve higher market prices."</i> Formatting and Terminology: <ul style="list-style-type: none"> Use of acronyms and technical terms (e.g., INM, Bio NPK Consortium, VAM) should include initial explanations for accessibility to non-specialists. Subheadings, tables, and figures should follow consistent formatting aligned with journal submission guidelines. <p>Recommendations for Improvement:</p> <ol style="list-style-type: none"> Grammar Editing: <ul style="list-style-type: none"> A detailed grammar check, either manually or via tools like Grammarly, can help eliminate minor errors. Academic Proofreading: <ul style="list-style-type: none"> Seek professional language editing services specific to scientific publications for polishing the tone and style. Consistency: <ul style="list-style-type: none"> Maintain uniformity in tenses (present or past) and phrasing of technical descriptions. 	
<p>Optional/General comments</p>	<ul style="list-style-type: none"> Scientific Quality: The manuscript effectively explores the impacts of biofertilizers and bioinoculants on mango cultivation, contributing valuable insights into sustainable agricultural practices. The experimental design is sound, and the results appear well-supported. However, the study could benefit from more recent references and a deeper discussion of its broader implications. Clarity of Language: While the language is generally understandable, there are areas where the sentences can be more concise and polished for better scholarly communication. Grammatical refinement and improved 	

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	<p>readability would strengthen the manuscript's professionalism.</p> <ul style="list-style-type: none">• Ethical Considerations: The manuscript does not appear to contain any ethical issues such as plagiarism, conflict of interest, or unethical research practices. However, clearer declarations regarding conflicts of interest and funding would enhance transparency.• Relevance: The manuscript is highly relevant to the field of sustainable agriculture and biofertilizers. It could potentially have a broader impact by expanding on its applicability to various agro-climatic zones beyond the focus on Gujarat. <p>Suggestions for Improvement:</p> <ul style="list-style-type: none">• Use more recent references to support findings.• Improve sentence structure and clarity in some sections. <p>Include a clearer conflict of interest and acknowledgment statement.</p>	
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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)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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