

REVIEWER'S REPORT

Manuscript No.: JNAVS -035

Title: ROLE OF BIOFERTILIZERS IN SUSTAINABLE CROP PRODUCTION AND SOIL FERTILITY ENHANCEMENT: A REVIEW.

Recommendation:

Accept as it is

Accept after minor revision.....

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality	✓			
Clarity	✓			
Significance	✓			

Reviewer Id: JPR-149

Reviewer's Comment for Publication.

The manuscript provides a comprehensive review of the role of biofertilizers in sustainable crop production and soil fertility improvement. The topic is highly relevant due to increasing concerns regarding excessive chemical fertilizer use, soil degradation, environmental pollution, and the need for sustainable agricultural practices. The manuscript effectively discusses different types of biofertilizers, their mechanisms of action, benefits, applications, limitations, and future prospects.

Strengths:

1. The manuscript addresses an important aspect of sustainable agriculture and environmentally friendly nutrient management.
2. The review is well structured and presents information in a clear and systematic manner.
3. Different categories of biofertilizers, including nitrogen-fixing microorganisms, phosphate-solubilizing microbes, potassium-solubilizing microbes, and mycorrhizal fungi, are appropriately discussed.
4. The explanation of mechanisms such as nitrogen fixation, nutrient solubilization, plant growth promotion, and disease suppression improves the scientific value of the manuscript.
5. The manuscript highlights the role of biofertilizers in improving soil health, reducing chemical fertilizer dependency, and supporting long-term agricultural sustainability.

Minor Revisions Suggested:

1. Include more recent research publications (2020–2025) to provide updated information on advances in microbial inoculants, biofertilizer formulations, and field applications.
2. Add quantitative data or examples showing yield improvement, fertilizer reduction, and economic benefits associated with biofertilizer use.
3. Include a comparative table summarizing different types of biofertilizers, microorganisms involved, target nutrients, advantages, and limitations.

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4. Expand the discussion on factors affecting biofertilizer performance, including soil conditions, climate, microbial compatibility, and application methods.
5. Provide more information on advanced developments such as nano-biofertilizers, microbial consortia, and precision-based biofertilizer applications.
6. Strengthen the section on adoption challenges by discussing commercialization issues, quality control, regulatory aspects, and farmer awareness.
7. Ensure consistency in reference formatting and improve citation coverage throughout the manuscript.

Overall Assessment:

The manuscript provides a valuable overview of biofertilizers and their contribution to sustainable crop production and soil fertility enhancement. The review is scientifically relevant, clearly written, and suitable for publication after addressing the suggested revisions. Incorporation of recent literature, quantitative evidence, and deeper discussion of practical challenges will improve the manuscript's impact and scientific quality.

Recommendation: Accept after Minor Revision.