

Review Form 3

Journal Name:	Asian Soil Research Journal
Manuscript Number:	Ms_ASRJ_123004
Title of the Manuscript:	Potential Impacts of Green Manure Incorporation on Soil Fertility Enhancement and Rice yield (Review)
Type of the 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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Important Policies Regarding Peer Review

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>Given that the MS discusses how green manure can boost soil fertility and raise rice yields—2 essential components of sustainable agriculture—this manuscript is important to the academic community. The research holds special significance considering the increasing focus on decreasing the usage of chemical fertilisers and lessening the environmental effects linked to traditional farming practices. Researcher, agronomic, and legislators who wish to support sustainable farming practices will find great value in the thorough examination of different green manure plants, their effects on soil health, and their interactions with chemical fertilisers. Supporters of the adoption of these techniques in conventional farming have a solid scientific foundation thanks to the thorough examination of the nitrogen and carbon contributions made by green manures and their impact on rice yield.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The MS concentration on green manure and its impacts on soil fertility and rice production makes the current title, "Potential Impacts of Green Manure Incorporation on Soil Fertility Enhancement and Rice Yield (Review)," rather appropriate. A more concise title, however, might be "Enhancing Soil Fertility and Rice Yield through Green Manure Incorporation: A Comprehensive Review." This revised title is a little bit shorter but still captures the essence of the original.</p>	
<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 importance of green manure in enhancing soil fertility and rice yields is highlighted in the abstract, which gives a decent outline of the MS contents. It might, however, use a few minor changes to ensure clarity:</p> <ol style="list-style-type: none"> 1. To provide readers with a clearer image right away, think about including specific information on the kinds of green manure plants researched, such as sunn hemp and dhaincha, early in the abstract. 2. It is unclear what is meant when it says that "only green manure application 20 ton/ha was 90% higher than any nutrient application". Giving details on the nutrient application it was compared to would be helpful. 3. To strengthen the appeal of the abstract, it might also discuss the possible environmental advantages of green manure, such as decreased usage of chemical fertilisers and enhanced carbon sequestration. 	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The article is organized logically, with parts that flow from broad information about green manure plants to more focused talks on management strategies, decomposition processes, and the effects on soil fertility and rice yield. The text is easier to read and more accessible when tables summarizing important data, such biomass yields and nutritional contributions of various green manures, are included.</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>The manuscript offers a thorough analysis of the body of research on green manure's effects on soil fertility and rice yields, and it is technically and scientifically sound. The above research provide strong evidence for the integration of green manure with chemical fertilizers, consistently improving soil health and crop productivity. The paper adeptly compiles a wide range of information, offering a fair assessment of the advantages and difficulties of using green manure. The discourse pertaining to the management strategies and temporal alignment of green manure incorporation holds significant value as it provides pragmatic direction for enhancing its application in agricultural systems.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>The references are sufficient and generally recent, covering a broad range of studies that support the manuscript's conclusions. However, if the author has not already included them, references to the most recent studies on the effects of green manure on soil microbial activity and long-term soil health could further strengthen the manuscript.</p>	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language is generally suitable for scholarly communication, but there are minor issues with sentence structure and word choice that could be improved for clarity and fluency. For example, in the abstract, phrases like "Quantity and quality of green manure are influencing to the decomposition and mineralization processes" could be revised for better readability. A thorough proofreading would help to polish the manuscript further.</p>	
<p>Optional/General comments</p>	<p>Abstract:</p> <ul style="list-style-type: none"> The abstract is informative but lacks smooth transitions between ideas. Consider breaking it into clearer sections (e.g., background, objectives, key findings, conclusions) for better readability. While the abstract provides some quantitative results, it would benefit from more explicit statements about the significance of the findings. For example, instead of just stating that a certain treatment was "90% higher," explain why this is important in the context of current practices. <p>Introduction:</p> <ul style="list-style-type: none"> The introduction provides a good overview but could benefit from a more in-depth review of recent studies to highlight the relevance of the topic. Consider including more references to recent work in the field. The objectives could be more clearly defined at the end of the introduction. Explicitly state the research questions or hypotheses that the review intends to address. <p>General Information of Green Manure Plants:</p> <ul style="list-style-type: none"> The information on green manure plants varies in detail. Ensure that for each plant discussed, there is consistency in the presentation of data (e.g., harvesting days, biomass yield, nitrogen content). It would be helpful to include a comparative analysis of the different green manure plants discussed, possibly in the form of a summary table that highlights their strengths and weaknesses. <p>Decomposition and Mineralization Process in Soil:</p> <ul style="list-style-type: none"> While the section explains the processes, it could benefit from a more detailed discussion on the mechanisms behind decomposition and mineralization, particularly how different factors (e.g., soil type, climate) influence these processes. Incorporate more recent references to support the statements made, particularly those published in the last five years. <p>Management of Green Manures: Provide more practical guidelines or recommendations based on the findings discussed. For example, suggest specific timing for incorporation of green manure based on different climatic conditions or crop types.</p> <p>Fertilizer Compensation and Impact on Rice Yield: The manuscript discusses various yield improvements. A comparative table summarizing these findings could help in visualizing the data more effectively.</p> <p>Soil Fertility Improvement:</p> <ul style="list-style-type: none"> The section on nitrogen balance is informative but could be expanded to include more detail on nutrient cycling and the long-term implications of green manure use on soil fertility. Consider adding graphs or charts that show trends in soil fertility improvements over time, 	

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	<p>which would help in better understanding the impact of green manure.</p> <p>Discussion:</p> <ul style="list-style-type: none">• The discussion should more explicitly integrate the findings with broader literature. How do these findings compare with other studies? What gaps in the literature does this review fill?• Clearly outline potential future research directions or questions that remain unanswered. <p>Conclusion: The conclusion could be more concise. Focus on summarizing the key takeaways from the review and their practical implications. Provide clear, actionable recommendations for farmers, policymakers, or researchers based on the findings discussed.</p> <p>References: Ensure that the references are up-to-date and include more recent studies, particularly those published in the last five years. Check for consistency in the citation format and ensure all references are properly formatted according to the journal's guidelines.</p> <p>References Missing/Incomplete Citations:</p> <p>Green Manure Plants: In the sections discussing the properties of green manure plants such as sunn hemp, dhaincha, and pulses, ensure that citations are included for statements regarding growth characteristics, biomass, and nitrogen content. Some references (e.g., Singh et al. 2014) are partially cited but should be fully detailed in the references list.</p> <p>Decomposition and Mineralization: The section on decomposition and mineralization mentions "Meena et al. 2018", but this citation is incomplete in the references. Ensure this study is fully cited and correctly formatted in the references section.</p> <p>Management of Green Manure:</p> <ul style="list-style-type: none">○ The Kaneko et al. (2023) citation for sunn hemp seeding and harvesting times is referenced in the text but missing from the references section. Be sure to provide complete reference information for this study.○ The citation Singh et al. (2023) regarding plowing green manure at the flowering stage also needs to be fully detailed in the references section. <p>2. Fertilizer Compensation and Yield Impact: The claim that the combination of 20 tons of green manure and 60 kg of N results in greater rice yields cites Aulakh et al. 2000. Ensure that this is accurately cited with full details. Additionally, double-check all citations to ensure studies supporting fertilizer compensation are fully included.</p> <p>3. Soil Fertility Improvement:</p> <ul style="list-style-type: none">○ The section discussing the impact of green manure on nitrogen balance mentions "Li et al. 2020", but this reference is not fully detailed. Ensure that all studies by Li and colleagues are listed completely in the references.○ Thorup-Kristensen et al. (2012) is mentioned when discussing the negative impact of excessive green manure application. Ensure this study is properly cited in the reference list.○ Carbon Balance: The Yang et al. (2014) and Gao et al. (2023) citations in the carbon balance section appear to be missing from the reference list. Ensure these studies are included and properly formatted.○ Other Nutrients Availability: The section discussing phosphorus availability mentions Cavigelli and Thien (2003) and Bah et al. (2007). Double-check that these are properly cited in the reference list.	
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	<ul style="list-style-type: none">○ General Reference Updates: Some references appear outdated, such as Pieters (1927) and Singh (1984). While these may be important foundational studies, it is recommended to include more recent studies to reflect the current state of knowledge in green manure research.	
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PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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