

**Review Form 3**

Journal Name:	<b>International Journal of Plant &amp; Soil Science</b>
Manuscript Number:	<b>Ms_IJPSS_122424</b>
Title of the Manuscript:	<b>Lactuca sativa growth and yield as affected by cashew nut shells biochar, cattle manure and urea in northern and central Benin.</b>
Type of the Article	

### Review Form 3

#### **PART 1: Review Comments**

<b>Compulsory</b> REVISION 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. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</b>	This manuscript is important as it explores sustainable agricultural practices using cashew nut shell biochar and traditional fertilizers. It offers practical solutions for enhancing soil fertility and crop yields while reducing reliance on mineral fertilizers. I appreciate its clear experimental design and relevance to environmentally friendly farming.	
<b>Is the title of the article suitable? (If not please suggest an alternative title)</b>	<b>Yes</b>	

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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><b>Yes, comprehensive but do following changes.</b></p> <p><b>Grammar and Syntax:</b></p> <ol style="list-style-type: none"> <li>"Aims: to determine": Capitalize "to" to match the formal style: "Aims: To determine."</li> <li>"the optimal combination of cashew nut shell biochar, cattle manure, and urea": Consider revising for clarity to "the optimal combination of cashew nut shell biochar, cattle manure, and urea for enhancing."</li> <li>"growth and yield in North and Central Benin": Add an article for clarity: "growth and yield in the North and Central regions of Benin."</li> <li>"Place and Duration of Study:": Use consistent formatting for all section headings, such as adding a colon after "Aims" to match this section.</li> <li>"one in Tchaourou (Borgou department) in 2022 and another in Dassa (Colline department) in 2023": Consider simplifying for readability: "one in Tchaourou, Borgou department (2022), and another in Dassa, Colline department (2023)."</li> <li>"The experimental design on each site was a Fisher design with three replications": Clarify to "A Fisher experimental design with three replications was used at each site."</li> <li>"focusing on fertilization as the factor with seven treatments including four reference treatments": Simplify and clarify: "focusing on fertilization with seven treatments, including four reference treatments."</li> <li>"control, producers practice of organic fertilization": Correct to "control, producer's practice of organic fertilization."</li> <li>"The obtained yields under applying of 10 t ha<sup>-1</sup> biochar": Correct the phrasing to "The yields obtained from the application of 10 t ha<sup>-1</sup> biochar."</li> <li>"were at least respectively 165 and 318% higher than those of obtained under producers mineral fertilization practice on both sites": Improve clarity: "were respectively at least 165% and 318% higher than those obtained under the producer's mineral fertilization practice at both sites."</li> <li>"can significantly enhanced lettuce": Correct the verb form to "can significantly enhance lettuce."</li> <li>"while reducing the need on mineral fertilizers and dependence of cattle manure": Correct to "while reducing the need for mineral fertilizers and dependence on cattle manure."</li> </ol> <p><b>Scientific Writing:</b></p> <ol style="list-style-type: none"> <li>Clear Objective Statement: The "Aims" section should be more explicit in stating the study's purpose, making it clear that the objective is to compare different fertilization strategies.</li> <li>Avoid Redundancies: In the "Conclusion," avoid redundant phrases, e.g., "enhanced lettuce and thus vegetable crops production" could be "enhanced lettuce production, and thus overall vegetable crop yields."</li> </ol>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p>Add a section of <b>"Future Aspects"</b>.</p>	
<p><b>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.</b></p>	<p>This manuscript is scientifically robust and technically sound due to its rigorous experimental design and clear methodology. The use of a Fisher experimental design with three replications at multiple sites enhances the reliability of the results, ensuring that the findings are statistically significant and applicable to different conditions. Additionally, the manuscript includes a comprehensive analysis of both growth parameters and yield, providing a thorough assessment of the impact of various fertilization treatments. The integration of biochar with organic and inorganic fertilizers is supported by relevant literature, further validating the technical soundness of the study.</p> <p><b>Do the following changes:</b></p> <p><b>Material and Method:</b></p> <ol style="list-style-type: none"> <li>In table 1. Use "." Instead of "," while mentioning decimal figures.</li> <li>State the full form of each abbreviation used in tables (e.g., C: carbon; N: nitrogen;</li> <li>Write the analysis method in paragraph format.</li> <li>A Grammer mistake was found in Table 2. "site 1 and 2", change it to "sites 1 and 2"</li> </ol> <p><b>Results:</b></p> <ol style="list-style-type: none"> <li>Change the format of the alphabets from "13.12 ± 5.04 ab" to "13.12 ± 5.04 <sup>ab</sup>" in all tables.</li> </ol> <p><b>Discussion:</b></p> <p><b>Grammar and Syntax:</b></p>	

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6. **"impact of cashew nut shell biochar, cattle manure, and urea on growth and yield of lettuce"**: Change to "impact of cashew nut shell biochar, cattle manure, and urea on the growth and yield of lettuce."
  7. **"fertilizations modalities"**: Correct to "fertilization modalities."
  8. **"The treatments influenced key growth parameters"**: Consider specifying "The treatments significantly influenced key growth parameters."
  9. **"10 t ha<sup>-1</sup> biochar + 20 t ha<sup>-1</sup> cattle manure"**: Use consistent formatting, e.g., "10 t ha<sup>-1</sup> biochar + 20 t ha<sup>-1</sup> cattle manure."
  10. **"Indeed, biochar can improve nutrient fixation and release rates, thereby improving soil nutrient use efficiency"**: Simplify by removing "Indeed," and rephrase for clarity, e.g., "Biochar improves nutrient fixation and release rates, thereby enhancing soil nutrient use efficiency."
  11. **"biochar improves the efficiency of fertilizer use"**: Replace with "biochar enhances fertilizer use efficiency."
  12. **"Our results align with those of"**: Consistently refer to the results, e.g., "Our findings are consistent with those of."
  13. **"These results suggest that integrating biochar with organic and mineral fertilizers can substantially enhance crop production."**: Rephrase for emphasis, e.g., "These findings suggest that the integration of biochar with organic and mineral fertilizers can substantially enhance crop production."
- Scientific Writing:**
14. **Objective Language**: Maintain objectivity by avoiding overly conclusive language, such as "significantly" unless backed by statistical data.
  15. **Specificity in Comparisons**: When comparing results, ensure clarity about what exactly is being compared (e.g., specify the exact conditions or treatments).
  16. **Remove Ambiguities**: Phrases like "better growth and yield" should be more specific, indicating exactly what was better or by how much.

#### Conclusion:

##### Grammar and Syntax:

17. **"The study demonstrated that using cashew nut shell biochar, cattle manure, and urea as soil amendments"**: Revise to "The study demonstrated that the use of cashew nut shell biochar, cattle manure, and urea as soil amendments."
  18. **"Among the treatments including biochar, the treatments which combines biochar, cattle manure, and urea"**: Correct to "Among the treatments involving biochar, the combinations of biochar, cattle manure, and urea."
  19. **"comparatively to producers' mineral fertilization practice"**: Change to "compared to the producers' mineral fertilization practices."
  20. **"This combination also enhanced plant growth parameters such as height and leaf number"**: Simplify to "This combination also enhanced plant growth parameters, including height and leaf number."
  21. **"by reducing mineral fertilizers rate and dependence of cattle manure"**: Revise for clarity to "by reducing mineral fertilizer rates and dependence on cattle manure."
  22. **"could lead to more sustainable and profitable lettuce production systems"**: Improve readability to "could lead to more sustainable and profitable lettuce production systems in the region."
  23. **"Future research should focus on economical profitability"**: Change to "Future research should focus on the economic profitability."
  24. **"and impact of these practices on soil fertility"**: Adjust to "and the impact of these practices on soil fertility."
- Scientific Writing:**
25. **Quantification of Results**: Consider including specific data or percentages that demonstrate the improvement in yield and growth parameters, to strengthen the conclusion.
  26. **Objective Language**: Use more precise language, e.g., "consistently resulted in a good yield" could be "consistently resulted in higher yields."
  27. **Clarity on Sustainable Practices**: Clearly define what is meant by "sustainable agricultural practices," perhaps linking it to environmental or economic sustainability.
  28. **Avoid Redundancies**: Phrases like "promoting the adoption of their derived biochar in addition to cattle manure" can be streamlined, e.g., "promoting the use of biochar derived from cashew

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	<p>nut shells alongside cattle manure."  <b>Other Requirements:</b>                  29. <b>Implications for Practice:</b> Expand on how these findings can be practically applied by local farmers, possibly mentioning any limitations or considerations for adoption.                  30. <b>Suggestions for Future Research:</b> Provide more detailed suggestions for future research, such as specific metrics to evaluate economic profitability or long-term effects on soil fertility.                  31. <b>Connection to Study Objectives:</b> Ensure that the conclusion clearly ties back to the study's initial objectives, summarizing how these were met.                  32. <b>Conciseness:</b> The conclusion could be more concise, focusing on the key takeaways from the study.                  33. <b>Final Impact Statement:</b> Consider adding a final sentence that emphasizes the overall impact or significance of the study's findings on sustainable agriculture in the region.</p>	
<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>Recommendation to use <a href="https://doi.org/10.61577/jalf.2024.100002">https://doi.org/10.61577/jalf.2024.100002</a> reference in "Biochar significantly contributes to cation retention and improves soil fertility by directly adding nutrients".</p>	
<p><u>Minor</u> REVISION comments</p> <p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	<p>Yes (after suggested revisions)</p>	
<p><u>Optional/General</u> comments</p>	<p>Various grammatical and scientific writing mistakes were found. Do required changes or provide an explanation of written data.</p>	

**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (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:**

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