

Review Form 3

Journal Name:	Journal of Experimental Agriculture International
Manuscript Number:	Ms_JEAI_131112
Title of the Manuscript:	Effect of Biochar as Substitute in Nursery Potting Mixture on Growth of Coffee Seedlings and Soil Properties
Type of the Article	Short Research Article

PART 1: Comments

	Reviewer's comment Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.	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 is important for the scientific community as it explores the potential of biochar derived from coffee cherry husk as a sustainable alternative to traditional nursery potting mixtures. Given the global concerns over soil degradation and the rising costs of conventional growing media like sand and peat, this study provides valuable insights into biochar's role in enhancing soil properties and promoting seedling growth. The findings contribute to existing research on biochar applications in agriculture, specifically in coffee cultivation, where studies on biochar as a substitute in nursery potting mixtures are limited. This research highlights the importance of optimizing biochar application rates to avoid negative effects on soil pH and seedling development, offering practical recommendations for nursery management and sustainable agricultural practices.	Agreed
Is the title of the article suitable? (If not please suggest an alternative title)	The current title, " Effect of Biochar as Substitute in Nursery Potting Mixture on Growth of Coffee Seedlings and Soil Properties " effectively conveys the main focus of the study. It can be refined for better clarity and impact. A more concise and engaging title could be: " Evaluating Biochar from Coffee Cherry Husk as a Sustainable Alternative in Nursery Potting Mixtures "	The title has been changed as per the reviewers suggestions
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.	The abstract of the article is well-structured and comprehensive, effectively summarizing the study's background, objectives, methodology, key findings and conclusions. It could be improved by explicitly stating the research objective, clearly defining the aim of evaluating biochar from coffee cherry husk as a substitute for sand in nursery potting mixtures and its effects on soil properties. The results section would benefit from the inclusion of key numerical findings, such as growth differences, soil pH variations and biomass improvements, to provide a clearer understanding of the study's outcomes. Highlighting the observed effects of biochar on soil properties, particularly pH and organic carbon content, would further enhance the relevance of the findings. Emphasizing the practical implications of this study, particularly how it can contribute to sustainable nursery management and coffee farming, would make the abstract more impactful. While the abstract states that T1 (traditional potting mixture) and T4 (biochar replacing sand) yielded similar growth results, it would be beneficial to explicitly mention the optimal biochar application rate to prevent soil alkalization and potential negative effects on seedling growth. The conclusion could also be refined to not only state that biochar can replace sand but also to caution against excessive use due to its impact on soil conditions. Incorporating specific data, clarifying the rationale for using biochar as an alternative to sand and reinforcing the importance of maintaining an optimal biochar ratio would enhance the abstract's clarity, making it more informative and useful for researchers, agronomists and nursery managers seeking sustainable solutions in coffee cultivation.	Abstract has completely been changed as per the reviewers suggestions Taking into account the suggestions of reviewer, the manuscript has been changed wherever found appropriate.
Is the manuscript scientifically, correct? Please write here.	Yes, the manuscript appears to be scientifically correct. It follows a structured research approach, including a well-defined objective, a detailed methodology and a thorough analysis of results. The study is based on established scientific principles, particularly in the fields of soil science, agronomy and sustainable agriculture. The use of biochar as a soil amendment is a well-researched topic and the manuscript effectively builds on existing literature while addressing a gap in research related to coffee seedling growth. The experimental design, including different treatment groups (T1, T2, T3 and T4), replication and statistical analysis using ANOVA, ensures the validity of the results. The manuscript appropriately references previous studies to support its findings, further strengthening its scientific credibility. While the study is methodologically sound, the discussion could benefit from a deeper	Agreed

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	exploration of the mechanisms behind biochar's effects on soil properties and plant growth. The research is scientifically accurate and its conclusions are supported by experimental data and statistical analysis.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The manuscript includes a sufficient number of references, covering a broad range of studies related to biochar, soil amendments and coffee seedling growth. Many references are recent, particularly those from 2020 to 2023, ensuring that the study is supported by up-to-date scientific literature. The inclusion of foundational studies from earlier years also provides a strong theoretical background. While the references adequately support the research, additional citations on biochar's long-term impact on soil microbiota and nutrient availability, particularly in coffee cultivation, could further enhance the discussion. Studies focusing on the economic feasibility of using biochar as a replacement for traditional nursery substrates and its effects on other crop species in similar soil conditions could also add value. Including more references from peer-reviewed journals with global case studies on biochar application in nursery management would strengthen the manuscript's scientific depth and broader applicability.	The original manuscript has already adequately covers up-to-date references pertinent to the topic chosen. Nonetheless, few references have been added as per the suggestions of reviewers which have been highlighted.
Is the language/English quality of the article suitable for scholarly communications?	The language and English quality of the article are generally suitable for scholarly communication, but there are areas where improvements could enhance clarity, readability and professionalism. The manuscript effectively conveys scientific information, but some sentences are overly complex or could be more concise. Minor grammatical inconsistencies, awkward phrasing and occasional redundancy slightly affect the fluency of the text. Improving sentence structure, refining technical explanations and ensuring consistency in terminology would enhance its readability.	Manuscript perused and changes have been done wherever possible
Optional/General comments	The manuscript presents a valuable study on the use of biochar as a sustainable alternative in coffee nursery potting mixtures, contributing to both agricultural sustainability and resource efficiency. The research is well-structured, methodologically sound and supported by relevant literature, though minor refinements in language, clarity of results and additional references on biochar's long-term effects could further strengthen the discussion. The findings offer practical implications for coffee growers and nursery managers, emphasizing the need for optimized biochar application rates to balance soil properties and promote seedling growth. The study is a meaningful contribution to sustainable coffee cultivation and soil management practices.	Manuscript perused and changes have been done wherever possible

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?	(If yes, Kindly please write down the ethical issues here in details)	To the best of authors' knowledge, there are no ethical issues pertaining to this manuscript.