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| Journal Name: | [International Journal of Environment and Climate Change](https://journalijecc.com/) |
| Manuscript Number: | **Ms\_IJECC\_142387** |
| Title of the Manuscript: | **Physico-Chemical and Thermochemical Characterization of Mulberry (Morus spp.) Clones for Bioenergy: A PCA-Based Selection Approach** |
| Type of the Article | **Original Research Article** |

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| **PART 1: Comments** | | |
|  | **Reviewer’s comment**  **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here) |
| **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 because it evaluates various mulberry clones as a potential source for bioenergy and fuelwood. The study provides a detailed analysis of the physico-chemical and thermochemical properties of seventeen different mulberry clones. This research can help rural and urban communities choose suitable clones for high-quality fuelwood, ultimately reducing reliance on fossil fuels and mitigating environmental degradation from deforestation. The findings contribute valuable insights for breeding programs focused on enhancing biomass density and energy efficiency. |  |
| **Is the title of the article suitable?**  **(If not, please suggest an alternative title)** | The title, "Physico-Chemical and Thermochemical Characterization of Mulberry (Morus spp.) Clones for Bioenergy: A PCA-Based Selection Approach," is suitable and accurately reflects the content of the manuscript. It clearly states the subject (mulberry clones), the methods used (physico-chemical and thermochemical characterization, PCA), and the overall objective (bioenergy potential). |  |
| **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 is comprehensive and well-structured. It includes the study's aims, methodology, results, and conclusion. The abstract also provides key quantitative data, such as the ranges for moisture content, basic density, calorific value, and HHV, as well as the number of principal components identified by the PCA. No major additions or deletions are suggested. |  |
| **Is the manuscript scientifically correct? Please write here.** | The manuscript is scientifically correct. The methodologies are based on standard protocols, such as those from ASTM International and TAPPI. The statistical analysis, including a Completely Randomized Design (CRD), ANOVA, and Duncan’s Multiple Range Test (DMRT), is appropriate for the experimental setup. The results are consistently discussed and validated by comparison with findings from other relevant studies  While the manuscript states the methodology is scientifically correct, specific details or alternative approaches are also required. For example, the manuscript does not mention the age of the mulberry clones, which could influence the results.  In the manuscript, the results are compared with other studies, but a deeper critique might ask for a more robust discussion on why certain mulberry clones performed better than others, linking their performance to specific genetic or environmental factors.  The review does not mention whether the manuscript explicitly discusses the limitations of the study or suggests clear directions for future research. While the study is important, a more comprehensive manuscript would outline what questions remain unanswered.  If the author has attached any pictures, kindly attach the geotagged picture. This supports the abstract. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | Most of the references earlier from 2019, except references 10 (2021), 13 (2022), 17 (2025), 34 (2023), add some recent references to support your data. The references cover a wide range of topics directly relevant to the manuscript, including biomass energy, fuelwood properties, and specific analyses for different tree species |  |
| **Is the language/English quality of the article suitable for scholarly communications?** | The language and English quality are suitable for scholarly communication. Too many grammatical and topological errors are present. The use of specific scientific terminology is appropriate and consistent throughout the document. |  |
| **Optional/General** comments |  |  |

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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?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

**Reviewer details:**

**Sanyogita Shahi, Kalinga University, India**