

Review of: "Recycling of Waste Bamboo (*Bambusa vulgaris*) into Value-Added Platform Chemicals: Bioethanol and Bioethylene"

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Potential competing interests: No potential competing interests to declare.

Abstract

- “Investing in attaining bamboo-derived platform bio-chemicals would help to mitigate...” How could bamboo help mitigate GHG? Indicate.
- The abstract must be improved. Results and findings must be indicated, and some conclusions must be made at the end of the abstract.

1. Introduction

- “(Iriondo, Agirre, Viar, and Requies, 2020; Mthembu, Gupta, and Deenadayalu, 2021; Ilić, Milić, Beluhan, and Dimitrijević-Branković, 2023).” For a simple sentence, it is not necessary to use various references. Consider this comment for the complete manuscript.
- “. Bamboo, comprising cellulose, hemicellulose, and lignin, which are its major chemical components...” Value ranges of each composition must be presented.
- “cellulose, which is in great abundance to serve as a renewable alternative source to yield value-added...” What is the reason?

2. Literature Review

- “processing into FMCG products. Plant biomass...” The FMCG acronym was not defined. Besides, plant biomass is not the proper term.
- “with minimal maintenance when compared with other cellulosic plants (Rashid et al., 2023)” What other plants? Indicate some of them.
- “areas where they can thrive (Rojas-Sandoval and Acevedo-Rodríguez, 2022)” This reference and others, such as (Abiodun, 2022), have been used many times. Be careful with the looping reference.
- “mechanically pulverised into small particles...” What is the particle size used in your study?
- “SSF process requires using just a single reactor for achieving hydrolysis and fermentation simultaneously (Mendieta et al., 2021).” What do you say about the operational conditions of the SSF process?

3. Methodology

- “into pieces and then milled into a fine powder...” Again, what is the particle size?
- “20g of the milled bamboo was soaked in 200ml of 8% (M/V) of NaOH in a 250ml conical flask and was heated at 140°C...” What standard or methodology was considered for the pre-treatment? Use reference.
- Same previous comment for the steps 3 to 6.
- “Yield: 800ml of bio-ethanol was produced from 2kg of bamboo. Yield: 0.21 kg of bio-ethylene gas was obtained from 500 ml of bio-ethanol.” These sentences must be moved to the results section. On the other hand, the Al₂O₃ formula must be corrected.

4. Results and Discussion

- Tables 1 and 2 can be merged.
- Subsections 4.1.2 to 4.1.7 must show the results obtained in Tables 1 and 2.
- “Bio-ethanol has a slightly higher flash point compared to ethanol...” Which higher? Quantify. For the discussion, it is essential to use references.
- “Bio-ethanol usually has a slightly lower specific gravity than regular ethanol.” Same previous comment.
- “Conventional ethanol, which is typically obtained from fossil fuels...” This is false; sugarcane is the raw material for ethanol production in many countries like Brazil.
- “Bio-ethanol and ethanol do have similar boiling points...” Quantify. For the discussion, it is essential to use references.
- “Test equipment for bio-ethylene was not available for characterization of the yielded gas...” This is critical, considering that your study is focusing on bioethylene.

5. Conclusion and Recommendations

- This section must be improved, considering the comments of the previous sections.
- It is essential to mention suggestions for future work.