

# Review of: "Investigation of Mechanical Properties of Sisal Fiber and Sugar Palm Fiber Reinforced Hybrid Composites"

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Potential competing interests: No potential competing interests to declare.

## Comments and Suggestions for Authors

Dear Editor,

Please find the review report below entitled Investigation of Mechanical Properties of Sisal Fiber and Sugar Palm Fiber Reinforced Hybrid Composites.

The author carried out good research work in the area of Investigation of Mechanical Properties of Sisal Fiber and Sugar Palm Fiber Reinforced Hybrid Composites. The following corrections can be checked and modified:

### **Over all recommendation: Reconsider after major revision**

1. My suggestion is that your manuscript undergo extensive editing of the English language and style required.
2. The title of the research Investigation of **the** Mechanical Properties (the is missing and add the)
3. The authors raise some works related to this research work, so the authors write something at the end of the introduction part about the novelty of the work or gap analysis.
4. Please rewrite the materials and methods part again. For example, please avoid the below paragraph in the document. **(Must).**

Over the past few years, the focus of researchers has been on eco-friendly, biodegradable, and low-density composites obtained from plant fibers. The fibers obtained from plants are abundant, and only a small quantity of fibre is used in fertilizer, cattle-feed, household applications, etc., with the bulk of the fibers being burnt in the field, which also affects the environment. Instead of wasting these natural fibers, they can be used with polymers to form composite materials, and based on their mechanical, thermal, and physical properties, they could be used in different applications. The implementation of these eco-friendly materials in various applications will not only benefit the environment but also could generate revenue and job opportunities. Sugar palm, flax, hemp, jute, sisal, kenaf, banana, are some of the examples of natural fibers obtained from plants. In this experimental study, hybrid composites were made with sisal fiber and sugar palm fiber, and their mechanical properties were analyzed.

5. Additionally, please put the material part, say, for example, where the sisal fiber and sugar palm fiber are obtained and where the resin material is found.
6. the authors Why do you choose only three matrix-fiber proportions?
7. My other suggestions are, include data for untreated fiber polymer composite, polypropylene only to d<sub>max</sub>(**must**).
8. The authors conducted surface treatment because, in order to overcome the high degree of moisture absorption and poor dimensional stability of the natural fibers, they were subjected to chemical treatment. Is it the right reason? So, the authors give reasons why they conducted the alkaline treatment.
9. The authors should explain how to calculate the water absorption; please put it in the document by formula in the materials and methods section.
10. The image quality is very broad and not clear or informative in terms of material geometry and structural evaluation. Instead, fracture surfaces or SEM images should be given in order to analyse the microstructure.
11. Why did Sample-3 exhibit better tensile properties, and the tensile stress of 76 N/mm<sup>2</sup> was higher compared to the other specimens? ii. Sample-3 showed better performance in flexural strength, with a flexural stress value of 67.29 MPa compared to the other specimens. And iii. Sample-3 indicated better performance with the impact test, and the value of 42.46 J/m in the Izod test was higher than that of the other specimens; please rewrite it again. The results and discussion part (**Must**).
12. All your results are not well discussed by cross-referencing with past research outputs. You need to cite references in your discussion. This is very important (**Must**).
13. Conclusion: Reshape the conclusions part