

# 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.

This paper investigates the feasibility of preparing high-performance composite materials using sisal fiber and sugar palm fibers. Despite the moderate level of innovation in this work, it serves as a significant reference and foundation for further exploration of the mechanical behavior of natural fiber composites. However, several critical experimental and analytical components are lacking, and there are deficiencies in the standardization of the research. I recommend acceptance after significant revisions.

- (1) The Materials and Methods section should be restructured, with the initial paragraph positioned as the last paragraph of the Introduction.
- (2) Detailed information regarding the sources of sisal fibers and sugar palm fibers, including their origin and specifications, must be provided. If feasible, elemental analysis and SEM characterization of these raw materials should be conducted.
- (3) Fibers treated with NaOH solution require characterization through techniques such as IR, XPS, SEM, etc., with a comprehensive comparative analysis against untreated fibers. The significance of NaOH solution modification should be elaborated upon.
- (4) The arrangement of all figures should be adjusted, merging images related to the same section, such as Figure 1 and Figure 2, as well as Figures 3-6. Additionally, a flowchart illustrating the research methodology should be included. Figure 7, being unclear, may be excluded.
- (5) The presentation of performance test data is non-standard, suggesting the use of software like Origin for data processing. Decimal points should be indicated by periods, and error bars are imperative to signify the average results of multiple specimens tested under identical conditions.
- (6) Control tests using pure resin are necessary for comparative analysis to demonstrate the value of sisal fiber and sugar palm fibers. The absence of control groups, such as 70% resin + 30% sisal fiber or 70% resin + 30% sugar palm fiber, raises concerns.
- (7) The analysis of experimental results lacks depth, rendering the paper akin to a mere experimental report. A more comprehensive analysis should be conducted, exploring the principles behind the enhancement of various performance indicators in the resin matrix by sisal fibers and sugar palm fibers. Cost analysis should be integrated to identify the more advantageous fiber or fiber combinations. The existence and reasons behind any synergistic effects between sisal fiber and sugar palm fibers should also be addressed.

