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| Journal Name: | [**Asian Research Journal of Agriculture**](https://journalarja.com/index.php/ARJA) |
| Manuscript Number: | **Ms\_ARJA\_131993** |
| Title of the Manuscript: | **INVESTIGATION OF MECHANICAL PROPERTIES OF SORGHUM STEM IN RELATION TO HARVESTING** |
| 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 *(Please correct the manuscript and highlight that part in the manuscript. 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.** | The manuscript highlights critical aspect of cutting strength and other mechanical properties that are crucial in the design and performance of mechanized pyrethrum harvesters | **Following sentences have been written as per your suggestion**  **To design and develop an effective cutting mechanism, it is critical to analyze crops' mechanical properties, such as cutting force, cutting energy, and specific cutting energy. The characteristics are required to develop an energy-efficient mechanism. In view of the importance of mechanical properties to design a cutting mechanism, a present investigation has been undertaken to determine the mechanical properties of sorghum stalk in relation to harvesting.** |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **Ok, but make it more scientific, more precise and less wordy by adopting.**  **Mechanical properties of sorghum (*S. bicolor*) in relation to harvesting** | Ok, This title is also appropriateMECHANICAL PROPERTIES OF SORGHUM (*S. BICOLOR*) IN RELATION TO HARVESTING |
| 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 needs revision for better readability and precision. Again it looks shallow, I suggest deepening the level of investigation.  I rewrite as below:  Mechanical properties of cereal crops are crucial for designing effective harvesting mechanisms. This study determined the cutting energy and forces of sorghum stalk using pendulum impact experimental test rig for various stalk diameters (10, 15, 20 and 25 mm) and cutting velocities (4.5, 5.5, 6.5 and 7.5 m/s). Results indicated that cutting energy ranged from 3.40 J at a blade velocity of 7.5 m/s to 26.91J at a blade cutting velocity of 4.5 m/s for a 25 mm sorghum stalk diameter. A maximum cutting force of 1076.53 N was recorded at the blade's cutting velocity of 4.5 m/s for the 25mm stalk diameter. However, minimum cutting energy was 340.7 N at blade's cutting velocity of 7.5 m/s for a10 mm sorghum stalk diameter. Cutting forces and blade velocities had a linear relationship. These findings serve as a basis for designing effective and cutting mechanism for sorghum harvesters. | Yes, this abstract will be more comprehensive and similarly changed in manuscript  Mechanical properties of cereal crops are crucial for designing effective harvesting mechanisms. This study determined the cutting energy and forces of sorghum stalk using pendulum impact experimental test rig for various stalk diameters (10, 15, 20 and 25 mm) and cutting velocities (4.5, 5.5, 6.5 and 7.5 m/s). Results indicated that cutting energy ranged from 3.40 J at a blade velocity of 7.5 m/s to 26.91J at a blade cutting velocity of 4.5 m/s for a 25 mm sorghum stalk diameter. A maximum cutting force of 1076.53 N was recorded at the blade's cutting velocity of 4.5 m/s for the 25mm stalk diameter. However, minimum cutting energy was 340.7 N at blade's cutting velocity of 7.5 m/s for a10 mm sorghum stalk diameter. Cutting forces and blade velocities had a linear relationship. These findings serve as a basis for designing effective and cutting mechanism for sorghum harvesters. |
| Is the manuscript scientifically, correct? Please write here. | The intext citation style is incorrect. Please rework it out all through.  Use referencing tools such as Mendeley or Zotero | Suggested Referencing style has been followed |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | References are fair with a mix of new and old references | Yes sufficient references have mentioned |
| Is the language/English quality of the article suitable for scholarly communications? | It is only fair. Improve the language using Grammarly | Ok care has been taken |
| Optional/General comments | **The manuscript needs revision for intext referencing style and English command.** | Ok care has been taken |

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| **PART 2:** | | |
|  | Reviewer’s comment | Author’s comment *(if agreed with the 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 detail)* | Whatever changes suggested by reviewers highly welcomed accordingly made changes in manuscript |