

Review Form 3

Journal Name:	Journal of Scientific Research and Reports
Manuscript Number:	Ms_JSRR_121676
Title of the Manuscript:	Optimization of Various Operational Parameters on Harvesting Efficiency of Developed Lathyrus Harvester Using Response Surface Methodology
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>The manuscript titled "Optimization of Various Operational Parameters on Harvesting Efficiency of Developed Lathyrus Harvester Using Response Surface Methodology" is significant for the scientific community as it addresses a critical aspect of agricultural machinery efficiency. By employing Response Surface Methodology (RSM), the study offers a robust statistical approach to optimize the operational parameters of a Lathyrus harvester, potentially leading to improved harvesting performance and reduced operational costs. This research is valuable because it combines advanced statistical techniques with practical agricultural engineering, providing insights that could enhance the efficiency and effectiveness of harvesting equipment. I find this manuscript compelling because it not only contributes to the field of agricultural machinery but also demonstrates a meticulous approach to optimizing operational parameters, which could have far-reaching implications for crop harvesting practices.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The title of the article is generally suitable, as it reflects the focus on optimizing operational parameters for a Lathyrus harvester using Response Surface Methodology. However, it can be made more concise and specific. Here's a refined title suggestion:</p> <p>"Optimization of Operational Parameters for Harvesting Efficiency of a Tractor-Operated Lathyrus Harvester Using Response Surface Methodology"</p> <p>This alternative title highlights the key elements of the study while being more direct and easier to understand.</p>	
<p>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.</p>	<p>The abstract provides a good overview of the study, but a few additions and refinements could enhance its comprehensiveness:</p> <ol style="list-style-type: none"> Introduction and Background: Add a brief sentence about the significance of the Lathyrus crop in the broader agricultural context, especially in India, to provide context for its importance. Objective: Clearly state the objective of the study—optimizing the harvesting efficiency of the Lathyrus harvester. Methodology: Include a brief mention of how Response Surface Methodology (RSM) was applied (e.g., design of experiments, statistical analysis). Results: Summarize the key findings more explicitly, such as how the identified optimal parameters compare to traditional methods. Conclusion/Implications: Add a sentence on the potential impact of the study's findings on agricultural practices or machinery efficiency. 	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The structure and subsections of the manuscript are generally well-organized, but there are a few suggestions to improve clarity and coherence:</p> <p>Introduction: Background Information: The introduction provides a solid background on Lathyrus sativus and its significance. Consider adding a brief statement on the current gaps in mechanization for this crop and why the study is necessary.</p> <p>Objective: Explicitly state the study's objective early in this section to provide clear context for the subsequent sections.</p> <p>Materials and Methods:</p> <p>Optimization Method using RSM: This section is detailed, but ensure clarity by summarizing the steps of RSM and its relevance to the study. Consider combining the descriptions of equations and tables for a smoother flow.</p> <p>Experimental Design and Procedures: Provide a brief summary of how the experimental design was used to achieve the study's objectives before delving into detailed tables and equations.</p> <p>Harvesting Efficiency Measurement: The method for calculating harvesting efficiency is clear. You might include a brief explanation of why this particular method was chosen.</p>	

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	<p>Results and Discussions: Effect of Variables: The results are well-detailed. However, to improve readability, consider separating the discussion into distinct subsections for each variable's effect (reel speed, cutter bar speed, height of cut) and including more interpretation of how these findings compare to previous studies. ANOVA Analysis: The ANOVA results are well-presented. Ensure that the discussion on statistical significance is integrated with practical implications of the findings.</p> <p>Figures and Tables: Clarity: Ensure that all figures and tables are clearly labeled and referenced in the text. Consider adding captions that summarize the key findings illustrated by the figures. Conclusions: Summary of Findings: The conclusions summarize the key findings well. Emphasize the practical implications of the optimal parameters found and suggest potential applications or improvements for future research.</p> <p>References Formatting: Ensure that the numbers of references are sufficient and all references are formatted consistently and follow the appropriate style guide for the manuscript. By refining these aspects, the manuscript will be clearer and more cohesive, improving its overall quality and readability.</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>The manuscript demonstrates scientific robustness and technical soundness through its rigorous application of Response Surface Methodology (RSM) for optimizing the harvesting efficiency of a Lathyrus harvester. The use of a Central Composite Rotatable Design (CCRD) and detailed statistical analysis, including ANOVA, underscores the methodical approach to evaluating the effects of operational parameters. The results are presented with a clear mathematical model and supported by experimental data, which align with established research practices. Additionally, the manuscript effectively integrates theoretical principles with practical applications, ensuring that the findings are both scientifically valid and relevant for improving agricultural machinery.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =</p>	<p>The references provided in the manuscript are relevant but not sufficient, but could be expanded to include more recent and diverse sources to ensure comprehensive coverage of the topic. The current references are mostly from the early 2000s, and including more recent studies could enhance the manuscript's relevance and depth.</p>	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Based on the provided sections of the manuscript, the language and English quality are generally suitable for scholarly communication. However, there are a few areas where improvements could be made to enhance clarity and professionalism:</p> <ol style="list-style-type: none"> Consistency: Ensure consistent use of terminology and formatting throughout the manuscript. For example, maintain a uniform style for variable names, units, and abbreviations. Clarity and Precision: Some sentences could be made clearer. For example, in the introduction, clearly state the research gap and objective. Avoid overly complex sentences and ensure that technical details are presented in a straightforward manner. Technical Terms: Ensure that all technical terms are well-defined when first introduced. For example, terms like "Central Composite Rotatable Design (CCRD)" and "Response Surface Methodology (RSM)" should be defined clearly for readers unfamiliar with these concepts. References and Citations: Verify that all citations and references are correctly formatted according to the journal's style guide. <p>Overall, while the manuscript is professionally written, these adjustments will improve readability and ensure that the article meets the high standards of scholarly communication.</p>	
<p>Optional/General comments</p>	<p>Optional/General Comments:</p> <p>Introduction and Background: Consider providing more contexts on the current state of Lathyrus harvester technology and the specific limitations of traditional harvesting methods. This will help readers understand the significance of the study and its potential impact.</p> <p>Objective and Rationale: Clearly state the research objective and the rationale behind using Response Surface Methodology (RSM) early in the introduction. This will help in framing the study's goals and the expected contributions to the field.</p> <p>Figures and Tables: Ensure that all figures and tables are accompanied by detailed captions that explain their content and relevance to the study. This will aid in the interpretation of the results and their implications.</p> <p>Results Interpretation: In the results and discussion section, provide a more detailed interpretation of how the findings compare to previous studies. Discuss any unexpected results and their potential implications.</p> <p>Practical Implications: Expand on the practical implications of the findings. How can the optimized parameters be applied in real-world scenarios? Discuss any potential challenges or considerations for implementing the results in agricultural practice.</p> <p>Future Research Directions: Suggest potential areas for future research based on the study's findings. This could include exploring additional variables, different crops, or further refinement of the harvester design.</p> <p>Proofreading and Editing: Conduct a thorough proofreading and editing process to ensure the manuscript is free from typographical errors and inconsistencies. This will enhance the overall professionalism of the document.</p> <p>Overall, these suggestions aim to enhance the clarity, depth, and impact of the manuscript, making it more engaging and informative for the scholarly community.</p>	

PART 2:

	<p>Reviewer's comment</p>	<p>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)</p>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

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