

### Review Form 3

Journal Name:	<a href="#">Journal of Scientific Research and Reports</a>
Manuscript Number:	Ms_JSRR_129164
Title of the Manuscript:	<b>A Trial for Enhancing Tribal Farmers' Incomes through Value Addition in Green Peas by Drying Under Fluidized Bed Drying</b>
Type of the Article	

#### General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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#### Important Policies Regarding Peer Review

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#### PART 1: 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>
<b>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.</b>	This manuscript is highly valuable for the scientific community as it addresses an important agricultural challenge - enhancing the shelf-life and value of green peas through innovative drying techniques. The study's focus on fluidized bed drying with precise conditions ensures minimal quality loss while improving preservation. The findings, such as the optimal pre-treatment and drying parameters, provide actionable insights for improving post-harvest processing efficiency and nutritional quality. These results can directly contribute to reducing wastage, increasing farmer incomes, and advancing food technology research, particularly in regions with high green pea production.	
<b>Is the title of the article suitable? (If not please suggest an alternative title)</b>	The title, " <b>A Trial for Enhancing Tribal Farmers' Incomes through Value Addition in Green Peas by Drying Under Fluidized Bed Drying</b> ," captures the essence of the research but could be made more concise and aligned with the scientific nature of the manuscript. Below is my suggested title; <b>"Enhancing Farmers' Income through Value Addition: Fluidized Bed Drying of Green Peas"</b>	
<b>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.</b>	The abstract of the article is comprehensive in presenting the research objectives, methodology, key findings, and conclusions. However, there are areas where improvements could enhance its clarity and impact: <b>Suggestions for Improvement:</b> <ol style="list-style-type: none"> <li><b>Inclusion of Research Context:</b> The abstract could briefly mention the significance of addressing post-harvest losses and improving the economic value of green peas for farmers to emphasize the practical importance of the study.</li> <li><b>Highlight Novelty:</b> Explicitly state the novelty of using fluidized bed drying in this context compared to other preservation methods like freezing or canning.</li> <li><b>Clarify Key Results:</b> While the drying parameters and outcomes are presented, summarizing the benefits (e.g., improved shelf-life, nutrient retention, or economic advantage) would make the results more compelling.</li> <li><b>Remove Redundant Information:</b> The detailed explanation of the drying rate formula and specific values for drying rate and chlorophyll content might be too detailed for the abstract. These could be summarized to make room for broader implications.</li> <li><b>Implications and Recommendations:</b> Add a concluding statement on how these findings can be practically implemented by farmers or integrated into agricultural practices.</li> </ol> <b>Suggested Revised Abstract:</b> The diversification of India's climatic conditions provides opportunities for year-round vegetable production, but post-harvest losses remain a significant challenge. This study evaluated the effectiveness of fluidized bed drying for preserving green peas ( <i>Pisum sativum</i> L.) to enhance farmer incomes through value addition. Experiments tested two pre-treatments (blanched and un-blanched), three-bed heights (20,	

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	<p>40, and 60 mm), and three drying air temperatures (45, 55, and 65°C). Results showed that blanching at 85°C for 1 minute followed by drying at a 40 mm bed height and 55°C yielded optimal product quality, with high protein and chlorophyll retention. The findings provide practical insights for improving shelf-life, reducing wastage, and increasing economic returns for farmers, demonstrating the potential of fluidized bed drying as a sustainable preservation method.</p>	
<p><b>Is the manuscript scientifically, correct? Please write here.</b></p>	<p>The manuscript is scientifically correct, as it follows standard research methodology, employs appropriate experimental designs, and presents statistically analyzed results but could be improved with deeper discussions of underlying mechanisms, updated references, and a broader context for the findings.</p> <p><b>Positive Aspects:</b> The study uses a well-defined factorial completely randomized design (FCRD), with clear variables (pre-treatment, bed height, and drying air temperature) and appropriate replications. Results are systematically presented with supporting figures, making it easier to interpret the findings. The results align with established literature on fluidized bed drying and its effects on food quality attributes, such as chlorophyll and protein retention. The study's conclusions are directly applicable to agricultural and food processing industries, making the work relevant and actionable.</p> <p><b>Points for Verification or Improvement:</b> The discussion of results could further explore the mechanisms behind the observed effects, such as why certain temperatures and bed heights are more effective in preserving chlorophyll and protein. The study might benefit from cross-validation with other drying techniques (e.g., freeze-drying or hot air drying) to contextualize the advantages of fluidized bed drying. While the statistical analysis seems sound, ensuring the inclusion of precise statistical values (e.g., p-values, standard deviations) in the tables and figures would strengthen the scientific rigor. Some of the cited references are relatively old. Including recent studies on drying technologies would enhance the manuscript's relevance. The manuscript could include a note on how these results may vary with different crop varieties or regional conditions to avoid overgeneralization.</p>	
<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p>	<p>The references in the manuscript cover a mix of foundational and relevant studies; however, there are areas where they could be improved:</p> <p><b>Evaluation of Existing References:</b></p> <ol style="list-style-type: none"> <li>1. <b>Adequacy:</b> The manuscript includes key references for drying methods, such as fluidized bed drying, and their effects on food properties. Foundational studies (e.g., AOAC, 1990; Gomez &amp; Gomez, 1984) and related works on drying techniques are cited, which provides a strong base.</li> <li>2. <b>Recency:</b> Many references, such as AOAC (1990) and works from the early 2000s, are outdated. There is a need to incorporate more recent studies (post-2015) to reflect advancements in drying technologies and agricultural practices.</li> <li>3. <b>Diversity:</b> While the references include studies on fluidized bed drying and green peas, additional studies focusing on recent innovations in drying technologies (e.g., microwave-assisted drying or hybrid drying) would enhance the breadth of citations.</li> </ol> <p><b>Suggestions for Additional References:</b></p> <ol style="list-style-type: none"> <li>1. <b>Recent Research on Fluidized Bed Drying:</b> <ol style="list-style-type: none"> <li>i. Sharma, S., &amp; Prasad, R. (2016). "A study on the quality of fruits and vegetables using advanced drying techniques." <i>Journal of Food Science and Technology</i>.</li> <li>ii. Pandey, S. K., &amp; Shukla, A. (2019). "Effect of hybrid drying methods on green peas: Quality and economic analysis." <i>Food Engineering Reviews</i>.</li> </ol> </li> <li>2. <b>Nutrient Retention in Drying:</b> <ol style="list-style-type: none"> <li>i. Zhang, M., Chen, H., &amp; Mujumdar, A. S. (2017). "Recent developments in high-quality drying of vegetables." <i>Critical Reviews in Food Science and Nutrition</i>.</li> <li>ii. Kaur, J., &amp; Sandhu, J. (2020). "Effect of advanced blanching and drying methods on nutrient retention in leafy vegetables." <i>International Journal of Agricultural Engineering</i>.</li> </ol> </li> <li>3. <b>Economic and Practical Implications:</b> <ol style="list-style-type: none"> <li>i. Singh, R., &amp; Gupta, P. (2018). "Economic impact of post-harvest technologies on vegetable supply chain in India." <i>Agricultural Economics Research Review</i>.</li> </ol> </li> </ol>	

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<p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	<p>The language and English quality of the article are generally understandable but require improvement for scholarly communication. Several areas could benefit from enhanced clarity, grammatical accuracy, and adherence to academic writing conventions. Below is a detailed assessment:</p> <p><b>Positive Aspects:</b></p> <ol style="list-style-type: none"> <li><b>Understandable Content:</b> The manuscript effectively conveys the research's objectives, methodology, and findings in a structured manner.</li> <li><b>Technical Terminology:</b> The use of technical terms, such as "fluidized bed drying," "rehydration ratio," and "chlorophyll retention," is appropriate for the subject matter.</li> </ol> <p><b>Areas for Improvement:</b></p> <ol style="list-style-type: none"> <li><b>Grammar and Sentence Structure:</b> Some sentences are lengthy, lack proper punctuation, and can be rephrased for better readability. For instance:  <b>Original:</b> <i>"The drying characteristics of green peas seed is used in grading, sorting and which correlate the machine design parameters for different agricultural process operations such as handling, harvesting, threshing, cleaning, conveying, drying etc."</i>  <b>Revised:</b> <i>"The drying characteristics of green peas seeds are essential for grading and sorting, and they inform machine design parameters for agricultural processes such as handling, harvesting, and drying."</i> </li> <li><b>Tense Consistency:</b> The manuscript occasionally switches between present and past tenses. Scholarly articles typically use the past tense when describing completed experiments and the present tense for discussing findings.</li> <li><b>Clarity and Conciseness:</b> Redundant phrases like <i>"it cannot be stored well for a long period of time"</i> can be simplified to <i>"it cannot be stored for long."</i></li> <li><b>Scholarly Tone:</b> The language could be made more formal to align with scholarly standards. For example, replace casual phrases like <i>"That's why here in Gujarat..."</i> with a more formal alternative, such as <i>"Hence, in Gujarat..."</i></li> <li><b>Typographical and Formatting Errors:</b> Ensure consistent formatting, such as using proper capitalization (e.g., "Blanching at 85°C" instead of "blanched at 85° C").</li> </ol>	
<p><b>Optional/General</b> comments</p>		

**PART 2:**

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

**Reviewer Details:**

<p>Name:</p>	<p><b>Darlington Arnold Mangaba</b></p>
<p>Department, University &amp; Country</p>	<p><b>Rusangu University, Zambia</b></p>