

Review Form 3

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| Journal Name: | Journal of Advances in Biology & Biotechnology |
| Manuscript Number: | Ms_JABB_128992 |
| Title of the Manuscript: | Assessing the Effects of Extraction Methods on the Properties of Chayote (<i>Sechium edule</i>) Tuber Starch |
| 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> |
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| 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. | This manuscript makes a significant contribution by exploring the potential of chayote (<i>Sechium edule</i>) tuber starch as an alternative raw material with diverse physicochemical properties. It fills a gap in the literature regarding extraction methods and their influence on starch characteristics, which is highly relevant for both food and non-food industrial applications, such as flexible and stable coatings. This study serves as a foundation for developing innovative starch-based products that are eco-friendly and support global sustainability agendas. Furthermore, the findings are valuable for further research in biotechnology and industrial product formulation. | |
| Is the title of the article suitable? (If not please suggest an alternative title) | The current title is informative, but it could better reflect the practical applications of the findings. Suggested alternative: "Influence of Extraction Techniques on the Physicochemical Characteristics and Industrial Applications of Chayote (<i>Sechium edule</i>) Tuber Starch" | |
| 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 adequately summarizes the main findings but could better highlight the practical implications of the study. Suggested improvements: <ol style="list-style-type: none"> 1. Include potential industrial applications beyond coatings (e.g., other food products). 2. Elaborate on why a specific method was deemed optimal (e.g., flexibility and stability characteristics). 3. Emphasize the relevance of the findings for developing new products. | |
| Is the manuscript scientifically, correct? Please write here. | The manuscript is scientifically accurate and uses valid methodologies, such as the CRD statistical design and standardized physicochemical property testing. However, a few recommendations are as follows: <ol style="list-style-type: none"> 1. Provide a deeper discussion on how variations in extraction methods influence the molecular structure of the starch, particularly the role of sodium metabisulfite in enhancing amylopectin content. 2. Include a more detailed comparison with commercial starch sources such as cassava and potato to assess its competitiveness. | |
| Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. | The references are adequate, but adding more recent studies would enrich the discussion. Suggested additions: <ol style="list-style-type: none"> 1. Articles related to the effect of extraction methods on the molecular structure of starch 2. Studies on starch applications from other underutilized sources, such as local tubers. | |

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| <p>Is the language/English quality of the article suitable for scholarly communications?</p> | <p>The language is generally good, but certain phrases could be refined to enhance clarity and conciseness. For example, "high clarity indicating potential for high transparency" could be simplified to "high clarity, suitable for transparent applications."</p> | |
| <p>Optional/General comments</p> | <p><input type="checkbox"/> The manuscript could be strengthened with additional visualizations, such as flow diagrams of extraction methods and comparison graphs of the results, to help readers better understand the data.</p> <p><input type="checkbox"/> Consider adding a discussion on the sustainability implications and cost savings of using chayote tuber starch compared to conventional starch sources.</p> <p><input type="checkbox"/> Including insights on potential further optimization of the extraction methods could pave the way for future research.</p> <p>There are no apparent ethical issues in this manuscript. The study does not involve human or animal subjects, and it adheres to ethical standards in the field. However, it would be helpful if the authors explicitly declare that no ethical approval was required for the research conducted.</p> <p>No competing interest issues are apparent from the content of this manuscript. The authors appear to have conducted the study impartially, without any evident conflicts of interest.</p> <p>While the manuscript is well-structured and scientifically sound, a few improvements are necessary, particularly in enhancing the abstract, refining language for clarity, and including a deeper discussion of findings in the broader context of sustainability and industrial applications. These revisions will further strengthen the paper's quality and impact.</p> | |

PART 2:

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| | <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> | |

Reviewer Details:

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|---|---|
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| <p>Department, University & Country</p> | <p>Institut Kesehatan Deli Husada Delitua, Indonesia</p> |