

Review Form 1.7

Journal Name:	Asian Food Science Journal
Manuscript Number:	Ms_AFSJ_119596
Title of the Manuscript:	Fabrication and Investigation of Gondhoraj (Citrus hystrix) Zest Edible Wrap for enhanced quality and better shelf-life of Chicken Breast
Type of the Article	Original Research Article

Review Form 1.7

PART 1: Review Comments

	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><u>Compulsory</u> REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<ol style="list-style-type: none"> 1. Is the manuscript important for the scientific community? Yes, the manuscript is important for the scientific community, particularly in the fields of food technology and food safety. It explores the use of natural extracts in active packaging, which is a growing area of interest due to the increasing demand for natural and sustainable food preservation methods. The study provides valuable insights into the physicochemical, antioxidant, and antibacterial properties of Gondhoraj (Citrus hystrix) zest essential oil when incorporated into edible films, which could contribute to enhanced food safety and prolonged shelf life of chicken breast meat. 2. Is the title of the article suitable? The title is somewhat suitable but could be more concise and informative. An alternative title could be: "Enhancement of Chicken Breast Shelf-Life Using Gondhoraj (Citrus hystrix) Zest Edible Wrap: Physicochemical, Antioxidant, and Antibacterial Properties" 3. Is the abstract of the article comprehensive? The abstract is comprehensive but could benefit from a few improvements for clarity and conciseness. The key elements such as the aim, methodology, results, and conclusion are present, but the flow can be improved for better readability. Additionally, the statistical significance mentioned in the conclusion should be clarified. 4. Are subsections and structure of the manuscript appropriate? The subsections and structure of the manuscript appear to be appropriate. The study seems to follow a logical progression from the introduction, through the methodology, results, and discussion, to the conclusion. 5. Do you think the manuscript is scientifically correct? Based on the abstract, the manuscript appears to be scientifically correct. The methodologies described, such as the use of DPPH and ABTS+ assays for antioxidant activity and the evaluation of antibacterial properties, are standard and appropriate for this type of study. However, a thorough review of the full manuscript would be necessary to confirm the scientific accuracy of the entire study. 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. The abstract does not provide information about the references used in the manuscript. For a proper evaluation, it is essential to review the reference list to ensure they are sufficient and recent. Generally, it is important to include recent studies and relevant literature to provide context and support for the research findings. Additional references on recent advancements in edible films and active packaging incorporating natural extracts could strengthen the manuscript. 	

Review Form 1.7

	<p>Suggestions for additional references:</p> <ol style="list-style-type: none">1. Ribeiro-Santos, R., Andrade, M., Madella, D., Martinazzo, A. P., Moura, L. A., de Melo, N. R., & Sanches-Silva, A. (2017). Use of essential oils in active food packaging: Recent advances and future trends. <i>Trends in Food Science & Technology</i>, 61, 132-140.2. Kuorwel, K. K., Cran, M. J., Sonneveld, K., Miltz, J., & Bigger, S. W. (2011). Essential oils and their principal constituents as antimicrobial agents for synthetic packaging films. <i>Journal of Food Science</i>, 76(9), R164-R177.	
--	---	--

Review Form 1.7

<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<ul style="list-style-type: none">• Conciseness: The abstract is somewhat verbose. Reducing redundancy and being more concise would enhance readability.• Grammar and Style: There are minor grammatical errors and awkward phrasings that could be polished for better flow. <p>Suggested Revised Abstract</p> <p>ABSTRACT: Aims: The study aims to evaluate the physicochemical, antioxidant, and antibacterial properties of Gondhoraj (Citrus hystrix) essential oil (GPO) incorporated into a starch-based edible film (GF) for packaging chicken breast meat to enhance safety and shelf life.</p> <p>Study Design: Active packaging films were formulated with GPO concentrations of 0.2%, 0.4%, and 0.8% (v/v) in pre-film forming starch solution.</p> <p>Place of Study: Department of Food Technology, Guru Nanak Institute of Technology, Kolkata.</p> <p>Methodology: Films were created using the casting technique. Opacity and light barrier properties were measured via light absorption between 200 and 800 nm. Moisture content, antibacterial, and antioxidant properties were assessed. The coliform count in chicken meat packed with GF was evaluated.</p> <p>Results: GF demonstrated lower water solubility ($0.068 \pm 0.09\%$ - $0.090 \pm 0.00\%$) compared to the control starch film and greater opacity (3.150 ± 0.03 - 8.924 ± 0.09) with light absorption between 200 and 800 nm. Antioxidant activity, measured by DPPH and ABTS+ assays, was $70.36 \pm 2.48\%$ and $83.78 \pm 0.54\%$, respectively. After refrigeration at $4^{\circ}\text{C} \pm 1$ hour, the chicken sample with GF had the lowest coliform count (4.88 ± 0.06 CFU/g) compared to the uncoated sample.</p> <p>Conclusion: The shelf life study revealed no significant difference ($p < 0.05$) in organoleptic qualities between coated and uncoated chicken samples. Thus, GF exhibits strong antibacterial and antioxidant properties, enhancing the nutritional quality and prolonging the shelf life of chicken meat during refrigeration.</p> <p>Keywords: Antibacterial properties, Chicken Breast, Edible Packaging, Gondhoraj Peel, Shelf-life</p> <p>Comments:</p> <ul style="list-style-type: none">• The revised abstract is more concise and focuses on key points.• Grammatical corrections and stylistic improvements make the abstract clearer.• Scientific terminology is used appropriately for scholarly communication.	
<p>Optional/General comments</p>		

Review Form 1.7

PART 2:

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

Reviewer Details:

Name:	Shahid Afridi
Department, University & Country	SAIC College of Medical Science and Technology, Bangladesh