

## REVIEWER'S REPORT

Manuscript No.: IJAR-51542

Date: May 12, 2025

**Title: EGGSHELL FOOD WRAPS: A BIODEGRADABLE PLASTIC ALTERNATIVE**

### Recommendation:

Accept as it is .....

Accept after minor revision.....

**Accept after major revision** .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		X		
Techn. Quality				X
Clarity				X
Significance				X

Reviewer Name: Lakhdar Guerine

**Date:** May 12, 2025

### Reviewer's Comment for Publication.

*(To be published with the manuscript in the journal)*

*The reviewer is requested to provide a brief comment (3-4 lines) highlighting the significance, strengths, or key insights of the manuscript. This comment will be Displayed in the journal publication alongside with the reviewers name.*

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***Detailed Reviewer's Report***

# International Journal of Advanced Research

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The study proposes a biodegradable alternative to single-use food plastics using natural materials such as eggshells, calcium acetate, agar-agar, cornstarch, and chia gel. The researchers created food wraps and tested them for tensile strength, water absorption, heat resistance (up to 250°C), and their ability to inhibit bacterial growth.

### Strengths

1. **Environmental relevance:** The study addresses a pressing issue, plastic pollution, offering a local, sustainable, and potentially cost-effective solution.
2. **No bacterial growth:** A positive aspect for food-related applications, ensuring safety and hygiene.

### Weaknesses

1. **No comparison with commercial plastics:** The study does not include direct comparisons with standard plastic films regarding performance.
2. **Limited scope:** Conducted only on a small laboratory scale, with no industrial or economic feasibility analysis.
3. **No long-term durability test:** The study does not assess biodegradation over time in real-world conditions (e.g., soil, water, compost).
4. **Uncertainty in sensory qualities:** No details are provided on flexibility, texture, or smell—important factors for food-contact materials.
5. **Inconsistent, school-level bibliography:** While the references are numerous, some are informal, lacking academic rigor or proper integration.
6. **Reviewer comments left in the text:** The margin notes or editing comments suggest the document is not ready for publication.

### Academic Level Assessment

This is a high school or early undergraduate-level project. It is well-structured and written with an intent to follow scientific methodology, but it is not yet suitable for professional or peer-reviewed scientific publication.

### Suggestions for Making It Publishable (University or Scientific Level)

1. Include comparisons with commercial plastic wraps using standardized benchmarks.
2. Conduct biodegradability tests in real environmental conditions (soil, compost, marine water).
3. To scale the material, add a cost analysis and production feasibility study.
4. Use standardized testing equipment and methods (e.g., ASTM or ISO-certified procedures).
5. Incorporate a detailed food safety and toxicity assessment to meet regulatory expectations.