

Review Form 3

Journal Name:	Asian Food Science Journal
Manuscript Number:	Ms_AFSJ_125578
Title of the Manuscript:	Citronella oil as additives in active carrageenan -based food packaging films : A Review
Type of the Article	Review Article

Review Form 3

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 addresses key challenges in sustainable food packaging by exploring the use of biodegradable films combined with natural additives like citronella oil. It highlights the dual benefit of reducing environmental impact while improving food preservation, an area of increasing interest due to the growing demand for eco-friendly packaging solutions. The detailed exploration of carrageenan-based films and citronella oil's antimicrobial and antioxidant properties provides valuable insights for future research and potential commercial applications. I appreciate the manuscript's comprehensive review of both the benefits and limitations, as it encourages further studies and practical advancements in sustainable packaging technologies.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The title is appropriate</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 is comprehensive. The sentence "Utilization of Iota Carrageenan-based Films with Essential Oils for Food Packaging Applications" is incomplete and also it is unnecessary since the very next sentence explains the same context. The abstract should provide context for the scope of the review, indicating that the focus is on evaluating citronella oil's role in iota carrageenan films. Correct the spelling – thixotrophic properties to thixotropic properties Use the correct spelling of carrageenan in key words</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The sub sections and structure are appropriate for a review paper; however a few adjustments could be done to improve the flow and clarity:</p> <ol style="list-style-type: none"> 1. Provide a brief overview of why active packaging with essential oils is gaining popularity in food preservation, and elaborate on the role of natural antioxidants and antimicrobial agents. 2. Include a few more citations in the introduction to support statements about biodegradable films and their benefits over traditional plastics. 3. Explain briefly why iota carrageenan specifically is chosen over other types for this application, focusing on its unique properties that make it suitable for food packaging. 4. Brief about the extraction technologies available (traditional and advanced) 5. Explain why citronella oil is a good candidate for incorporation into food packaging films. Discuss the major active compounds of citronella oil (e.g., citronellal, citronellol, and geraniol) and how they contribute to its antioxidant and antimicrobial effects. Consider expanding on the mode of action of these compounds, especially regarding their effect on microorganisms in food packaging. 6. Describe the process and methods used to incorporate citronella oil into carrageenan films also the factors influencing film properties, such as concentration and dispersion of citronella oil. 7. Include more detailed data on how citronella oil concentrations affect the mechanical properties and water vapor permeability (WVP) of the films. Also discuss studies that compare the effects of different essential oils on SRiC films. 8. Elaborate on how changes in opacity, morphology, and solubility influence the overall effectiveness of the film as a food packaging material. 9. Consider using visual aids, like graphs or images from microstructural analysis, that can enhance the information on the property changes. 10. Add a concluding section that summarizes the overall findings and potential future directions, such as exploring different concentrations of citronella oil or testing other essential oils in combination with carrageenan-based films. 11. Discuss potential challenges in scaling up the production of these films for industrial applications and any limitations related to the sensory impact of citronella oil on food 	

Review Form 3

<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>This manuscript is scientifically robust and technically sound for several reasons. First, it is grounded in current research on the use of biodegradable films and essential oils, specifically citronella oil, for food packaging, addressing both environmental concerns and food preservation. The chemical structure and properties of carrageenan and citronella oil are thoroughly described, and their interactions within the film matrix are backed by existing studies on their mechanical, antimicrobial, and antioxidant effects. The manuscript also appropriately considers the challenges of maintaining the film's structural integrity while incorporating essential oils, highlighting the balance between flexibility and tensile strength. Furthermore, it presents a well-supported analysis of both the benefits and limitations of citronella oil as a packaging additive, ensuring a balanced perspective on its application in food preservation.</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 cited are recent</p>	
<p><u>Minor</u> REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language is appropriate but require some improvements for better clarity and consistency.</p> <ol style="list-style-type: none"> 1. Use the full word before using the abbreviations. For example, define SRiC as semi-refined iota carrageenan before using SRiC 2. Use italics for mentioning scientific names such as <i>Cymbopogon nardus</i>, <i>Kappaphycus alvarezii</i>, <i>Eucheuma denticulatum</i> 3. Consistency in terminology is important. For instance, "citronella oil" and "lemongrass oil" are both mentioned; while they are related, it's essential to use the same term throughout or clarify if they are intended to refer to different things 4. Avoid run-on sentences. For instance, "Just like other types of essential oils, lemongrass oil is volatile at room temperature without causing decomposition, light yellow to dark yellow in color, fragrant (according to the smell of the producing plant), and generally soluble in organic solvents and insoluble in water" can be simplified to: "Similar to other essential oils, lemongrass oil is volatile at room temperature and ranges from light to dark yellow. It has a characteristic fragrance, is generally soluble in organic solvents, and is insoluble in water." 5. Incomplete words such as "os" instead of oils "ssential" instead of essential in section 4 6. Repetitive words "positive positive correlation" in section 6.4 7. Phrases such as "CO affects light transmission, and light can scatter" can be revised to be more formal 8. What is the word "thehopkins" 	
<p><u>Optional/General</u> comments</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>	

Reviewer Details:

<p>Name:</p>	<p>Parvathy Nayana N</p>
<p>Department, University & Country</p>	<p>Indian Agricultural Research Institute, India</p>