

Review Form 3

Journal Name:	European Journal of Nutrition & Food Safety
Manuscript Number:	Ms_EJNFS_128748
Title of the Manuscript:	Combined effect of gamma irradiation and low temperature storage on the microbial and bio-chemical quality of sutchi cat fish (<i>Pangasius hypophthalmus</i>)
Type of the Article	Research 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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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>
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.	<ul style="list-style-type: none"> ♣ The manuscript is significant for food safety and preservation. It explores innovative methods to reduce microbial contamination and extend shelf life while maintaining nutritional value. ♣ The research also contributes to sustainable seafood processing, offering alternatives to traditional preservation methods. ♣ Additionally, it informs regulatory bodies on safe, effective techniques for maintaining food quality. Overall, the study advances knowledge in food preservation, supporting both public health and the seafood industry. 	
Is the title of the article suitable? (If not please suggest an alternative title)	<ul style="list-style-type: none"> ♣ The title is clear and reflects the study's purpose. 	
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.	<ul style="list-style-type: none"> ♣ The abstract effectively summarizes the objective, methodology, and key findings. Including a brief mention of the sensory analysis adds comprehensiveness. 	
Is the manuscript scientifically, correct? Please write here.	<ul style="list-style-type: none"> ♣ Provides a solid background on fish preservation methods, especially the advantages of gamma irradiation. ♣ The importance of the Sutchi catfish in aquaculture is well explained, but a comparative context with other preservation techniques could enhance the argument. ♣ Detailed and precise, ensuring reproducibility. ♣ The statistical tools used (ANOVA with Duncan's test) are appropriate. ♣ The methodology for sensory evaluation could benefit from further elaboration, particularly the composition of the evaluation panel. ♣ Provides thorough explanations of biochemical (pH, TVBN, PV, TBARS) and microbiological changes. ♣ Figures are informative but could benefit from clearer captions explaining the relevance of trends. ♣ Sensory analysis results are compelling but need more details on how subjective differences (e.g., odor or texture) were addressed statistically. ♣ Summarizes findings well but could emphasize the practical applications of the study more robustly, such as cost benefits or implications for aquaculture. 	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Some References are outdated ; the maximum old reference is 10-15 year update to the latest updated Ones!	

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Yes Good</p>	
<p>Optional/General comments</p>	<ul style="list-style-type: none"> ♣ Better if Keywords are arranged alphabetically ♣ Acronyms should explained separately ♣ No page number inserted ♣ Sensors evaluation 2.9 point need further Clarification, and an approval sheet/survey report from Consumer! ♣ Minimum of one actual picture of sample: Cat fish or during methodology should be included under Introduction/methods ♣ Combined List of Chemical and Materials should be added! ♣ Tabulated data for Statistical analysis is needed as 3 Variables are needed for ANOVA. ♣ Make clear Total volatile base nitrogen (TVB-N) you determine! ♣ Improve figure clarity and consider tabular summaries for easier interpretation of key findings. ♣ Elaborate on the implications of your findings for the fish industry and consumers. ♣ Address environmental or logistical concerns regarding the adoption of gamma irradiation at a commercial scale. <p>General Questions</p> <ul style="list-style-type: none"> ✓ Why was Sutchi catfish specifically chosen over other aquaculture species with higher economic value? ✓ How the irradiation doses do used (1-5 kGy) compare to globally recommended doses for similar applications? ✓ Were there any pre-treatment measures to standardize fish quality before irradiation (e.g., fat content, handling)? ✓ Were the microbiological analyses capable of detecting spores or resistant microorganisms, particularly in higher doses? ✓ How do the sensory attributes (e.g., odor degradation) at 5 kGy affect consumer acceptability compared to lower doses? ✓ The study notes that lipid oxidation increases with irradiation. How might antioxidants or other additives mitigate this effect? ✓ Were the results cross validated with studies on different fish species or other perishable products to enhance generalizability? ✓ Why was sensory data analyzed only qualitatively rather than quantitatively through regression models? ✓ Could this approach be scaled up for industrial application? If so, what are the anticipated challenges? ✓ How sustainable is gamma irradiation compared to alternative preservation methods in terms of energy and cost efficiency? 	

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:

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