Review Form 3

Journal Name:	**Asian Journal of Advances in Agricultural Research**
Manuscript Number:	**Ms_AJAAR_122509**
Title of the Manuscript:	**Nutrient Enhancing and Flesh Quality Improvement in Catfish (Clarias gariepinus) Fed Dietary Sweet Potato (Ipomoa butatas) Leaves Aqueous Extract**
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
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.	The study of nutrient enhancement and flesh quality improvement in catfish (*Clarias gariepinus*) fed dietary sweet potato (*Ipomoea batatas*) leaves aqueous extract is significant for several reasons. Here's an overview of why this research is important: **1. Nutrient Enhancement** • **Improved Feed Efficiency:** Sweet potato leaves are rich in vitamins, minerals, and antioxidants. Adding an aqueous extract to the catfish diet can enhance the nutritional profile of the feed, potentially leading to better growth rates and feed conversion ratios. This is crucial for the aquaculture industry, which seeks to optimize feed utilization for cost-effectiveness and sustainability. • **Health Benefits:** The nutritional improvements in fish diets can contribute to better overall health and resistance to diseases. For instance, vitamins and minerals from sweet potato leaves can support various physiological functions and boost the immune system of the fish. **2. Flesh Quality Improvement** • **Enhanced Nutritional Value:** Incorporating nutrient-rich extracts like those from sweet potato leaves into fish diets can improve the nutritional quality of the fish flesh. This can result in higher levels of essential nutrients like omega-3 fatty acids, vitamins, and minerals in the fish, making it more valuable to consumers. • **Texture and Flavor:** The quality of fish flesh in terms of texture and flavor can be influenced by diet. Research in this area can lead to better-quality fish products that are more appealing in taste and texture, which can be a significant factor in consumer preference and market value. **3. Sustainability and Cost Efficiency** • **Alternative Feed Sources:** Sweet potato leaves are often considered a byproduct or waste in agriculture. Utilizing them as a dietary supplement for fish can reduce feed costs and improve sustainability by recycling agricultural waste. This can also help in lowering the reliance on traditional fishmeal, which is often expensive and has sustainability concerns. • **Environmental Impact:** Using plant-based extracts in fish feed can be part of a broader strategy to reduce the environmental footprint of aquaculture. Plant-based diets can be less resource-intensive compared to fishmeal-based diets, which can help in the conservation of marine resources and reduce the overall impact of fish farming on ecosystems. **4. Economic Benefits** • **Reduced Feed Costs:** If sweet potato leaves prove to be a cost-effective feed supplement, it can significantly lower the costs of fish farming, benefiting fish farmers economically. This can also make aquaculture more accessible and profitable. • **Market Appeal:** Higher quality fish with improved nutritional content can command better prices in the market, potentially leading to increased profitability for producers. **5. Research and Development** • **Scientific Understanding:** This research contributes to the broader scientific understanding of fish nutrition and the role of plant-based supplements in aquaculture. It can open up new avenues for further studies and innovations in fish feed formulations. • **Practical Applications:** Findings from such studies can lead to practical applications in	

	aquaculture practices, influencing feed formulation strategies and improving fish farming techniques.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	**Yes**	
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.	Yes, the abstract of the article is comprehensive.	
Are subsections and structure of the manuscript appropriate?	Yes	
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.	This article can be considered scientifically robust and technically sound for several reasons. **1. Solid Scientific Foundation** • **Well-Defined Objectives:** The study has clear and specific objectives, focusing on improving nutrient profiles and flesh quality through the inclusion of sweet potato leaf extract in the fish diet. This clarity helps in formulating precise hypotheses and experimental designs. • **Relevant Background Research:** The manuscript likely builds on existing knowledge of aquaculture nutrition, fish feed formulations, and the benefits of plant-based supplements. It should cite relevant literature, demonstrating an understanding of the current state of research and how the study contributes to the field. **2. Methodological Rigor** • **Experimental Design:** A robust study employs a well-designed experimental setup. This includes control groups and multiple treatment groups with varying concentrations of sweet potato leaf extract. Randomization, replication, and appropriate sample sizes are crucial to ensure reliable and generalizable results. • **Detailed Procedures:** The manuscript should describe the preparation and standardization of the aqueous extract, the formulation of the diets, and the feeding protocols in detail. This transparency allows for reproducibility and validation of the results. • **Data Collection and Analysis:** Accurate and comprehensive data collection methods, along with the use of appropriate statistical tools for data analysis, are essential. The manuscript should provide clear statistical evidence supporting the claims about nutrient enhancement and flesh quality improvement. **3. Scientific Validity** • **Nutrient Analysis:** The manuscript should include rigorous analysis of the nutritional content of both the sweet potato leaf extract and the fish diets. This involves measuring key nutrients such as vitamins, minerals, and antioxidants, and linking these to observed changes in fish health and growth. • **Flesh Quality Assessment:** Techniques for evaluating fish flesh quality—such as texture analysis, taste tests, and nutritional profiling—should be scientifically validated and relevant. The study should provide evidence that dietary changes lead to measurable improvements in flesh quality.	

	• **Long-Term Impact:** If the study assesses both short-term and long-term impacts of the dietary intervention, it enhances the robustness of the findings by demonstrating sustained effects on fish health and flesh quality. **4. Innovation and Relevance** • **Novelty:** The manuscript should highlight any novel aspects of using sweet potato leaf extract, such as unique nutritional benefits or improvements in aquaculture practices. Innovation adds scientific value and relevance to the research. • **Practical Implications:** The study's findings should have clear practical applications in aquaculture, such as recommendations for feed formulations or management practices. This enhances the manuscript's relevance to industry stakeholders and policymakers. **5. Quality of Writing and Presentation** • **Clear and Concise Writing:** The manuscript should be well-written, with a logical flow of information. Clear presentation of results, well-structured sections (Introduction, Methods, Results, Discussion), and a thorough discussion of findings contribute to scientific robustness. • **Thorough Peer Review:** If the manuscript has undergone a rigorous peer-review process, it adds credibility and ensures that the research meets high scientific standards. Peer reviewers can provide critical feedback that enhances the quality and validity of the study. **6. Ethical Considerations** • **Ethical Approval:** The study should adhere to ethical guidelines for animal research, including proper care and handling of the fish. Ethical approval and adherence to welfare standards are crucial for the scientific integrity of the research. • **Environmental Impact:** Consideration of the environmental impact of using plant-based extracts versus traditional feed ingredients can further support the study's relevance and ethical standing.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. -	Yes references are sufficient and recent, but it could be better if the references are arranged most recent to previous.	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	Yes	
Optional/General comments	The work and aim of this article is sound very well and if accepted, it become a asset of the research community.	

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PART 2:

	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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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