Review of: "The Growth Performance of Nile Tilapia (Oreochromis Niloticus) Fed Low-Cost Fish Feeds Formulated From Fish By-Products, Fishery By-Catch and Pig Blood-Meal"

Eric Amenyogbe[1]

1 University of Environment and Sustainable Development, Somanya

Potential competing interests: No potential competing interests to declare.

Munyoro et al. conducted the study titled "The Growth Performance of Nile Tilapia (*Oreochromis niloticus*) Fed Low-Cost Fish Feeds Formulated from Fish By-Products, Fishery By-Catch, and Pig Blood-Meal." The utilization of low-cost fish feeds formulated from fish by-products, fishery by-catch, and pig blood-meal demonstrates an innovative approach towards sustainable aquaculture practices. This study is supposed to address the need for alternative feed sources, considering the increasing demand for fish feed and concerns regarding environmental sustainability. The study intends to provide a comprehensive evaluation of the growth performance of Nile tilapia when fed with these alternative feeds. By considering multiple variables such as growth rate, feed conversion ratio, and survival rate, the researchers offer valuable insights into the efficacy of these feed formulations in supporting the nutritional needs of the fish. The study opens avenues for future research in optimizing the formulation of low-cost fish feeds and exploring additional unconventional ingredients that could further enhance tilapia growth performance. Additionally, longitudinal studies could investigate the long-term effects of these feeds on fish health, product quality, and environmental sustainability.

However, some concerns have arisen

1. It would be beneficial to include a detailed assessment of the nutritional quality of the formulated feeds. This could involve analyzing the protein, lipid, carbohydrate, and micronutrient content, as well as assessing the presence of any anti-nutritional factors. Such information would enhance the understanding of the feed's suitability for tilapia nutrition.
2. Given the use of unconventional ingredients such as fish by-products, fishery by-catch, and pig blood-meal, it is essential to consider the environmental implications of sourcing these materials. The study could have discussed the sustainability of utilizing these feed ingredients and their potential impact on aquaculture ecosystems and food chains.
3. The safety of using pig blood-meal in fish feed warrants attention, particularly regarding the risk of transmitting diseases or contaminants. It would be valuable for the study to address any potential health concerns associated with the consumption of tilapia raised on such feeds and to ensure compliance with regulatory standards.
4. To provide a more comprehensive evaluation, it would be insightful to compare the growth performance of tilapia fed with the formulated feeds against those fed with conventional commercial feeds. This comparative analysis would enable researchers to assess the cost-effectiveness and sustainability of adopting alternative feed formulations.

Specific comments

1. The abstract should start with “This study or the present study.”
2. Give a brief background of the study in the abstract.
3. What is the implication of your study? The abstract should be clear on the implications.
4. The objective of the study is not clearly stated in the manuscript, especially in the introduction.
5. I am not sure I really understand the first sentence under the Microbiological sample collection and analysis.
6. In my opinion, the entire study seems to be too simple.

Overall, the study contributes valuable insights into the feasibility of utilizing low-cost fish feeds derived from unconventional sources to support the growth of Nile tilapia. By addressing the highlighted points, the researchers can strengthen the significance and applicability of their findings within the context of sustainable aquaculture practices.