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COVER LETTER

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Jun 3, 2025

Dear,
I/We wish to submit an original research article entitled "**Development of Automatic Size-Sorting System for Catfish Seeds Using Photodiode Sensors**" for consideration by SINERGI.

We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere. We promise not to withdraw this article after it has been processed by the Editorial Team. If there is a withdrawal, we are willing to pay a penalty of USD 150 (IDR 2000K) to the SINERGI Editorial Team.

In this paper, I/we report on / show that:

Field	:	Aquaculture Technology
Topic	:	Automatic size-sorting system for catfish seeds using optical sensors
Brief Background	:	Ensuring uniform catfish seed size in catfish farming is very important for balanced seed growth and minimizing feed competition. Manual sorting that has been widely carried out so far requires a lot of human involvement, is time-consuming, and can be harmful to fish. Although several advanced sensor-based or machine learning automation technology solutions already exist, the specificity in determining the size that is then carried out in the sorting/separation stage of fish seeds does not yet exist, plus often the automation technology has a high cost and complexity, making it difficult for small-scale farmers to access. So, that automatic sorting technology is needed that is low-cost and easy to adopt by fish farmers, especially catfish.
Research Problem	:	There is a lack of accessible and affordable automated systems for sorting catfish fry by size that minimizes fish stress and reduces manual labor in small-scale aquaculture operations.
Overview of Method	:	The developed automatic sorting system uses an

		Arduino microcontroller and four photodiode sensors. The mechanism for determining the length of catfish seeds is by blocking the laser beam to the photodiode when the fish passes through the sorting channel. Fish seeds are classified into four size categories based on which photodiode beam is covered and then automatically directed to the appropriate container.
Significant finding	:	The evaluation results on the system showed that the system successfully predicted the length of catfish seeds and moved them into four size groups with an accuracy of 67.50%, reduced manual handling, and had a post-sorting catfish seed survival rate of 100%. These results indicate that the developed system has the potential to be used in low-cost catfish cultivation and can reduce fish stress due to the sorting process.

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,
Irmansyah

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AUTHORSHIP STATEMENT

I/We wish to submit an original research article entitled "**Development of Automatic Size-Sorting System for Catfish Seeds Using Photodiode Sensors**" for consideration by SINERGI.

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript.

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POTENTIAL REVIEWERS

Please send 3 (three) prospective reviewers (who are not yet registered in SINERGI) to speed up the review process who are competent for the topic and have a good reputation in the field. Please ensure that ***they are willing to review*** this paper.

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