

Review Form 3

Journal Name:	Journal of Experimental Agriculture International
Manuscript Number:	Ms_JEAI_130672
Title of the Manuscript:	Algae Biofilm Produced from Anaerobic Digester Wastewater Demonstrated as Biofertilizer for Dwarf Wheat
Type of the Article	Short communication

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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Important Policies Regarding Peer Review

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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.	This manuscript contributes significantly to sustainable agriculture by demonstrating the potential of algae biofilm cultivated on anaerobic digester effluent as a biofertilizer. The study highlights an innovative method for recycling nutrients within the biosphere, reducing reliance on synthetic fertilizers, and enhancing circular bioeconomy approaches. The findings offer practical implications for wastewater treatment facilities and agricultural sustainability, bridging the gap between waste management and food production.	Yes, the authors agree with the reviewer comment that the research demonstrates the potential of algae biofilm cultivation to provide a biofertilizer from anaerobic digester effluent, which is currently returned to the headworks of a wastewater treatment plant without treatment or transformation to a value bioproduct.
Is the title of the article suitable? (If not please suggest an alternative title)	The title is appropriate and accurately reflects the study's focus. No modifications are necessary.	The authors agree that the title accurately represents the content of the manuscript.
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>The abstract effectively summarizes the study, methodology, results, and conclusion. Struvite as a keyword of abstract is not mentioned in abstract even once. A slight refinement could improve clarity:</p> <ul style="list-style-type: none">Suggestion: Explicitly state the significance of struvite precipitation within the biofilm and its contribution to fertilizer efficiency.Clarify the statistical approach in simpler terms for better readability.	<p>Struvite precipitation was added to the Abstract as follow: “Struvite, a slow release fertilizer, was observed to be associated with the algae biofilm as a precipitate of the high concentrations of nutrients within the anaerobic digester water. Struvite (MgNH4PO46H2O) releases plant available nitrogen and phosphorus over time and is biologically precipitated due to the increase in solution pH as a result of photosynthesis by the algae biofilm.</p> <p>Statistics description was simplified for better readability as follows: “Algae biofilm fertilizer performed significantly better than Osmocote with $P = .002$, anaerobic digester biosolids with $P = .05$, and no fertilizer addition with $P = .05$.”</p>
Is the manuscript scientifically, correct? Please write here.	<p>The manuscript is scientifically robust and presents well-defined objectives, methodology, and results. The statistical analysis is appropriate, and the discussion aligns with the findings.</p> <ul style="list-style-type: none">Minor concern: The discussion could briefly mention potential limitations or areas for future research.	<p>The authors had added the following material in the RESULTS AND DISCUSSION section to address the minor concern of the reviewer: “Areas for future research include how to optimize precipitation of struvite within the biofilm as a function of moisture content of the biofilm and type of wastewater treated, while potential limitations could include the presence of toxic chemicals (algicides) in industrial wastes.”</p>
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references are recent and relevant. However, consider adding a citation on the broader implications of using biofertilizers in large-scale agriculture to strengthen the discussion.	<p>The authors have added the following information in the RESULTS AND DISCUSSION section:” With regards to the broader implications of using biofertilizers in large-scale agriculture for global food security and food safety, biofertilizers are cost-effective and ecofriendly in nature, and their continuous usage enhances soil fertility. Biofertilizers have also been shown to increase crop yield approximately 10–40% by increasing protein contents, essential amino acids and vitamins, and through nitrogen fixation (Daniel, et al., 2022).”</p> <p>And added the reference: Daniel, A.I., Fadaka, A. O. Gokul, A., Bakare, O.A., Fisher, S., Burt, A.F., Mavumengwana, V., Keyster, M., and Klein, A. (2022). Biofertilizer: the future of food security and food safety. Microorganisms. 10(6):1220. doi: 10.3390/microorganisms10061220.</p>

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Is the language/English quality of the article suitable for scholarly communications?	<p>The manuscript is well-written, but a few minor grammatical refinements would improve readability.</p> <ul style="list-style-type: none">• Example: The phrase “<i>the hypothesis were confirmed</i>” should be corrected to “<i>the hypothesis was confirmed.</i>”• Ensure consistency in terminology, such as “<i>Algal Biofilm</i>” vs. “<i>Algae Biofilm.</i>”	<p>The authors have made corrections based on the comments: 1.1 Statistical analysis of dried biomass data The correction was made: “If the hypothesis <u>was</u> confirmed...”</p> <p>Consistent terminology: Usage was changed to be consistently “Algae Biofilm.” Table 2 – “Algal Biofilm” was changed to “Algae Biofilm.”</p>
Optional/General comments	<p><input type="checkbox"/> Refine some sentences for better clarity.</p> <p><input type="checkbox"/> Mention any limitations or future research directions in the discussion.</p>	<p>The authors have revised some sentences for better clarity with regard to statistics, RESULTS AND DISCUSSION, and the Abstract. The authors have included potential limitations and future directions in the RESULTS AND DISCUSSION section.</p>

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?	<u>(If yes, Kindly please write down the ethical issues here in details)</u>	The authors do not have any ethical issues in the manuscript.