

REVIEWER'S REPORT

Manuscript No.: IJAR-58566

Title: REPRODUCTIVE PERFORMANCE OF TILAPIA OREOCHROMIS NILOTICUS (LINNAEUS, 1758) IN HAPAS INSTALLED IN PONDS AT THE LAYO EXPERIMENTAL STATION (CÔTE D'IVOIRE)

Recommendation:

Accept as it is

Accept after minor revision.....

Accept after major revision...YES.....

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		—		
Techn.			—	
Quality				
Clarity			—	
Significance		—		

Reviewer's ID: JPR-094

Detailed Reviewer's Report

Reviewer's Report

Overall Evaluation

The manuscript addresses an important issue in aquaculture by evaluating the reproductive performance of *Oreochromis niloticus* cultured in hapa systems under Côte d'Ivoire conditions. The topic is relevant to fish seed production and sustainable aquaculture. However, the manuscript has several methodological and presentation limitations that should be addressed before publication.

****Recommendation:** **Major Revision****

1. Strengths

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1. The study addresses a practical problem of improving fingerling production in Côte d'Ivoire.
2. The objectives are clearly stated.
3. The experimental procedures are generally understandable.
4. Water quality parameters were monitored throughout the experiment.
5. Results are presented using tables and figures.
6. The discussion relates findings to previously published studies.
7. The conclusion is supported by the obtained results.
8. The study has practical importance for hatchery management and aquaculture development.

2. Weaknesses

Experimental Design

- * Only ****two hapas**** were used.
- * No biological replication.
- * Sample size is too small for scientific inference.
- * Results are largely descriptive.

Statistical Analysis

- * No statistical tests were performed.
- * No p-values.
- * No confidence intervals.
- * No ANOVA or t-test.

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*** No justification for descriptive analysis.**

Methodology

*** Ethical approval for animal experimentation is missing.**

*** Broodstock age is not reported.**

*** Selection criteria require more details.**

*** Feeding management lacks nutrient composition beyond crude protein.**

*** Larval collection method requires validation.**

Results

*** Results are descriptive.**

*** No statistical comparison between hapas.**

*** Figure quality is poor.**

*** Table formatting is inconsistent.**

Discussion

*** Discussion mainly repeats results.**

*** Limited comparison with international literature.**

*** Study limitations are not acknowledged.**

*** Practical implications need expansion.**

Language

Numerous grammatical errors exist.

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Examples:

- * missing spaces
- * inconsistent punctuation
- * repeated references
- * formatting problems

Professional English editing is strongly recommended.

3. Key Points

Novelty

Moderate

The use of hapa systems is already established, but information from Côte d'Ivoire is limited.

Scientific Quality

Moderate

Limited by small sample size and absence of inferential statistics.

Technical Quality

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Fair

Methodology is understandable but incomplete.

Clarity

Moderate

Language editing is necessary.

Practical Value

High

Useful for fish farmers and hatchery managers.

4. Significance

The study contributes local information on Nile tilapia breeding under Ivorian conditions and may assist hatchery development. However, due to methodological limitations, the findings should be interpreted cautiously and should not be generalized without additional replicated experiments.

5. Major Comments

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Major Comment 1

Increase experimental replication.

Only two hapas cannot provide robust scientific conclusions.

Major Comment 2

Perform statistical analysis.

Include:

- * ANOVA**
- * Student's t-test**
- * p-values**
- * Standard error**
- * Confidence intervals**

where appropriate.

Major Comment 3

Provide ethical approval information.

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State:

* Animal Ethics Committee approval number

* Institutional permission

Major Comment 4

Improve discussion.

Compare findings with more recent studies (2023–2025).

Explain similarities and differences.

Major Comment 5

State study limitations.

Examples:

* Small sample size

* Short experimental duration (6 weeks)

* Single location

* Limited replication

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Major Comment 6

Improve English language.

Numerous grammatical errors require professional editing.

6. Minor Comments

- 1. Italicize **Oreochromis niloticus** throughout.**
- 2. Correct spacing errors.**
- 3. Standardize decimal notation.**
- 4. Improve figure resolution.**
- 5. Use consistent table formatting.**
- 6. Remove duplicate references (Reference 3 and 6 are identical).**
- 7. Verify all citations.**
- 8. Expand abbreviations when first introduced.**
- 9. Provide manufacturer details for instruments.**
- 10. Add GPS coordinates of the experimental site.**

7. Final Recommendation

****Decision:** **Major Revision****

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Justification

Although the manuscript addresses an important aquaculture topic and provides useful regional information, several significant issues prevent acceptance in its current form:

- * Very limited experimental replication.
- * Lack of statistical hypothesis testing.
- * Missing ethical approval statement.
- * Incomplete methodological details.
- * Weak discussion of limitations.
- * Numerous language and formatting errors.
- * Duplicate references and inconsistent formatting.

After substantial revision addressing these concerns, the manuscript could be reconsidered for publication.

Reviewer's Justification for Major Revision (Line-by-Line Issues)

Line No.	Issue	Justification/Reason
8–20 (Abstract)	Statistical results not supported	The abstract reports mean values but provides no statistical significance (p-values or confidence intervals), making it difficult to assess the reliability of the findings.
8–20	Novelty not highlighted	The abstract does not clearly explain how this work differs from previous studies on tilapia reproduction in hapa systems.

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Line No.	Issue	Justification/Reason
24–25	Keywords	Include additional indexing keywords such as "Aquaculture", "Broodstock", "Larval production", and "Fish hatchery".
27–50 (Introduction)	Literature review incomplete	Although recent references are included, the knowledge gap and novelty of the study are not sufficiently justified.
35–43	Language problems	Numerous spacing and grammatical errors reduce readability and professionalism.
44–50	Research hypothesis absent	The manuscript states the objective but does not present a clear hypothesis or research question.
53–67 (Study site & design)	Experimental replication inadequate	The study uses only two hapas , which provides insufficient replication for robust statistical inference.
60–67	Broodstock description incomplete	Age, reproductive history, health status, and broodstock source are insufficiently described.
71–92	Methodological details incomplete	The composition of the commercial feed and water management practices are not adequately described.
79–92	Measurement protocol incomplete	Calibration of instruments and quality-control procedures are not reported.
93–95 (Statistical analysis)	Major methodological weakness	Only descriptive statistics are reported. No ANOVA, t-test, p-values, confidence intervals, or variance analysis are performed, limiting the scientific strength of the conclusions.
97–120 (Results)	No statistical comparison	Differences between the two hapas are presented descriptively without testing whether they are statistically significant.
102–120	Tables need improvement	Tables lack statistical indicators (e.g., SD/SE for several reported outcomes) and significance annotations.
123–149 (Discussion)	Discussion not sufficiently critical	The discussion mainly restates results rather than explaining underlying biological mechanisms or broader implications.
142–149	Limited comparison with recent studies	Additional comparison with recent international studies (2023–2025) would strengthen the discussion.
151–156	Overgeneralization	Conclusions should be tempered because they

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Line No. (Conclusion)	Issue	Justification/Reason
157–161	Ethics statement missing	are based on only two experimental units and descriptive analyses. The manuscript does not report animal ethics approval or institutional authorization for the use of live fish.
162–197 (References)	Duplicate reference	Reference 3 and Reference 6 are identical and one should be removed.
Entire manuscript	English language	Numerous grammatical, punctuation, spacing, and formatting errors require professional language editing before publication.

Overall Justification for Major Revision

The manuscript addresses a relevant topic in aquaculture and provides useful regional data on Nile tilapia reproduction under Côte d'Ivoire conditions. However, **major revision** is warranted because the study has important methodological and reporting limitations. The experimental design relies on only two hapas, the statistical analysis is limited to descriptive statistics without inferential testing, methodological details are incomplete, ethical approval is not reported, the discussion lacks critical analysis and broader contextualization, duplicate references are present, and the manuscript requires substantial English language and formatting improvements. Addressing these issues is necessary to improve the scientific rigor, reproducibility, and clarity of the work before it can be considered for publication.