



Review of USB FFPW PhD thesis

First name(s), surname, titles of the PhD student: M. Sc. Ewumi Azeez Folorunso	First name(s), surname, titles of supervisor: Assoc. Prof. Dipl.-Ing. Jan Mráz, Ph.D.
Title of PhD thesis: Integrated pest and disease management in aquaponics	

REVIEWER:

Surname: Kloas	Institution: IGB, Berlin, Germany
Name: Werner	
Titles: Prof. Dr.	E-mail: werner.kloas@igb-berlin.de
Please describe your professional relationship to the PhD student:	Please describe your field of expertise: Animal Physiology, Endocrinology, Ecotoxicology, Sustainable Aquaculture, Aquaponics

QUESTIONNAIRE

Originality, scientific importance, perspectives and impacts of results presented in the PhD thesis for basic and/or applied research

Evaluate competitiveness of the PhD thesis in the international context and compare its level with the current state of the art in the field (**extent ¼ – ½ page**):

The PhD thesis of Ewumi Azeez Folorunso is providing a very good review about the potential applications for integrated pest and disease management in aquaponics. Mr. Folorunso even differentiated into coupled and decoupled aquaponics systems. Internationally that topic has not been addressed really and with the first review Mr. Folorunso revealed a nicely comprehensive survey what is known about pest and disease management in aquaponics in general, which can serve as an original and sound basis of knowledge in that field. It has been concluded that pathogen challenges have to be prioritized in fish culture and the establishment of safe phytopathogen management is seriously warranted. In addition, original research has been performed to determine safe biological control agents investigating the efficacy of entomopathogenic and mycoparasitic fungi against powdery mildew. All papers have been published or are submitted in internationally very esteemed scientific journals demonstrating the scientific importance and their contribution to basic and even more for applied research. Thus that cumulative thesis is internationally recognized and peer-reviewed due to the merits that all chapters contribute with new reviewed aspects and original findings in the field of pest and disease management in aquaponics to provide state-of-the-art knowledge, which has also implications for recent practice.



Elaboration of the PhD thesis, objectives of the work and deliverables

Evaluate the overall level of elaboration of the PhD thesis (structuring of the main text, comprehensibility, logicity of the chapters and their ordering) and the originality of the selected approaches to solve the objectives; evaluate publications and whether the results described correspond to objectives of the PhD thesis (extent ¼ – ½ page):

The PhD thesis of Ewumi Azeez Folorunso is dedicated to integrated pest and disease management in aquaponics. The overarching structure of the thesis is well done providing with chapter 1 a very good introduction into the topic and some methodological and technical background. In chapter 2 Mr. Folorunso gives an excellent survey about the existing knowledge and by chapters 3, 4, and 5 original research to address urgent questions is added demonstrating that he performed in a logic way experiments to tackle the problems revealed by the conclusions of his review. The final discussion in chapter 6 summarizes nicely also the progress being made and provides some conclusions for management of aquaponics systems. The main text is well written and addresses the overall topic in a comprehensive and sound manner providing in a straight forward way sound conclusions and very good recommendations for practice.

OVERALL COMMENTARY ON THE PhD THESIS

Please write in the box specific comments concerning the PhD thesis in extent of 1-2 pages:

The PhD thesis of Ewumi Azeez Folorunso “integrated pest and disease management in aquaponics” provides a very valuable review about potential applications for aquaponics to perform an integrated pest and disease management. Next to an excellent review providing state-of-the-art knowledge of that topic Mr. Folorunso also is extending the knowledge by original research addressing some of the questions drawn from the conclusions by the review.

The overall structure with an introduction followed by four chapters containing research papers and a general comprehensive discussion is sound and provides really an original topic being of high importance for practical approaches in aquaponics. The results chapters as peer-reviewed papers are published or submitted in internationally well recognized scientific journals demonstrating the high scientific quality and originality of the whole thesis. In the general discussion all experimental findings are discussed in a comprehensive and logically sound way giving clear conclusions and recommendations.

In general the thesis is written in a well understandable English and meets very well the



criteria for a sound scientific thesis.

Therefore I clearly state that the thesis submitted by Ewumi Azeez Folorunso is sound and of very good scientific quality and I highly recommend it for acceptance.

FINAL RECOMMENDATION

- ☒ **PhD thesis can be recommended for defence**
☐ **PhD thesis can be recommended for defence with reservations**
☐ **PhD thesis cannot be recommended for defence**

5th July 2023, Berlin

.....

Date and place

(Prof. Dr. Werner Kloas)

.....

Name and signature