

Accepted Manuscript



Title: Development of a Zero Water Discharge (ZWD) – Recirculating Aquaculture System (RAS) Hybrid System for Super Intensive White Shrimp (*Litopenaeus vannamei*) Culture under Low Salinity Conditions and Its Industrial Trial in Commercial Shrimp Urban Farming in Gresik, East Java, Indonesia

Authors: Gede Suantika, Magdalena Lenny Situmorang, Jonathan Berlian Kurniawan, Sherly Arista Pratiwi, Pingkan Aditiawati, Dea Indriani Astuti, Fahma Fiqhiyyah Nur Azizah, Yovita Astuti Djohan, Usman Zuhri, Togar Mangihut Simatupang

PII: S0144-8609(17)30262-5
DOI: <https://doi.org/10.1016/j.aquaeng.2018.04.002>
Reference: AQUE 1940

To appear in: *Aquacultural Engineering*

Received date: 11-12-2017
Revised date: 22-4-2018
Accepted date: 26-4-2018

Please cite this article as: Suantika G, Situmorang ML, Kurniawan JB, Pratiwi SA, Aditiawati P, Astuti DI, Azizah FFN, Djohan YA, Zuhri U, Simatupang TM, Development of a Zero Water Discharge (ZWD) – Recirculating Aquaculture System (RAS) Hybrid System for Super Intensive White Shrimp (*Litopenaeus vannamei*) Culture under Low Salinity Conditions and Its Industrial Trial in Commercial Shrimp Urban Farming in Gresik, East Java, Indonesia, *Aquacultural Engineering* (2018), <https://doi.org/10.1016/j.aquaeng.2018.04.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Development of a Zero Water Discharge (ZWD) – Recirculating Aquaculture System (RAS) Hybrid System for Super Intensive White Shrimp (*Litopenaeus vannamei*) Culture under Low Salinity Conditions and Its Industrial Trial in Commercial Shrimp Urban Farming in Gresik, East Java, Indonesia

Gede Suantika^{1*} · Magdalena Lenny Situmorang¹ · Jonathan Berlian Kurniawan² · Sherly Arista Pratiwi² · Pingkan Aditiawati¹ · Dea Indriani Astuti¹ · Fahma Fiqhiyyah Nur Azizah³ · Yovita Astuti Djohan¹ · Usman Zuhri⁴ · Togar Mangihut Simatupang⁵

¹Microbial Biotechnology Research Group, School of Life Sciences and Technology, Institut Teknologi Bandung, Jalan Ganesha No. 10 Bandung 40132 Indonesia.

*E-mail: gsuantika@sith.itb.ac.id

²Biology Study Program, School of Life Sciences and Technology, Institut Teknologi Bandung, Jalan Ganesha No. 10 Bandung 40132 Indonesia

³Biomangement Study Program, School of Life Sciences and Technology, Institut Teknologi Bandung, Jalan Ganesha No. 10 Bandung 40132 Indonesia

⁴Commercial Shrimp Nursery and Grow-out “UD. Popular”, Desa Cerme Lor, Kec. Cerme, Kab. Gresik, East Java, Indonesia

⁵Operation and Performance Management, School of Business and Management, Institut Teknologi Bandung, Jalan Ganesha No. 10 Bandung 40132 Indonesia

Highlights

- A hybrid ZWD-RAS system was designed to increase shrimp yields by maintaining culture stability of both water quality and microbial load, even at higher densities.
- The hybrid system could maintain both water quality and microbial load stability.
- The hybrid system in the semi-mass trial resulted in a shrimp yield up to 4.8 kg/m³ with a grow-out period of 84 days.
- The hybrid system at the industrial trial resulted in a shrimp yield of 2.7 kg/m³ with a grow-out period of 60 days.

Abstract

Download English Version:

<https://daneshyari.com/en/article/8883487>

Download Persian Version:

<https://daneshyari.com/article/8883487>

[Daneshyari.com](https://daneshyari.com)