

## Intisari

### PENGARUH AERASI *MICROBUBBLE* DAN PAKAN BERPROBIOTIK TERHADAP KUALITAS AIR PADA PEMBESARAN UDANG VANAME (*Litopenaeus vannamei* Boone, 1931) DALAM BAK DENGAN SISTEM RESIRKULASI

Penelitian ini bertujuan untuk mengetahui pengaruh aerasi *microbubble* dan pakan berprobiotik terhadap kualitas air pada pembesaran udang vaname (*Litopenaeus vannamei* boone, 1931) dalam bak plastik dengan sistem resirkulasi. Penelitian ini dilakukan dengan pengamatan kualitas air eksperimen dengan rancangan acak lengkap (RAL) 2x2 faktorial dengan 2 level aerasi (*microbubble* dan *blower*) dan dua jenis pakan (probiotik dan non probiotik) dengan 3 ulangan. Udang vaname berukuran  $\pm 7,6$  g dengan padat tebar  $113/\text{m}^2$  dipelihara selama 60 hari dalam bak dengan sistem resirkulasi. Udang vaname diberi pakan komersil jenis Grower PV 2P1 dengan kadar protein 60%. Pakan diberikan sebanyak lima kali sehari dengan dosis 5% dari total biomassa. Pengamatan kualitas air dilakukan pada awal, tengah dan akhir penelitian. Hasil penelitian menunjukkan aerasi menggunakan MBG (*Microbubble Generator*) berpengaruh terhadap peningkatan parameter oksigen terlarut ( $P < 0.05$ ), namun tidak berpengaruh ( $P > 0.05$ ) terhadap parameter: suhu, TDS, amonia, salinitas, pH air,  $\text{CO}_2$  bebas, alkalinitas, bahan organik, nitrat dan fosfat. Pakan berprobiotik tidak berpengaruh ( $P > 0,05$ ) terhadap kualitas air dalam bak plastik pembesaran udang vaname dengan sistem resirkulasi.

Kata kunci: kualitas air, *microbubble generator*, probiotik, resirkulasi, udang vaname

### *Abstract*

#### THE EFFECT OF MICROBUBBLE AERATION AND PROBIOTIC FEED ON WATER QUALITY OF REARING WHITELEG SHRIMP (*Litopenaeus vannamei* Boone, 1931) IN TANK WITH RECIRCULATION SYSTEM

This research aimed to know the effect of microbubble aeration and probiotic feed on water quality of rearing whiteleg shrimp (*Litopenaeus vannamei* Boone, 1931) in plastic tank with recirculation system. The research was conducted by monitoring water qualities in the experiment with 2x2 factorial of two level aeration (microbubble and blower) and two diets (probiotic and without probiotic) in three replicates. Whiteleg shrimp measuring  $\pm 7.6$  g with a stocking density of 113/m<sup>2</sup> were cultured for 60 days in tanks with a recirculation system. Commercial feed of grower PV 2P1 with 60 % protein content was given five times a day at a dose of 5% of the total biomass. Water quality parameters were measured at the beginning, middle and the end of the study. The results showed that aeration using MBG (Microbubble Generator) had an effect on improving dissolved oxygen parameter ( $P < 0.05$ ), but had no effect ( $P > 0.05$ ) on water quality parameters such as temperature, TDS, ammonia, salinity, pH, CO<sub>2</sub>, alkalinity, organic matter, nitrate and phosphate. The probiotic feed had no effect ( $P > 0.05$ ) on the water quality of the vaname shrimp rearing in plastic tank with a recirculation system.

Keywords: microbubble generator, probiotic, recirculation, water quality, whiteleg shrimp