

**Muhammad Bachruddin. 2016. Pengaruh Variasi Dosis Probiotik Pada Air Budidaya Terhadap Pertumbuhan dan Mortalitas Udang Vaname (*Litopenaeus vannamei* Boone). Skripsi ini di bawah bimbingan Drs. Agus Supriyanto, M.Kes, dan Tri Nurhariyati, S.Si., M.Kes. Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.**

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### ABSTRAK

Penelitian ini bertujuan untuk mengetahui apakah ada beda variasi dosis probiotik pada air budidaya terhadap pertumbuhan dan mortalitas Udang Vaname. Penelitian ini bersifat ekperimental dengan menggunakan rancangan acak lengkap (RAL). Penelitian ini terdiri atas perlakuan kontrol dan perlakuan variasi dosis probiotik. Perlakuan kontrol (0 mL/10 L air), P1 (1 mL/10 L air), P2 (2 mL/10 L air), P3 (3 mL/10 L air), dan P4 (4 mL/10 L air), yang diberikan pada udang vaname dengan interval pemberian satu kali seminggu. Probiotik mengandung bakteri yang dipakai terdiri atas *Lactobacillus plantarum*, *Lactobacillus fermentum*, *Bacillus subtilis*, *Bacillus licheniformis*, *Bacillus megaterium*, *Nitrobacter sp.*, dan *Notrosomonas sp.* Variabel terikat pada penelitian ini adalah berat udang, panjang udang, mortalitas, dan nilai konversi pakan. Distribusi data berdasarkan uji *Kolmogorov-Smirnow* dan uji *Levene test* menunjukkan data normal dan homogen. Maka dilakukan uji *One Way ANOVA (Analysis Of Varians)* dengan derajat signifikansi 5%. Selanjutnya dilakukan uji *Duncan's Multiple Range Test (DMRT)* untuk membandingkan beda antar perlakuan. Hasil penelitian menunjukkan bahwa ada beda variasi dosis probiotik pada air budidaya terhadap pertumbuhan dan mortalitas udang vaname. Hasil optimal ditunjukkan pada perlakuan P2 (2 mL/10 L air) dengan nilai rerata berat udang vaname sebesar  $7,447 \pm 1,193$  g/ekor, panjang sebesar  $10,390 \pm 0,469$  cm/ekor, mortalitas sebesar 41%, dan nilai FCR sebesar 0,91.

Kata kunci: Udang vaname, pertumbuhan, probiotik, mortalitas.

**Muhammad Bachruddin. 2016. The Effect of Various Dose Probiotics In The Water To The Growth and Mortality of Vaname Shrimp (*Litopenaeus vannamei* Boone). This Study was supervised by Drs. Agus Supriyanto, M.Kes, and Tri Nurhariyati, S.Si., M.Kes. Department of Biology, Faculty of Sains and Technology, Airlangga University, Surabaya.**

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### ABSTRACT

This study was aimed to determine the different of various dose probiotics in the water to the growth and mortality of Vaname shrimp. This is experimental study by using a completely randomized design. This study consist of treatment control and treatment of various dose of probiotics. Control (0 mL/10 L water), P1 (1 mL/10 L water), P2 (2 mL/10 L water), P3 (3 mL/10 L water) and P4 (4 mL/10 L water) treatment, given to the vaname shrimps with intervals once per week. This probiotic consist of *Lactobacillus plantarum*, *Lactobacillus fermentum*, *Bacillus subtilis*, *Bacillus licheniformis*, *Bacillus megaterium*, *Nitrobacter sp.*, and *Notrosomonas sp.* Dependent variables in this study are weight of shrimp, length of shrimp, mortality and feed conversion ratio. Data distribution by *Kolmogorov-Smirnow* and *Levene test* showed normal and homogeneous. Then tested with *One Way ANOVA (Analysis Of Variance)* with  $\alpha = 5\%$ . The next test is *Duncan's Multiple Range Test (DMRT)* to compare differences between treatments. The results had different of various dose probiotics application in the water showed significance for each treatment on growth and mortality of vaname shrimp. The best results were shown in treatment P2 (2 mL/10 water) with mean value of vaname shrimp weight is  $7,447 \pm 1,193$  g/shrimp, the length is  $10,390 \pm 0,469$  cm/shrimp, mortality is 41%, and the value of FCR is 0.91.

Key words: Vaname shrimp, growth, probiotics, mortality.