

RINGKASAN

MOHAMMAD JEFRI. Aplikasi Probiotik *Pseudomonas* sp. dan *Bacillus* sp. terhadap Penurunan Bahan Organik, Rasio Konversi Pakan, Peningkatan Pertumbuhan dan Efisiensi Pakan pada Udang Vaname (*Litopenaeus vannamei*)

Peningkatan produksi udang vaname (*Litopenaeus vannamei*) membutuhkan lebih banyak input produksi terutama benih dan pakan. Peningkatan produksi membutuhkan sistem budidaya intensif dimana sistem ini memiliki dampak negatif bagi organisme, karena dapat meningkatkan limbah budidaya berupa bahan organik, sisa pakan, feses, densitas fitoplankton, senyawa toksik seperti NH_3 , H_2S serta meningkatkan penularan penyakit. Salah satu upaya untuk mengurangi limbah tersebut adalah dengan penambahan probiotik pada media budidaya yang berupa *Bacillus* sp. dan *Pseudomonas* sp.

Tujuan penelitian ini adalah untuk mengetahui pengaruh pemberian probiotik bakteri *Pseudomonas* sp. dan *Bacillus* sp. terhadap penurunan bahan organik, rasio konversi pakan, dan peningkatan efisiensi pakan serta laju pertumbuhan spesifik udang vaname (*Litopenaeus vannamei*). Penelitian ini menggunakan metode eksperimental dengan Rancangan Acak Lengkap yang terdiri dari empat perlakuan yaitu P0 (tanpa pemberian probiotik), P1 (probiotik 10^6 sel/ml), P2 (probiotik 10^7 sel/ml), P3 (probiotik 10^8 sel/ml) masing-masing perlakuan diulang empat kali. Data dianalisis menggunakan *Analysis of Variance* (ANOVA) dan dilanjutkan dengan Uji Jarak Berganda Duncan.

Hasil penelitian menunjukkan bahwa pemberian probiotik yang berbeda memberikan pengaruh yang nyata ($P < 0,05$) terhadap penurunan rasio konversi pakan 1,22-1,87, meningkatkan nilai efisiensi pakan 54,90-81,57%, meningkatkan laju pertumbuhan spesifik 1,45-2,25%, dan memberikan pengaruh dalam menurunkan bahan organik sebesar 138,68 mg/l pada kepadatan 10^7 sel/ml.

SUMMARY

MOHAMMAD JEFRI. Applications Of Probiotic *Pseudomonas* Sp. And *Bacillus* Sp. To Decrease Materials Organic, Feed Conversion Rate, And To Increase Efficiency And Growth Of Vannamei Shrimp (*Litopenaeus vannamei*)

Increased production of vaname shrimp (*Litopenaeus vannamei*) requires more production inputs, especially seeds and feed. Increased production requires intensive cultivation systems where this system has a negative impact on the organism, because it can increase the cultivation of wastes in the form of organic matter, leftover food, feces, phytoplankton density, toxic compounds such as NH₃, H₂S and increase disease transmission. One effort to reduce the waste is by adding probiotics to the culture media in the form of *Pseudomonas* sp. and *Bacillus* sp.

The purpose of this study was to determine the effect of the administration of probiotic bacteria *Pseudomonas* sp. and *Bacillus* sp. to decrease organic matter, feed conversion ratio, and increase feed efficiency and specific growth rate of vaname shrimp (*Litopenaeus vannamei*). This study used an experimental method with a Completely Randomized Design consisting of four treatments namely P0 (without the administration of probiotics), P1 (probiotics 10⁶ cells/ml), P2 (probiotics 10⁷ cells/ml), P3 (probiotics 10⁸ cells/ml) respectively each treatment was repeated four times. Data were analyzed using Analysis of Variance (ANOVA) and continued with Duncan's Multiple Range Test.

The results showed that different dose of probiotics had a significant effect (P <0.05) on decreasing feed conversion ratio 1.22-1.87, increasing the feed efficiency 54.90-81.57%, increasing specific growth rate 1.45-2.25%, and giving an influence in reducing organic matter by 138.68 mg/l at a density of 10⁷ cells/ml.