ABSTRAK

UJI PATOGENITAS BAKTERI BIOKONTROL *Aeromonas caviae* P1 TERHADAP UDANG VANAME *Litopenaeus vannamei* (Boone, 1931)

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Agen biokontrol dapat menekan pertumbuhan bakteri patogen sehingga dapat dijadikan solusi dalam mengatasi penyakit pada ikan. *Aeromonas caviae* telah diuji mampu menghambat pertumbuhan *Vibrio* sp sehingga potensial untuk dikembangkan sebagai agen biokontrol pada budidaya udang. Tujuan dari penelitian ini adalah untuk menguji patogenitas bakteri kandidat biokontrol *Aeromonas caviae* P1 terhadap udang vaname (*Litopenaeus vannamei*). Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) terdiri atas lima perlakuan dan tiga ulangan. Total sebanyak 150 ekor udang vannamei (ukuran 2-3g) dipelihara selama 10 hari dalam kontainer volume 45 L (10 ekor per kontainer) dan dikelompokkan sesuai dengan perlakuan yaitu infeksi *A. caviae* secara kohabitasi dengan konsentrasi bakteri 10^0 CFU/ml (Perlakuan A); 10^3 CFU/ml (Perlakuan B); 10^4 CFU/ml (Perlakuan C); 10^5 CFU/ml (Perlakuan D); dan 10^6 CFU/ml (perlakuan E), masing-masing dengan tiga ulangan. Jumlah kematian ikan dicatat setiap 6 jam untuk evaluasi nilai LD_{50} (*lethal dose 50*) dan rerata waktu kematian *mean time to death* (MTD) dan gejala klinis serta kualitas air. Hasil penelitian menunjukkan nilai LD_{50} tidak tercapai karena sampai 10 hari pada dosis tertinggi bakteri *A. caviae* hanya menyebabkan kematian udang vannamei sebanyak 21,21% dengan rerata waktu kematian 25,40 jam setelah infeksi. Hasil ini menunjukkan dugaan kuat bahwa bakteir A. *caviae* tiak bersifat pathogen pada udang vanme.

Kata kunci : Udang Vaname, Biokontrol, Patogenitas, *Litopenaeus vannamei*

ABSTRAC

PATHOGENITY TEST OF BIOCONTROL CANDIDATE BACTERIA *Aeromonas caviae* P1 ON PACIFIC WHITE SHRIMP *Litopenaeus vannamei* (BOONE, 1931)

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Biocontrol agents can suppress the growth of pathogenic bacteria so that they can be used as a solution for overcoming diseases in fish. *Aeromonas caviae* has been tested to be able to inhibit the growth of *Vibrio* sp. so it has the potential to be developped as a biocontrol agent in shrimp farming. The purpose of this study was to examine the pathogenicity of biocontrol candidate bacteria *Aeromonas caviae* P1 against pacific white shrimp (*Litopenaeus vannamei*). This study used a completely randomized design (CRD) consisting of five treatments and three replications. A total of 150 pacific white shrimp (2-3g size) were reared for 10 days in a 45 L volume container (10 heads per container) and grouped according to treatment, namely *A. caviae* infection in cohabitation with a bacterial concentration of 10^0 CFU/ml (treatment A); 10^3 CFU/ml (treatment B); 10^4 CFU/ml (treatment C); 10^5 CFU/ml (treatment D); and 10^6 CFU/ml (treatment E), each with three replicates. The number of fish deaths was recorded every 6 hours to evaluate the LD_{50} (lethal dose 50) value, mean time to death (MTD), clinical symptoms, and water quality. The results showed that the LD_{50} value was not achieved because up to 10 days at the highest dose of *A. caviae* bacteria only caused 21.21% of pacific white shrimp mortality with an average death time of 25.40 hours after infection. These results indicate a strong suspicion that *A. caviae* bacteria is not pathogenic to pacific white shrimp.

Key words: *Vaname Shrimp*, *Biocontrol*, *Pathogenicity*, *Litopenaeus vannamei*