

ABSTRAK

PEMANFAATAN EKSTRAK DAUN *Avicennia alba* (Tomlinson, 1986) UNTUK PENGOBATAN *Vibrio harveyi* (Jhonson & Shunk, 1936) PADA UDANG VANAME (*Litopenaeus vannamei*, Boone 1931)

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Penelitian ini bertujuan untuk menguji pengaruh ekstrak daun *Avicennia alba* dengan berbagai konsentrasi sebagai bahan antibakteri alami terhadap serangan *Vibrio harveyi* pada udang vaname. Udang vaname (total 120 ekor) dengan bobot 10 ± 2 gr/ekor disuntik bakteri *V.harveyi* dengan kepadatan 10^6 CFU/ml secara *instramuscular*. Pasca munculnya gejala klinis, udang direndam menggunakan ekstrak daun *Avicennia alba* dengan perlakuan konsentrasi yang berbeda-beda : 0 ppm, 150 ppm, 250 ppm, dan 350 ppm selama 21 hari. Hasil penelitian menunjukkan bahwa pemberian ekstrak daun *Avicennia alba* sebagai bahan antibakteri alami dengan konsentrasi 250 ppm berpengaruh dalam meningkatkan kelangsungan hidup hingga 80% dan mampu melindungi udang (RPS) dari infeksi *V.harveyi* hingga $70 \pm 15\%$ serta rerata waktu kematian (MTD) lebih lama ($106 \pm 18,33$ jam) dibandingkang dengan kontrol. Gejala klinis yang diperoleh adalah perubahan morfologi dan tingkah laku. Berdasarkan hasil analisis histopatologi hepatopankreas udang yang diberi ekstrak daun *Avicennia alba* menunjukkan penurunan kerusakan tubula berupa nekrosis dan vakuolisasi oleh infeksi vibrio, menunjukkan bahwa senyawa yang terkandung dalam ekstrak daun *Avicennia alba* bisa melindungi hepatopankreas udang dari kerusakan infeksi *V.harveyi*.

Kata kunci : daun *Avicennia alba*, *Litopenaeus vannamei*, pengobatan, *Vibrio harveyi*.

ABSTRACT

UTILIZATION OF *Avicennia alba* (Tomlinson, 1986) LEAVES EXTRACT FOR TREATMENT OF *Vibrio harveyi* (Jhonson & Shunk, 1936) IN VANAME SHRIMP (*Litopenaeus vannamei*, Boone 1931)

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The aim of the research is to examine the effect various concentration of *Avicennia alba* leaves extract to *Vibrio harveyi* infection on vaname shrimp. Vaname shrimps (total of 120 shrimps) with a weight of 10 ± 2 g/ind were injected *intramuscularly* with *V.harveyi* bacteria in 10^7 CFU/ml density, after the occurrences of clinical symptoms, the shrimps were immersed in to *Avicennia alba* leaves extract with different concentration: 0 ppm, 150 ppm, 250 ppm, and 350 ppm for 21 days. The results showed that the addition of *Avicennia alba* leaves extract with a concentration of 250 ppm can increase shrimps' survival rate to 80% and increase the shrimps' ability to prevent (RPS) *V.harveyi* infection with the highest number of $70 \pm 15\%$. The mean time to death (MTD) after immersion was 106 ± 18.33 hours. Clinical symptoms observed were changes in morphology and behavior. Based on the results of histopathology analysis of hepatopancreas, shrimps which were given *Avicennia alba* leaves extract, showed a decrease in tubular damage in the form of necrosis and vacuolization from vibrio infection, this showed that the compounds contained in *Avicennia alba* leaves extract can protect the shrimp hepatopancreas from damage caused by *V. harveyi* infection.

Keyword: *Avicennia alba* leaf, *Litopenaeus vannamei*, treatment, *Vibrio harveyi*.