ABSTRACT

INHIBITORY STUDY OF SEVERAL LEAVES FROM THE GENUS *Solanum* AS A NATURAL ANTIBACTERIAL AGENT IN REDUCING *Vibrio* sp. ON WHITE SHRIMP *(Litopenaeus vannamei)*

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The aims of this study were determine (1) the presence of antibacterial activity, (2) the best concentration of each leaf of the genus *Solanum* as a natural antibacterial agent based on the inhibitory test of *Vibrio* sp., and (3) to decrease contamination content of *Vibrio* sp. on white shrimp (*Litopenaeus vannamei*) from each of the best concentrations of genus *Solanum* leaf extract. This study was arranged with Completely Randomized Design (CRD) with a single factor of 6 treatments in 3 replications. The treatment was divided into four levels of concentration: K1 (10%), K2 (20%), K3 (30%), K4 (40%) from each aqueous extract of the genus *Solanum.* The (K) control of aquades and (K+) control the antibiotic oxytetracycline. The results showed that the aqueous extracts of *Solanum pimpinellifolium* leaves, *Solanum melongena* L. leaves, and *Solanum torvum* S. leaves concentrated 10%, 20%, 30%, 40% had antibacterial activity against *Vibrio* sp. with inhibitory diameter at intervals respectively of 11,53 mm-16,58 mm, 6,99 mm–12,00 mm, and 0,43 mm-7,83 mm. The concentration of 40% aqueous extract leaves of the genus *Solanum* had a inhibitory diameter

of *Vibrio* sp. respectively 16.58 mm (*Solanum pimpinellifolium*), 12.00 mm (*Solanum melongena* L.), and 7.83 mm (*Solanum torvum* S.). Total reduction of *Vibrio* sp. on white shrimp each at 1,39 x 10^8 CFU/g (72,98%) (*Solanum pimpinellifolium* leaves), 1,07 x 10^8 CFU/g (56,02%) (*Solanum melongena* L. leaves), and 2,90 x 10^7 CFU/g (15,18 %) (*Solanum torvum* S. leaves). with a concentration of 4% leaf extract.

Kata kunci: white shrimp, leaves of the genus *Solanum*, antibacterial.

ABSTRAK

KAJIAN DAYA HAMBAT BEBERAPA DAUN GENUS *Solanum* SEBAGAI ANTIBAKTERI ALAMI DALAM MENURUNKAN CEMARAN *Vibrio* sp. PADA UDANG PUTIH *(Litopenaeus vannamei)*

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Penelitian ini bertujuan untuk mengetahui adanya aktivitas antibakteri dan menentukan konsentrasi terbaik masing–masing daun genus *Solanum* sebagai antibakteri alami berdasarkan uji daya hambat terhadap *Vibrio* sp., serta mengetahui penurunan cemaran *Vibrio* sp. pada udang putih (*Litopenaeus vannamei*) dari masing-masing konsentrasi terbaik ekstrak daun genus *Solanum*. Penelitian ini disusun dalam Rancangan Acak Lengkap (RAL) dengan faktor tunggal 6 perlakuan sebanyak 3 kali ulangan. Perlakuan terbagi menjadi empat taraf konsentrasi yaitu : K1 (10%), K2 (20%), K3 (30%), K4 (40%) dari masing-masing ekstrak daun genus *Solanum*. Adapun (K) kontrol aquades dan (K+) kontrol antibiotik oksitetrasiklin. Hasil penelitian menunjukkan bahwa ekstrak daun *Solanum pimpinellifolium, Solanum melongena* L., *Solanum torvum* S., konsentrasi 10%, 20%, 30%, 40% memiliki aktivitas antibakteri terhadap *Vibrio* sp. dengan diameter hambat pada selang masing-masing 11,53 mm–16,58 mm, 6,99 mm – 12,00 mm, dan 0,43 mm – 7,83 mm. Konsentrasi 40% ekstrak cair daun genus *Solanum* mempunyai diameter hambat terhadap *Vibrio* sp.

masing-masing 16,58 mm (*Solanum pimpinellifolium*), 12,00 mm (*Solanum melongena* L.), dan 7,83 mm (*Solanum torvum* S.). Penurunan total *Vibrio* sp. pada udang putih masing-masing sebesar 1,39 x 10^8 CFU/g (72,98%) (*Solanum pimpinellifolium*), 1,07 x 10^8 CFU/g (56,02%) (*Solanum melongena* L.), dan 2,90 x 10^7 CFU/g (15,18%) (*Solanum torvum* S.) dengan konsentrasi 4% ekstrak daun.

Kata kunci: udang putih, daun genus *Solanum*, antibakteri.