Oktania Rahestya Putri, 2011. Uji Daya Hambat Ekstrak Aseton Lichen *Ramalina javanica* Nyl. Terhadap Pertumbuhan Bakteri *Xanthomonas campestris* dan *Pseudomonas syringae*. Skripsi ini di bawah bimbingan Tri Nurhariyati, S.Si., M.Kes. dan Dr. Ir. H. Suyanto, M.Si., Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi ekstrak aseton lichen *Ramalina javanica* Nyl. terhadap bakteri *Xanthomonas campestris* dan *Pseudomonas syringae*. Indikator yang diamati adalah zona hambat, nilai MIC (kadar penghambatan terkecil) dan MBC (kadar bunuh terkecil). Penelitian ini bersifat eksperimental laboratoris dengan rancangan penelitian berupa rancangan acak lengkap. Metode difusi cakram kertas dengan konsentrasi ekstrak 1.000, 2.500, 5.000, 10.000, 20.000, 30.000, 40.000 dan 50.000 ppm digunakan untuk mengetahui diameter zona hambat dengan masing-masing perlakuan digunakan tiga kali ulangan. Metode dilusi dengan konsentrasi 100, 250, 500, 1.000, 2.500, 5.000, 10.000, 15.000, 20.000, 25.000, dan 30.000 ppm digunakan untuk mencari nilai MIC dan MBC. Data diameter zona hambat dianalisis secara statistik menggunakan ANOVA (α=0,05) dan Kruskal-Wallis (α=0,05), sedangkan data nilai MIC dan MBC dianalisis secara deskriptif. Konsentrasi ekstrak aseton *Ramalina javanica* Nyl. yang berbeda berpengaruh terhadap diameter zona hambat pertumbuhan *Xanthomonas campestris* dan *Pseudomonas syringae*. Semakin tinggi konsentrasi ekstrak lichen, semakin besar pula diameter zona hambat pertumbuhan mikroba uji. Diameter zona hambat terbesar terbentuk pada konsentrasi tertinggi yaitu 50.000 ppm, pada bakteri *Xanthomonas campestris* (27,25 mm) dan *Pseudomonas syringae* (22 mm). MIC dari ekstrak aseton *Ramalina javanica* Nyl. terhadap bakteri *Xanthomonas campestris* dan *Pseudomonas syringae* berturut-turut sebesar 25.000 dan 15.000 ppm, sedangkan nilai MBC sebesar 30.000 pada bakteri *Xantomonas campestris* dan 20.000 ppm terhadap bakteri *Pseudomonas syringae*.

Kata kunci : *Ramalina javanica* Nyl., zona hambat, *Xanthomonas campestris*, *Pseudomonas syringae*, MIC, MBC, Surabaya

Oktania Rahestya Putri, 2011. Inhibitory Test Lichens *Ramalina javanica* Nyl. of Acetone Extract Againts *Xanthomonas campestris* and *Pseudomonas syringae* Bacteria. This thesis was under the guidance Tri Nurhariyati, S.Si., M.Kes. and Dr. Ir. H. Suyanto, M.Si., Departement of Biology, Faculty of Sains and Technology, Airlangga University, Surabaya

ABSTRACT

The purpose of this research was to know the inhibitory activity lichens *Ramalina javanica* Nyl. of acetone extract against the bacterium *Xanthomonas campestris* and *Pseudomonas syringae*. For that inhibition zone, the value of MIC (Minimum Inhibitory Concentration) and MBC (Minimum Bactericidal Concentration) were observed. Disc diffusion method with extract concentration 1.000, 2.500, 5.000, 10.000, 20.000, 30.000, 40.000 and 50.000 ppm was used to know diameter of inhibition zone. Dilution method with material concentration 100, 250, 500, 1.000, 2.500, 5.000, 10.000, 15.000, 20.000, 25.000 and 30.000 ppm was used to know MIC and MBC in which each method had three replication. The data of diameter inhibition zone was then be subjected to statistical analysis of variance (ANOVA) (α=0,05) and Kruskal-Wallis (α=0,05), wherease the data value of MIC and MBC was analysed descriptively. The different concentration of *Ramalina javanica* Nyl. of acetone extract influenced of diameter inhibition zone for *Xanthomonas campestris* and *Pseudomonas syringae* growth. The higher concentration of lichens extract, diameter of inhibition zone for both tested microbial growth will increase too. The largest diameter inhibition zone formed at the highest concentration was 50.000 ppm, for *Xanthomonas campestris* (27,25 mm) and *Pseudomonas syringae* (22 mm). MIC values *Ramalina javanica* Nyl. of acetone extract against the bacterium *Xanthomonas campestris* and *Pseudomonas syringae* respectively were found at concentration 25.000 and 15.000 ppm, whereas the MBC values of 30.000 ppm to *Xanthomonas campestris* and 20.000 ppm to *Pseudomonas syringae*.

Keyword : *Ramalina javanica* Nyl., inhibition zone, *Xanthomonas campestris*, *Pseudomonas syringae*, MIC, MBC, Surabaya