

Tasya Rahmania Laksono, 2020, **Persistensi Toksisitas Entomopatogen *Bacillus* sp. Dari Tanah Alamiah di Taman Nasional Baluran terhadap Larva *Aedes aegypti***, Skripsi ini di bawah bimbingan Drs. Salamun, M.Kes. dan Dr. Fatimah, S.Si., M.Kes., Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui ada atau tidaknya perbedaan persistensi toksisitas dari tiga isolat lokal *Bacillus* sp. kode BK5.2, BK7.2, dan BK7.1 dengan variasi konsentrasi yang ditentukan terhadap kematian larva instar III nyamuk *Aedes aegypti*. Uji persistensi toksisitas dilakukan dengan 20 larva instar III nyamuk *Aedes aegypti* yang didedah dengan variasi konsentrasi isolat bakteri (12%; 10%; 8%). Pengamatan terhadap persistensi toksisitas dilakukan pada minggu pertama dan minggu kedua dengan waktu pendedahan 24 dan 48 jam dan dicatat hasilnya berupa persentase mortalitas larva. Data angka kematian dan waktu pengamatan dianalisis secara deskriptif dan data jenis isolat dan variasi konsentrasi dianalisis secara statistik dengan menggunakan *Statistical Package for the Social Sciences* (SPSS). Hasil mortalitas larva tertinggi pada minggu pertama dihasilkan oleh isolat BK5.2 yaitu sebesar 45% pada masa pendedahan 24 jam dan 75% pada masa pendedahan 48 jam, sedangkan mortalitas terendah dihasilkan oleh isolat BK7.1 yaitu sebesar 5% pada masa pendedahan 24 jam dan 10% pada masa pendedahan 48 jam. Pada minggu kedua hanya isolat BK5.2 pada konsentrasi tertinggi yang mampu membunuh larva nyamuk *Aedes aegypti* pada masa pendedahan 24 dan 48 jam, yaitu berturut-turut sebesar 10% dan 30%. Berdasarkan uji *Duncan* pada minggu pertama terdapat perbedaan persistensi toksisitas pada jenis isolat dan variasi konsentrasi terhadap kematian larva instar III nyamuk *Aedes aegypti*. Berdasarkan uji *Kruskal-wallis* pada minggu kedua terdapat perbedaan persistensi toksisitas pada variasi konsentrasi dalam membunuh larva nyamuk, namun tidak terdapat perbedaan persistensi toksisitas pada jenis isolat yang digunakan.

Kata kunci : Persistensi toksisitas, larva, *Aedes aegypti*, *Bacillus* sp.

Tasya Rahmania Laksono, 2020, **Persistence Toxicity of Entomopathogen *Bacillus* sp. From the Natural Soil of Baluran National Park against *Aedes aegypti* Larvae**, This Script is guided by Drs. Salamun, M.Kes. and Dr. Fatimah, S.Si., M.Kes., Department of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

*This research aims to determine whether or not there are differences in the persistence of toxicity from three local isolates of *Bacillus* sp. BK codes 5.2, BK 7.2, and BK 7.1 with variations in the concentration determined for the death of third instar larvae of *Aedes aegypti* mosquitoes. Persistence toxicity tests were carried out with 20 instar III larvae of *Aedes aegypti* mosquitoes which were exposed with variations in the concentration of isolating bacteria (12%; 10%; 8%). Observation of toxicity persistence carried out in the first week and the second week with exposure time 24 and 48 hours and recorded the results in the form of percentage mortality of larvae. The data of mortality and observation time were analyzed descriptively and data of isolate type and concentration variation were analyzed statistically using Statistical Package for the Social Sciences (SPSS). The highest larval mortality in the first week was produced by isolate BK 5.2, which was 45% during the 24-hour exposure period and 75% during the 48-hour exposure period, while the lowest mortality was produced by BK 7.1 isolate, which was 5% during the 24-hour exposure period and 10% during the 48 hour exposure period. In the second week, only BK 5.2 isolates at the highest concentration were able to kill *Aedes aegypti* larvae during the 24 and 48 hours of exposure, ie respectively 10% and 30%. Based on the Duncan test in the first week there were differences in the persistence of toxicity in isolates and variations in concentration on the death of instar III larvae of *Aedes aegypti* mosquitoes. Based on the Kruskal-wallis test in the second week there were differences in the persistence of toxicity in the variations concentration in killing mosquito larvae, but there was no difference in the persistence of toxicity in the type of isolate used.*

*Keywords : Persistence of toxicity, larvae, *Aedes aegypti*, *Bacillus* sp.*