

SUSCEPTIBILITY TEST OF LARVA *Aedes aegypti* AGAINST TEMEPHOS OF KEDIRI REGENCY

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ABSTRACT

Since 1980, larval stage dengue vector control has been using the larvicidation method using organophosphate (temephos) insecticides. If insecticides are used intensively without rotation for 2 to 20 years and continuously throughout the year, insect resistance will develop.

This study aimed to analyze the level of resistance of *Aedes aegypti* larvae to temephos in Kediri Regency. This type of research is a pure experiment with Posttest Control Group Design. The object of this research is *Aedes aegypti* larvae from Kediri Regency. This study described *Aedes aegypti* larvae using the insecticide temephos with concentrations of 0.05mg/l, 0.06mg/l, 0.07mg/l, 0.08mg/l, 0.09mg/l with contact times of 15, 30, 45, 60 minutes and 24 hours. Resistance status data were analyzed according to WHO category standards. Differences in biota mortality were tested using the Kruskal Wallis and Mann Whitney statistic test.

The results showed that the average percentage of larval mortality after 24 hours of exposure was at concentrations of 0.05mg/l, 0.06mg/l, 0.07mg/l, 0.08mg/l, 0.09mg/l 0%, 0.267%, 0.711%, 1.333 %, 2.044%. *Aedes aegypti* larvae in Kediri Regency were resistant to temephos with concentrations of 0.05mg/l, 0.06mg/l, 0.07mg/l, 0.08mg/l, 0.09mg/l. Kruskal Wallis test showed that there were differences in larval mortality with variations in the concentration of temephos. Suggestions for agencies in Kediri Regency to conduct further research on the resistance status of *Aedes aegypti* larvae to temephos.

Keywords: *Aedes aegypti*, Resistance, Temephos

UJI KERENTANAN LARVA *Aedes aegypti* TERHADAP TEMEPHOS PADA WILAYAH KABUPATEN KEDIRI

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ABSTRAK

Sejak tahun 1980, pengendalian vector DBD stadium larva menggunakan metode larvasidasi menggunakan insektida golongan organofosfat (temephos). Jika insektisida digunakan secara intensif tanpa rotasi selama 2 hingga 20 tahun dan terus-menerus sepanjang tahun, resistensi serangga akan berkembang. Penelitian ini bertujuan menganalisis tingkat resistensi larva *Aedes aegypti* terhadap temephos pada wilayah Kabupaten Kediri.

Jenis penelitian ini adalah eksperimen murni dengan Posttest Control Group Design. Obyek penelitian ini adalah larva *Aedes aegypti* yang berasal dari Kabupaten Kediri. Penelitian ini memaparkan larva *Aedes aegypti* menggunakan insektisida temephos dengan konsentrasi 0.05mg/l, 0.06mg/l, 0.07mg/l, 0.08mg/l, 0.09mg/l dengan waktu kontak 15, 30, 45, 60 menit dan 24 jam. Data status resistensi dianalisis sesuai standar katogori dari WHO. Perbedaan kematian biota diuji menggunakan statistic uji *Kruskall Wallis* dan *Mann Whitney*.

Hasil penelitian rata-rata presentase kematian larva setelah pemaparan 24 jam adalah pada konsentrasi 0.05mg/l, 0.06mg/l, 0.07mg/l, 0.08mg/l, 0.09mg/l sebesar 0%, 0,267%, 0,711%, 1,333%, 2,044%. Larva *Aedes aegypti* di Kabupaten Kediri resisten terhadap temephos dengan konsentrasi 0.05mg/l, 0.06mg/l, 0.07mg/l, 0.08mg/l, 0.09mg/. Uji Kruskal Wallis menunjukkan bahwa terdapat perbedaan kematian larva terhadap variasi konsentrasi temephos. Saran bagi instansi di Kabupaten Kediri untuk melakukan penelitian lebih lanjut mengenai status resistensi larva *Aedes aegypti* terhadap temephos.

Kata Kunci: *Aedes aegypti*, Resistensi, Temephos