

## Uji resistensi aedes aegypti terhadap insektisida permethrin di Desa Pangkah, Kabupaten Tegal = Resistance test of aedes aegypti against permethrin insecticide in Pangkah Village, Tegal Regency

Bany Faris Amin, author

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### Abstrak

Demam berdarah dengue (DBD) adalah penyakit arbovirus yang paling umum di dunia, termasuk di berbagai daerah di Indonesia. Pengendalian vektor kimia pada *Ae. aegypti* dengan permethrin adalah salah satu cara untuk mengendalikan penyakit, meskipun resistensi telah dilaporkan. Berdasarkan hal-hal ini, penelitian ini menguji resistensi *Ae. aegypti* terhadap permethrin di Desa Pangkah, Kabupaten Tegal. Tes dilakukan berdasarkan standar Organisasi Kesehatan Dunia (WHO) dengan mengukur tingkat kematian *Ae. aegypti* yang dicatat selama 24 jam.

Hasil percobaan menunjukkan *Ae. aegypti* terhadap permethrin 0,25% selama 24 jam adalah 26% yang menunjukkan terjadinya resistensi. Selain itu, waktu kematian permethrin ditunjukkan sebagai LT50, LT90, LT99 untuk 6611.636 menit, 280603.776 menit, dan 5958807.272 menit masing-masing. Perlawanan terhadap permethrin di *Ae. aegypti* diidentifikasi sehingga penggunaan permethrin 0,25% perlu dipertimbangkan.

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Dengue hemorrhagic fever (DHF) is the most prevalent arbovirus disease in the world, including in various regions in Indonesia. Chemical vector control on *Ae. aegypti* with permethrin is one way to control the disease, even though resistance has been reported. Based on these matters, this study tested the resistance of *Ae. aegypti* against permethrin in Pangkah Village, Tegal Regency. Test was performed based on the World Health Organization (WHO) standard by measuring *Ae. aegypti* mortality rates which are recorded for 24 hours.

The results of the experiments show the *Ae. aegypti* mortality rate against permethrin 0.25% for 24 hours is 26% which shows the occurrence of resistance. Besides that, the permethrin mortality times are shown as LT50, LT90, LT99 for 6611,636 minutes, 280603,776 minutes, and 5958807,272 minutes respectively. Resistance to permethrin in *Ae. aegypti* was identified so that the use of permethrin 0.25% needs to be considered.