RESISTENSI NYAMUK *Aedes aegypti*, Linnaeus (1762) TERHADAP MALATHION DAN POTENSI PENULARAN DBD DI DESA PANGENREJO KECAMATAN PURWOREJO

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ABSTRAK

Berbagai daerah di Indonesia masih berstatus endemis dan belum terbebas dari Demam Berdarah Dengue (DBD). Pemerintah berupaya mengontrol penularan DBD dengan penggunaan insektisida dari kelas malathion. Penggunaan insektisida secara terus menerus dan tidak terkendali dapat menyebabkan resistensi pada vektor sehingga menurunkan efektifitas insektisida yang digunakan. Desa Pangenrejo di Kecamatan Purworejo merupakan salah satu wilayah yang belum terbebas dari DBD, dengan kasus 23,2% di tahun 2022. Penelitian ini bertujuan untuk menjelaskan status resistensi *Ae. aegypti* serta potensi transmisi DBD untuk memperkecil kemungkinan terjadinya kasus DBD di Kabupaten Purworejo. Uji resistensi *Ae. aegypti* terhadap organofosfat dengan metode CDC *bottle bioassay* terdiri atas koleksi telur, pemeliharaan larva hingga nyamuk dewasa, uji CDC *bottle*, dan analisis kepadatan jentik nyamuk. Nyamuk uji dipaparkan malathion sesuai dengan dosis diagnostik standar. Penelitian menunjukkan bahwa nyamuk uji bersifat toleran atau masih bertahan hidup setelah dipaparkan malathion dengan dosis standar. Paparan malathion dosis diagnostik 1x pada nyamuk uji menunjukkan status resisten, dengan mortalitas 53,75% ; pada dosis diagnostik 1,25x berstatus terduga resisten, dengan mortalitas 85%. Berdasarkan nilai HI (54%), BI (65%), CI (19,06%), dan ABJ (46%) maka Desa Pangenrejo berpotensi tinggi terjadi penularan DBD. Lingkungan fisik dan biologis mendukung habitat *Ae. aegypti* berkembang biak dengan baik.

Kata Kunci: *Aedes aegypti*, CDC *Bottle Bioassay*, Demam Berdarah Dengue (DBD), Resistensi

RESISTANCE OF *Aedes aegypti,* Linnaeus (1762) AGAINST MALATHION AND THE POTENCY OF DHF TRANSMISSION AT PANGENREJO VILLAGE PURWOREJO SUBDISTRICT

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ABSTRACT

Some regions in Indonesia are still endemic and are not free from Dengue Haemoragic Fever (DHF). Therefore, the government is trying to control the transmission of DHF by using malathion. The uncontrollable using of this insecticide can cause resistance to Ae. aegypti *so that the effectivity was reduce. Pangenrejo Village in Purworejo District is an area that has not been freed from DHF, there was 23.2% cases in 2022. In this study, it is proposed to conduct resistance test of* Ae. aegypti *against organophosphates using the CDC bottle bioassay method. By doing this research, it can be seen the status of resistance and the potential for DHF transmission and to minimize the DHF cases in Purworejo Regency. The research steps were consisted of the egg collection by ovitrap, reared of the larvae until adult, CDC bottle bioassay, and analysis of larvae density.* Ae. aegypti *were exposed to standard dose malathion. Research showed that the mosquitoes were tolerant, they could survive after being exposed to standard doses of malathion. Result showed that, with 1x diagnostic dose, the mosquitoes stated resistant (mortality 53.75%); with 2x diagnostic dose the mosquitoes stated suspected resistant (mortality 85%). Based on HI (54%), BI (65%), CI (19.06%), and ABJ (46%) values, Pangenrejo Village has a high potency of DHF transmission. The physical and biological environment are support* Ae. aegypti *habitat.*

Keywords: *Aedes aegypti*, CDC Bottle Bioassay, Dengue Haemoragic Fever (DHF), Resistance