

**EFEKTIVITAS CAMPURAN EKSTRAK DAUN SRIKAYA (*Annona squamosa* L.) DAN RIMPANG KUNYIT (*Curcuma domestica* Val.)
TERHADAP MORTALITAS LARVA *Spodoptera litura* F.
(Lepidoptera: Noctuidae)**

Ramadhan Taufika
14/372628/PBI/1285

ABSTRAK

Larva *Spodoptera litura* F. (Lepidoptera: Noctuidae) merupakan serangga polifagus yang menyebabkan kerusakan pada berbagai jenis tanaman pertanian, sehingga perlu dilakukan upaya pengendalian. Salah satu pengendalian hayati yang ramah lingkungan menggunakan insektisida nabati yakni campuran ekstrak daun *A. squamosa* dan rimpang *C. domestica* (campuran ekstrak uji). Tujuan penelitian untuk mengetahui efektivitas campuran ekstrak uji serta mengetahui efek subletal terhadap perkembangan *S. litura*. Uji pendahuluan dan efektivitas dilakukan dengan celup pakan ke dalam campuran ekstrak uji. Data mortalitas dianalisis dengan ANAVA, selanjutnya uji lanjut *Duncan* dengan taraf kepercayaan 5%, dan analisis Probit penentuan LC_{50} dan LC_{90} menggunakan program SPSS 21. Hasil penelitian menunjukkan bahwa campuran ekstrak uji efektif untuk membunuh larva *S. litura*. Hasil perhitungan *Lethal Concentration* 50 dan 90 (LC_{50} dan LC_{90}) menunjukkan bahwa nilai LC_{50} campuran ekstrak uji terhadap larva instar kedua dan ketiga secara berurut adalah 5.252 ppm dan 10.559 ppm serta LC_{90} secara berurut adalah 11.124 ppm dan 13.638 ppm. Berdasarkan perhitungan tersebut dapat disimpulkan campuran ekstrak uji lebih efektif terhadap mortalitas larva instar kedua daripada larva instar ketiga *S. litura*. Hasil pengamatan efek subletal menunjukkan campuran ekstrak uji dapat memperpanjang stadium larva dan pupa, mengurangi berat pupa, sayap imago tidak berkembang sempurna, pengurangan ukuran imago, serta imago tidak mampu menghasilkan telur.

Kata Kunci: *Spodoptera litura*, *Annona squamosa*, *Curcuma domestica*, insektisida nabati

THE EFFICACY OF MIXED EXTRACT OF SWEETSHOP LEAVES (*Annona squamosa* L.) AND TURMERIC RHIZOMES (*Curcuma domestica* Val.) AGAINST MORTALITY OF *Spodoptera litura* F. LARVAE (Lepidoptera: Noctuidae)

Ramadhan Taufika
14/372628/PBI/1285

ABSTRACT

Spodoptera litura F. larvae (Lepidoptera: Noctuidae) is a polyphagous insect that caused damage to many kinds of agricultural crops, so it needs an control technique. One of the biological control that eco-friendly using botanical insecticides was the mixed extracts of *Annona squamosa* leaves and *Curcuma domestica* rhizomes (the mixed of experimental extracts). The aim of the research were to know the efficacy of the mixed of experimental extracts against the mortality of *S. litura* larvae and to know its sublethal effects to the development of *S. litura*. The initial and efficacy test were conducted by bait dip into the mixed of experimental extracts. The mortality data were analyzed using ANAVA, then continued by Duncan test with significance level of 5% and Probit analysis using SPSS 21. The result of this research showed that the mixed of experimental extracts were effective to kill *S. litura* larvae. The calculated result of LC₅₀ and LC₉₀ showed that the LC₅₀ value of the experimental extracts against second and third instar larvae were 5.252 ppm and 10.559 ppm, and the LC₉₀ value for both instar larvae were 11.124 ppm and 13.638 ppm, respectively. Based on the calculated result, it could be concluded that the mixed of experimental extracts were more effective against the mortality of second instar larvae than third instar larvae. The observation result of sublethal effects showed that the mixed of experimental extract could extended the larval and pupal stadia, pupal weight reduction, the wings of adults were not fully developed, adult size reduction, and adults were unable to produced eggs.

Key words: *Spodoptera litura*, *Annona squamosa*, *Curcuma domestica*, botanical insecticide