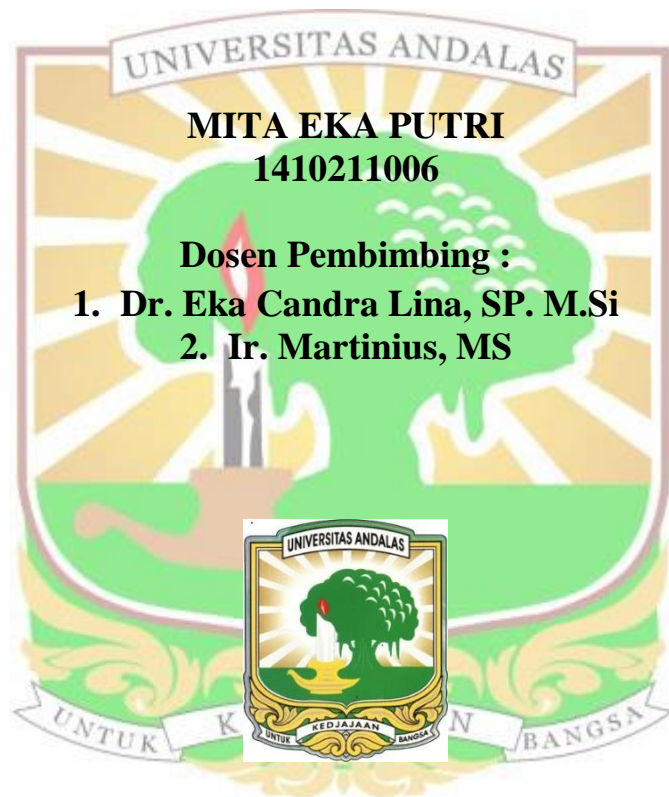


**EFIKASI INSEKTISIDA NABATI FORMULASI CAMPURAN
Piper aduncum DAN *Tephrosia vogelii* TERHADAP
Plutella xylostella L. (LEPIDOPTERA: PLUTELLIDAE)**

SKRIPSI

OLEH :



**FAKULTAS PERTANIAN
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Abstrak

Formulasi insektisida nabati campuran *Piper aduncum* dan *Tephrosia vogelii* dalam bentuk *emulsifiable concentrate* (EC) dan *wettable powder* (WP) telah dilaporkan efektif untuk mengendalikan *Plutella xylostella* pada uji laboratorium. Penelitian ini bertujuan untuk mengetahui efektivitas insektisida nabati campuran *P. aduncum* dan *T. vogelii* dalam bentuk formulasi EC dan WP terhadap *P. xylostella* di lapangan. Penelitian dilakukan di Kecamatan Salimpaung, Kabupaten Tanah Datar, Sumatera Barat menggunakan rancangan acak kelompok (RAK). Penelitian terdiri dari 5 perlakuan (insektisida nabati formulasi EC, insektisida nabati formulasi WP, insektisida *Bacillus thuringiensis* formulasi WP, insektisida avermectin formulasi EC, dan kontrol) dan 3 ulangan, perlakuan diaplikasikan satu kali seminggu dari tanaman berumur 21 Hari Setelah Tanam (HST) hingga waktu panen yaitu 63 HST. Pengamatan dan aplikasi insektisida dimulai pada saat tanaman brokoli berumur 21 hari setelah tanam. Jumlah tanaman yang terserang *P. xylostella* dan jumlah populasi larva *P. xylostella* dicatat kemudian dianalisis menggunakan anova dan dilanjutkan dengan uji *Least Significant Different* (LSD) pada taraf 5%. Hasil penelitian menunjukkan bahwa insektisida sintetik paling efektif dalam mengendalikan *P. xylostella* dibandingkan dengan semua perlakuan. Perlakuan insektisida nabati formulasi WP lebih efektif menekan populasi larva *P. xylostella* dibandingkan dengan insektisida nabati formulasi EC. Kepadatan populasi larva *P. xylostella* pada perlakuan insektisida nabati WP dan EC masing-masing sebanyak 0,11 ekor/tanaman dan 0,19 ekor/tanaman. Persentase tanaman terserang pada perlakuan insektisida nabati formulasi WP dan EC masing-masing sebesar 51,11% dan 60%. Nilai efektifitas insektisida nabati formulasi WP dan EC memiliki nilai rata-rata masing masing yaitu 55,93% dan 34,69%.

Kata kunci : efikasi, *emulsifiable concentrate* (EC), insektisida nabati, *Plutella xylostella*, *wettable powder* (WP)

**EFFICATION OF NABATICAL INSECTICIDE
FORMULATIONS FROM MIXED EXTRACTS OF *Piper
aduncum* AND *Tephrosia vogelii* AGAINST *Plutella xylostella* L.
(LEPIDOPTERA: PLUTELLIDAE)**

Abstract

Mixed extracts formulation from *Piper aduncum* and *Tephrosia vogelii* in form *emulsifiable concentrate* (EC) and *wettable powder* (WP) have been reported to control *Plutella xylostella* in laboratory tests. The purpose of this research is to determine the effectiveness of mixed extracts formulation from *P. aduncum* and *T. vogelii* against *P. xylostella* in field. The research was conducted in Salimpaung, Tanah Datar District, West Sumatra Province using a randomized block design (RBD). The research consist of 5 treatments and 3 replications (Nabatical insecticides EC formulations, nabatical insecticides WP formulations, *Bacillus thuringiensis* insecticides WP formulations, Avermectin EC formulations insecticides, and control), the treatment applied once a week from 21 Day After Plant (DAP) to harvest time 63 DAP. Observation and insecticides application begin at broccoli plants of 21 DAP. The number of plants attacked by *P. xylostella* and the number of population of *P. xylostella* were recorded and then analyzed using ANOVA and continued with the Least Significant Different (LSD) test at the level 5%. The results showed that synthetic insecticide was the most effective to suppressing *P. xylostella* than other treatments. WP formulations of nabatical insecticide were more effective in suppressing the larvae population of *P. xylostella* than EC formulations of nabatical insecticide. The population density of *P. xylostella* larvae in field treatment of WP and EC plot sample were 0.11 larvae/plant and 0.19 larvae / plant respectively. The percentage of attacked plants in plot sample of WP and EC formulations were 51.11% and 60% respectively. The average of nabatical insecticides effectiveness value in formulation of WP and EC were 55.93% and 34.69% respectively.

Keywords: effication, *emulsifiable concentrate* (EC), nabatical insecticide, *Plutella xylostella*, *wettable powder* (WP)