

RINGKASAN

Spodoptera litura F (Lepidoptera, Noctuidae) atau dikenal dengan sebutan ulat grayak adalah salah satu hama yang sangat merugikan bagi tanaman sayuran.. Hama ini bersifat polifag dan memiliki kisaran inang yang cukup luas, berbagai jenis tanaman pangan, perkebunan, sayuran, dan buah. Pengendalian yang sering dilakukan adalah dengan menggunakan pestisida kimia. Penggunaan pestisida kimia dapat menimbulkan dampak negatif. Oleh karena itu, untuk mengurangi dampak negatif penggunaan insektisida kimia perlu dilakukan pengendalian alternatif lainnya. Salah satu alternatif pengendalian yang aman bagi pengguna dan konsumen serta ramah lingkungan adalah dengan menggunakan insektisida nabati seperti ekstrak daun ketepeng cina.

Penelitian dilakukan dengan tujuan untuk: 1) mengetahui pengaruh pemberian ekstrak daun ketepeng cina (*Cassia alata*) terhadap mortalitas 2) mengetahui konsentrasi efektif hama ulat grayak (*S. litura*). 3) mengetahui pengaruh pemberian ekstrak *C. alata* terhadap aktivitas makan hama ulat grayak (*S. litura*). 4) mengetahui pengaruh pemberian ekstrak *C. alata* terhadap perkembangan larva ulat grayak (*S. litura*).

Penelitian dilaksanakan di Laboratorium Ilmu Hama Tumbuhan Fakultas Pertanian Universitas Jenderal Soedirman, Purwokerto, pada bulan Oktober sampai dengan bulan Desember 2018. Penelitian ini dilakukan 2 tahap penelitian, penelitian pertama menggunakan Rancangan Acak Lengkap (RAL) dengan 7 taraf konsentrasi ekstrak daun ketepeng cina pada kisaran konsentrasi 0-90% setiap perlakuan diulangi sebanyak 5 kali. Analisis data menggunakan anova dan nilai LC_{50} menggunakan analisis probit. Penelitian kedua menggunakan RAL dengan taraf konsentrasi berdasarkan dari nilai LC_{50} . Dilakukan dengan 7 taraf konsentrasi dan diulangi sebanyak 5 kali. Variabel yang diamati meliputi mortalitas *S. litura*, palatabilitas, lama masa pupa, jumlah pupa, dan jumlah imago.

Hasil penelitian menunjukkan bahwa konsentrasi 90% diperoleh hasil mortalitas 100%. Konsentrasi efektif sebesar 15% dengan nilai mortalitas 90%. Pemberian ekstrak daun ketepeng cina dengan konsentrasi 12% mampu menurunkan aktivitas makan sebesar 41%. Dan perkembangan larva *S. litura*, serta pada konsentrasi 10% dan 12% dapat mempercepat stadium pupa menjadi 7,2 hari. Perlakuan konsentrasi ekstrak daun ketepeng cina dengan 12% mampu menghasilkan jumlah pupa sedikit dibandingkan dengan kontrol. Perlakuan konsentrasi 12% menghasilkan persentase jumlah imago sebesar 8%.

SUMMARY

Spodopteralitura F (Lepidoptera, Noctuidae) or known as armyworm is one of the pests that is very detrimental to vegetable crops. . This pest is polyphagic and has a wide range of hosts, various types of food crops, plantations, vegetables and fruit. Control is often done by using chemical pesticides. The use of chemical pesticides can have a negative impact. Therefore, to reduce the negative impact of the use of chemical insecticides, other alternative controls need to be carried out. One alternative control that is safe for users and consumers as well as environmentally friendly is to use vegetable insecticides such as candle bush's leaf extract.

This research was aimed to know : 1) the effect of application of candle bush's leaf extract(*Cassia alata*) on the mortality 2) determinethe effective concentration of armyworm (*S. litura*) pest 3) the effect of application candle bush's leaf extracton against the feeding activity armyworm (*S. litura*) pest. 4) the effect of application candle bush's leaf extractto the development of armyworm (*S. litura*) larvae.

This research was conducted in Plant Pest Science Laboratory of Faculty of Agriculture, JenderalSoedirman University, Purwokerto, from October to December 2018.The research was conducted in two stages, the first experimental design uses Completely Randomized Design (CRD) with 7 treatments on the range of 0-90% and each treatment was repeated 5 times. Data were analyzed by Analysis of Variance (Anova) and LC_{50} were obtained by probit analyze. The second experimental was conducted by 7 concentration and 5 replications. The observed variables included the mortality of *S. litura*, palatability, pupae period, number of pupae, and number of imago.

The results showed that candle bush's leaf extract by concentration of 90% was able to cause 100% mortality of *Spodopteralitura*. The effective concentration of candle bush's leaf extract was 15% with a mortality rate of 90%. The effect of application of *C. alata* leaf extract with a concentration of 12% can reduce palatability by 41%, and on the development of *S. litura* larvae, concentration of 10% and 12% can accelerate the pupae period to be 7,2 days. The 12% concentration of candle bush's leaf extract was able to produce a small number of pupae compared to the control. The 12% concentration treatment was able to obtain a percentage of imago to 8%