

**LEMBAR PERSETUJUAN**

**SKRIPSI**

**UJI EKSTRAK BIJI PEPAYA (*Carica papaya*) TERHADAP MORTALITAS ULAT  
GRAYAK (*Spodoptera litura*)**

Oleh

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**LEMBAR PENGESAHAN**

**SKRIPSI**

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Telah Dipertahankan Di Depan Dewan Penguji

Hari/Tanggal : Kamis, 13 Januari 2022  
Waktu : 09.15 - 10.30 WITA  
Tempat : Ruang Program Studi Biologi

**Penguji/Pembimbing**

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| 1. Prof. Dr. Margaretha Solang, M.Si     | (Penguji I)     | 1. .... |
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Gorontalo, 14 Maret 2022

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## ABSTRAK

**Isra Cahayani Bahuwa. 2021.** Uji Ekstrak Biji Pepaya (*Carica papaya*) Terhadap Mortalitas Ulat Grayak (*Spodoptera litura*). Program Studi Biologi, Jurusan Biologi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Gorontalo. Pembimbing I Dr. Djuna Lamondo, M.Si dan Pembimbing II Dr. Abubakar Sidik Katili, S.Pd, M.Sc.

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian ekstrak biji pepaya terhadap mortalitas, konsentrasi ekstrak biji pepaya yang paling berpengaruh, *Lethal Concentration* (LC<sub>50</sub>) 24 jam dan *Lethal Time* (LT<sub>50</sub>) 24 jam larva ulat grayak instar III. Penelitian dilaksanakan di Laboratorium Zoologi Jurusan Biologi, dan Laboratorium Kimia Universitas Negeri Gorontalo pada bulan Juni sampai Juli 2021. Metode yang digunakan adalah metode eksperimen dengan Rancangan Acak Lengkap (RAL), terdiri dari 9 perlakuan yakni perlakuan A (Kontrol akuadest), B (Kontrol CMC), C (1 ppm), D (50 ppm), E (100 ppm), F (200 ppm), G (400 ppm), H (800 ppm), dan I (1600 ppm). Data dianalisis dengan analisis varians untuk mengetahui pengaruh pemberian ekstrak biji pepaya terhadap mortalitas ulat grayak, untuk menentukan LC<sub>50</sub> 24 jam dan LT<sub>50</sub> 24 jam dilakukan analisis probit. Hasil analisis varians terdapat pengaruh pemberian ekstrak biji pepaya terhadap mortalitas larva ulat grayak dengan nilai F hitung 27.109. Hasil uji Duncan menunjukkan konsentrasi yang paling berpengaruh dalam membunuh ulat grayak instar III berada pada konsentrasi 1600 ppm dengan nilai persentase 87% mortalitas ulat grayak. Analisis probit diperoleh nilai LC<sub>50</sub> 24 jam :489 ppm, dan nilai LT<sub>50</sub> 24 jam pada konsentrasi 1600 ppm yaitu 10.61 jam dengan waktu tercepat yang dapat membunuh 50% larva ulat grayak. Hasil penelitian menunjukkan bahwa terdapat pengaruh ekstrak biji pepaya terhadap mortalitas ulat grayak.

**Kata kunci:** *Pepaya (Carica papaya), Ulat Grayak (Spodoptera litura), Mortalitas*

## ABSTRACT

**Bahuwa, Isra Cahayani. 2021.** Papaya (*Carica papaya*) Seed Extract Test on the Mortality of the Tobacco Cutworm (*Spodoptera litura*). Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Negeri Gorontalo. Principal Supervisor: Dr. Djuna Lamondo, M.Si. Co-supervisor: Dr. Abubakar Sidik Katili, S.Pd, M.Sc.

The present research explores the effect of papaya seed extract on mortality, the most influential concentration of papaya seed extract, lethal concentration (LC<sub>50</sub>) 24 hours, and Lethal Time (LT<sub>50</sub>) 24 hours tobacco cutworm larvae instar III. It was carried out at the Zoology Laboratory, Department of Biology, and the Chemistry Laboratory, Universitas Negeri Gorontalo, from June to July 2021. This experimental research employed a completely randomized design (CRD) consisting of nine treatments. Those treatments were A (aquadest control), B (CMC control), C (1 ppm), D (50 ppm), E (100 ppm), F (200 ppm), G (400 ppm), H (800 ppm), and I (1600 ppm). All data were analyzed with variance analysis to determine the effect of papaya seed extract on tobacco cutworm mortality. In addition, to identify the 24-hour LC<sub>50</sub> and 24-hour LT<sub>50</sub>, a probit analysis was performed. The variance analysis showed that there was an effect of giving papaya seed extract on the mortality of tobacco cutworm larvae with a calculated F value of 27.109. The results of Duncan's test revealed that the most influential concentration in killing the third instar armyworm was at a concentration of 1600 ppm with a percentage value of 87% mortality of tobacco cutworm. In addition, Probit analysis obtained a 24-hour LC<sub>50</sub> value: 489 ppm and a 24-hour LT<sub>50</sub> value at a concentration of 1600 ppm, which is 10.61 hours with the fastest time that can kill 50% of tobacco cutworm larvae. Therefore, the overall results indicated that papaya seed extract affects tobacco cutworm mortality.

**Keywords:** *Papaya (Carica papaya), Tobacco Cutworm (Spodoptera litura), Mortality*