

EFFECTIVENES TUBA ROOT INSETICIDE (*Derris elliptica*) OFAGAINST THE MORTALITY OF COTTON FRUIT BURDER (*Helicoverpa armigera*)

TUBALSSupervised by Irma Wardati, SP. MP

David Karuna

Plantation Cultivation Study Program
Agricultural Production Department

ABSTRACT

The attack of the cotton caterpillar boulder (*Helicoverpa armigera*) higher makes the cost of control higher, taking into account the high cost of control, an alternative is to use insecticides that are inexpensive and environmentally friendly. The aim of this study was to determine the effectiveness of tuba root insecticide (*Derris elliptica*) on the mortality of cotton fruit borer caterpillar (*Helicoverpa armigera*). This research was carried out in Tanjungrejo Hamlet, RT 3, RW 2, Sembulung Village, Cluring District, Banyuwangi Regency with an altitude of 35 meters above sea level (mdpl). This used a non-factorial randomized block design (RAK) with the tested factors including A1 = 0 gr/100ml (control), A2 = 3 gr/100 ml (3%), A3 = 4 gr/100 ml (4%) , A4 = 5 g/100 ml (5%), A5 = 6 g/100 ml (6%). The parameters observed were the mortality of the cotton bollworm (*Helicoverpa armigera*), lethal time (LT₅₀), lethal consentration (LC₅₀), physical changes, and behavioral changes. Further testing uses the BNT Test (Least Significant Difference) with a level of 5%. The results showed that the tubal root insecticide (*Derris elliptica*) was effective against the mortality of the cotton fruit borer caterpillar (*Helicoverpa armigera*) with LT₅₀ fastestof 18.69 hours at a concentration of 4%. Theconcentration of tuba root insecticide (*Derris elliptica*) appropriatefor the control of cotton fruit borer caterpillar (*Helicoverpa armigera*) based on the LC₅₀ was 3.56%.

Key words: *Helicoverpa armigera*, tuba root, botanical insecticide