

Chatmanee Wootisarn 2015: Insecticidal Efficacy of *Boesenbergia rotunda* (L.) Mansf. and *Curcuma zedoaria* (Berg.) Roscoe Essential Oil on the Larva of Common Cutworm (*Spodoptera litura* Fabricius). Master of Science (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Associate Professor Siripan Tantakom, Dr.Agr. 86 pages.

Efficacy of essential oil of Fingerroot. *Boesenbergia rotunda* (L.) Mansf. and Zedoary *Curcuma zedoaria* (Berg.) Roscoe, which is obtained from the water distillation. Essential oils were investigated against 3rd instar larvae of common cutworm, *Spodoptera litura* Fabricius to test the effectiveness of the insecticide by leaf dipping method. Fresh chinese kale leaves were dipped in essential oil concentration 0.0, 2.0, 4.0, 6.0, and 8.0 percent (v/v). Monitoring results at 2, 6, 12 and 24 hours. The result showed that the number of dead larvae was increased when the concentration increase and the time after exposure was longer. The LC₅₀ from the leaf dipping test were 4.95 and 4.54 percent (v/v), respectively. In order to test the effectiveness of an insecticide by topical application, the essential oil of fingerroot test was the same concentration with the leaf dipping test. However, the concentration of essential oil of zedoary was 0.0, 1.5, 2.0, 2.5, and 3.0 percent (v/v). The number of dead larvae was increased when the concentration increase. The LC₅₀ from the topical application test were 5.30 and 2.23 percent (v/v), respectively. For repellent test, fresh chinese kale leaves were dipped in the essential oil and put larvae on leaves. Test on the same concentration with the topical application test. Inspection results within 15 minutes, 1, 5, and 10 hours showed that the essential oil of fingerroot concentration of 8.0 percent (v/v) with the best repellent efficacy, 96.67 percent. Zedoary concentration of 3.0 percent (v/v) had the best effectiveness on repelling the larvae, 56.67 at 15 minutes.

Student's signature

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