

Mayurachat Kuachoo 2010: Insecticidal Efficacy of Black lily Rhizome (*Tacca chantrieri* Andre) Extract on the Diamondback moth (*Plutella xylostella* Linn.) Larvae. Master of Science (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Associate Professor Siripan Tantakom, Dr.Agr. 90 pages.

Extract substances from Black lily Rhizome by four methods, room temperature water extraction, water at 60 °C extraction, alcohol extraction and acetone extraction, were tested on 2-3 instar diamondback moth larvae for the insecticidal efficacy, insecticidal, repellent and antifeedant. Insecticidal efficiencies were test by leaf dipping method and topical application method. The results from topical application method gave more efficacy than Leaf dipping method. In the topical application method, the efficacy of the plant crude extract with acetone was most effective followed by the extract with alcohol, water of 60 °C and water, respectively. The LC₅₀ at 24 hour of the extraction with acetone, alcohol, water of 60 °C and water were 0.16, 0.43, 2.07 and 5.02 percents (w/v), respectively. In the leaf dipping method, the efficacy of the plant crude extract with alcohol was most effective followed by the extract with acetone, water of 60 °C and water, respectively. The LC₅₀ at 24 hour of the extraction with alcohol, acetone, water of 60 °C and water were 2.24, 5.43, 11.16 and 28.18 percents (w/v), respectively. The percentage repellency of the plant crude extract with water was the most effective extract, followed by the extraction with alcohol, acetone and water of 60 °C, respectively. The percentage repellency at 5 hour of the water extraction were 41.11, 33.33, 33.33 and 22.22, respectively. The plant crude extracts by all four methods had no antifeedant efficiency on the diamondback moth.

Student's signature

Thesis Advisor's signature