Trirat Nhuaid 2009: Efficacy of Crude Extracts from *Tacca chantrieri* Andre and *Linostoma pauciflorum* Griff against the Diamondback Moth, *Plutella xylostella* L. (Lepidoptera: Yponomeutidae) and Pea Aphid, *Aphis craccivora* Koch (Homoptera: Aphididae). Master of Science (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Associate Professor Wiboon Chongrattanameteekul, Ph.D. 92 pages.

This research was aimed to study the effectiveness of crude extracts from *Tacca chantrieri* Andre and *Linostoma pauciflorum* Griff, by two extraction methods: ethanol soxhlet extraction and hot water extraction. All crude extracts were tested against the diamondback moth (*Plutella xylostella* L.) and pea aphid (*Aphis craccivora* Koch). Leaf-dipping was used as testing method. The results showed that both ethanol soxhlet extracts and hot water extracts of *T. chantrieri* had insecticidal activity against diamondback moth larvae. Crude extract from *T. chantrieri* by ethanol soxhlet extraction (TES) at 10% (w/v) showed the highest toxicity of 96% mortality at 72 hours after treatment and the LC_{50} value of 1.57% (w/v). Moreover, at sublethal dosage (near LC_5) the extract could express low antifeedant activity against diamondback moth larvae. However, *Tacca* crude extracts exhibited quite good antioviposition activity against diamondback moth adults. The results showed that TES at 5% (w/v) were effective repellency with (ER%) value of 80.96%. Crude extracts from *L. pauciflorum* expressed similar activities with lower efficacy.

In the efficacy test of crude extracts against pea aphid, *A.* craccivora, the TES and the crude extract from *L. pauciflorum* by ethanol soxhlet extraction (LES) at 10% (w/v) showed the high toxicities of 80 and 84% mortality respectively at 72 hours after treatment and the LC_{50} values of 1.14 and 2.61% (w/v) respectively. Moreover, all crude extracts exhibited antifeedant activity by causing decreased number of stylet injection and time of feeding. Fertilities of aphids fed on plants treated with all crude extracts except LES at 0.3% (w/v) were also lowered when compared to that of the untreated control.

This study demonstrated the potential of using *T. chantrieri* and *L. pauciflorum* extracts against the diamondback moth and pea aphid in fields.

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