Janejira Yongram 2015: Efficacy of *Delonix regia* (Bojer ex Hook.) Raf., *Senna tora* (L.) Roxb. and *Leucaena glauca* (Willd.) Benth. Seed Crude Extracts to Control Maize Grain Weevil (*Sitophilus zeamais* Motschulsky) and Red Flour Beetle (*Tribolium castaneum* (Herbst)). Master of Science (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Professor Angsuman Chandrapatya, Ph.D. 115 pages.

One kilogram of *Delonix regia* (Bojer ex Hook.) *Senna tora* (L.) Roxb. and *Leucaena glauca* (Willd.) Benth. grounded dried seeds gave 9.4, 9.1 and 21.6 gram; 18.0, 20.0 and 19.4 gram and 20.2, 27.1 และ 15.1 gram of hexane, dichloromethane and methanol crude extracts, respectively. *L. glauca* seeds extracted with dichloromethane at 3% (v/v) concentration showed higher efficiency to repel *Sitophilus zeamais* adults with maximum repellency of 76.0% at hour 5th after treatment whereas hexane and dichloromethane crude extracts of *L. glauca* seeds at 3 and 1% (v/v) concentrations repel *Tribolium castaneum* adults with highest repellency of 96% at hour 3th, 4th and 2nd after exposures, respectively. Dichloromethane crude extract of *D. regia* seeds at 9% (v/v) concentration killed *S. zeamais* with maximum mortality of 77.5% at 72 hours after treatment while all crude extracts from 3 plant species could not kill *T. castaneum* at 72 hours after treatment under fumigation in knockdown chamber. Crude extracts from 3 plant species demonstrated no efficiency for killing both insects under fumigation in small glass vial. *D. regia* seeds extracted with hexane and *S. tora* seeds extracted with methanol killed *S. zeamais* and *T. castaneum* with highest mortalities of 60.4 and 68.0%, respectively where LD_{50} of 42.377 and 25.188 and LD_{95} of 64.500 and 69.404 µg/insect were recorded, respectively at 7 days after treatment under topical application test. The mortalities of *S. zeamais* and *T. castaneum* were lower than 20% after both insects contacted the filter paper formerly treated with crude extracts from 3 plant species. *S. tora* seeds extracted with dichloromethane and methanol at 9% (w/v) concentration exhibited 62.4 and 58.9% feeding deterrence index (FDI) against *S. zeamais* and *T. castaneum* at 3 days after exposure, respectively.

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