EFFICIENCY OF *Jatropha gossypifolia* L. (EUPHORBIACEAE) AGAINST *Spodoptera litura* (Lepidoptera: Noctuidae): TOXICITY AND DETOXIFICATION ENZYME ACTIVITIES

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Abstract

The naturally occurring phytocidal chemical components of some Thai plant-species are responsible for controlling and repelling insects from the host plants. The aim of this study was to evaluate the insecticidal activity of *Jatropha gossypifolia* L. leaf extracts against *S. litura* and detoxification enzyme activities. Laboratory no-choice bioassays showed treatment of second instar *Spodoptera litura* by dipping in extracts from senescent leaves of *Jatropha gossypifolia* L. at 3,000 -10,000 ppm had significant toxicity with LC$_{50}$ of 6,555.92 ppm ($r^2 = 0.88$) and 6,424.91 ppm ($r^2 = 0.95$) at 24 and 48 hours after exposure. Also, *S. litura* larvae surviving treatment showed a dramatic decrease in carboxylesterase and glutathione-s-transferase activities. This extract showed strong insecticidal activity and may play an alternative role as a pesticide against *Spodoptera litura*. 