**The potential of Using Pesticidal Plant Extracts in Managing Termite Damage in Sugarcane Buds and Setts at Planting**

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Subterranean termites are a severe issue that affects the sugarcane crop from germination to shoot emergence and finally cane quality. Many plant components have been discovered to contain compounds that are toxic to termites, which probably confer their biological insecticidal properties. Therefore, with the objective of screening potential plant extracts that have insecticide properties and the lethal dosage (LC₅₀) to manage termite damage during germination and the early plant growth phases of sugarcane. A preliminary choice test was conducted using eight plant species with an insecticidal effect. Three plant species were selected for the field study depending on the results of the choice test, i.e., *Leucaena leucocephala* (Ipil - Ipil) pods and leaves, *Gliricidia sepium* (Gliricidia), and *Lantana camara* (Gandapana). Mature leaves and pods of the selected insecticidal plants are collected, cleaned and dried at room temperature and ethanol extractions were prepared. Soaked, three-budded setts of SL 96 128 sugarcane variety were planted in 3 plots with 18 rows, 5 m length and 1.37 m spaced. In each raw, 20 setts were planted and maintained according to the standard management practices. Data on the number of buds that germinated, damage and growth parameters were collected. The lowest sett damage (10.33 ± 2.85) was recorded from *L. camara-treated* seed setts. All ethanolic plant extracts induced concentration and time-dependent mortality in termites. The highest (LC₅₀) value was recorded in *L. camara* leaf extract (3.97 ± 0.70 – 6 h, 0.48 ± 0.53 – 24 h, 0.084 ± 0.45 – 48 h, 0.00033 ± 0.0004 – 72 h). There is no significant effect of ethanolic extract of tested plant parts on sugarcane sett germination and plant growth parameters except *L. camara* leaf extract (*p* < 0.001) on the average root mass of sugarcane. Therefore, out of these plant extracts, the ethanolic leaf extract of *Lantana camara* is the best extraction for sugarcane sett treatment over termites.

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