

**Investigation of the Potential of Locally Available Herbals as
Pesticides against White Grub (*Holotrichia serrata*) in Groundnut
(*Arachis hypogaea*)**

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ABSTRACT

White grub (*Holotrichia serrata*) is one of the serious pests of groundnut (*Arachis hypogaea*) in the Trincomalee District where the damage occurs throughout the year. The pest damages the root at initial stage of growing period and at later stage of newly formed pegs. Since the granular insecticides are highly toxic, an effective alternative for the management of this pest is an urgent need. Therefore, this study was conducted to identify the bio efficacy of locally available plant-based products to control the white grub in groundnut cultivations. Under this experiment, 900 g of *Azadirachta indica* Kernel and Leaves Powder (AIKLP) (T1), *Cascabela thevetia* Leaves Powder (CTLP) (T2), *Ricinus communis* Kernel powder (RCLP) (T3), *Vitex negundo* leaves powder (VNLP) (T4), and 6 kg/ha Chlorantraniliprole (T5) were used with cow dung (T6). A field trial was conducted at Kinniya in Trincomalee District to test the efficacy of these phyto-pesticides against white grub. They were applied in triplicates to the soil at planting time and at 30 days after planting. Test phyto pesticides were mixed with soil for field application to ensure uniform distribution among plants. The number of death plants per plot and the yield were estimated in weekly intervals for each plot. The data were analyzed with Randomized Complete Block Design using SAS. Results of this study revealed that Neem (*Azadirachta indica*) leaves and kernel powder has a high potential insecticidal activity towards the white grub attacks in groundnut cultivation. Therefore, it can be concluded that *Azadirachta indica* leaves and kernel powder is a potential locally available herb to control the white grub in groundnut cultivation as an eco-friendly and a cost-effective phyto-pesticide.

Keywords: Cost-effective, Eco-friendly, Groundnut cultivation, Phyto-pesticides, White grub control