TECHNICAL SESSION 1

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Toxicity of *Lantana camara* L. (Gandapana) on growth of paddy field weeds: *Ludwigia decurrens* Walt.(Well karabu), *Ischaemum rugosum* Salisb.(Kudukedu) and *Limnocharis flava* (L.) Buchenau (Diya Gova)

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Abstract

Lantana camara L. was introduced to Sri Lanka as an ornamental plant, but now it is considered invasive. The toxic effect of *L. camara* on plants and animals has been documented. However its effect on paddy weeds has paid little attention. Since weeds have become a major agricultural problem in Sri Lanka, this study focuses on the ability of Lantana to suppress the growth of paddy weeds.

The objective of this study was to identify the toxic effect of dry *L. camara* residues on growth of paddy weeds with respect to plant height, leaf development and biomass accumulation. Lantana residues weighing 30 g, 60 g and 120 g were mixed with 2.5 kg of pesticide free paddy soil in plastic pots. Growth of paddy weed seedlings was monitored after introducing them into paddy soil containing different quantities of *L. camara* residues. Growth parameters such as tallest shoot and leaf number per plant were recorded for a period of six weeks. Dry weights of roots and shoots of weeds were obtained in the final week. Growth of test weed species was affected to different extents by addition of different amounts of Lantana residues. When *I. rugosum* was introduced to a high concentration (60 g) of residue a significant reduction in plant height was observed for all weeks with the exception of week three. Leaf development in *L. decurrens* was significantly reduced due to the presence of Lantana residue. Height of *L. decurrens* plants were suppressed when 60 g or more *L. camara* residue was added to soil. Leaf development and plant height in *L. flava* had exhibited a significant suppression when soil was mixed with 60 g and 120 g Lantana residues. Growth of *L. flava* was the most suppressed by Lantana residue treatment while *I. rugosum* was the least suppressed weed.

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