

ORIGINAL ARTICLE

ALLELOPATHIC EFFECT OF *LANTANA CAMARA* L. ON THREE WEED SPECIES OF NORTH 24 PARGANAS, WEST BENGAL

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Abstract: *An experimental study was conducted to observe the effect of the aqueous leaf extract of the plant Lantana camara L. (Family: Verbenaceae) on germination and growth of three of its non-associated weeds: Cassia sophera, Cassia tora and Crotalaria pallida var pallida. It was observed that all growth parameters of these three weeds were seriously affected upon treatment with various concentrations of Lantana camara leaf extract as compared to their corresponding controls. Germination, root length, hypocotyls length, fresh and dry weight as well as chlorophyll content was inhibited at higher level with higher concentrations of the extract. It was observed that, with 1:5 (w/v) concentration of extract, the root length of Cassia tora was reduced to 40% and its hypocotyl length to 50%. The same extraction causes 30% and 50% reduction in case of Cassia sophera and 30% and 30% reduction in case of Crotalaria pallida, when root length and hypocotyl length were considered. Almost similar result was also observed in case of Cassia tora, Cassia sophera and Crotalaria pallida with other concentrations of Lantana leaf extract. The amount of chlorophyll content was found to be much lower in all the three weeds when treated with higher concentrations of extract. Chemical analysis indicated the presence of phenols in the leaf extract of Lantana camara may be the cause of such inhibition suggesting a possibility of biological control of these three unwanted weeds in crop fields, gardens and other areas. Overall findings showed maximum inhibition of Cassia sophera followed by Cassia tora and Crotalaria pallida.*

Key words: Allelopathy, allelochemicals, *Lantana camara*, germination, chlorophyll content, weeds.