

Allelopathic effects of *Lantana camera* on germination and seedling vigor of rice

Lantana camera is a common weed in Sri Lanka. A pot experiment was carried out to explore the allelopathic potential of *L. camera* leaves and flowers on germination and seedling vigor of rice.

Leaves and flowers of *L. camera* were allowed to decay for 24 h. in distilled water under room temperature at ratio of 1:5,1:10, 1:15 and 1:20 of plant material and water, respectively. After decaying, extractions with 20% , 10% 6.67% and 5% concentrations was prepared.

The different aqueous extracts of *L. camera* produced both negative and positive allelopathic effects on germination and seedling vigour of rice. At 5 days after sowing (DAS), the aqueous extract of leaves (5%) produced a significantly higher germination ($p < 0.05$) than that of other treatments except for leaves (10%) and flowers (10%). At 11DAS, the highest germination was recorded in control and leaves (5%) Root length was significantly reduced ($P < 0.05$) with 20% leaf extract and 10% flower extracts compared with the untreated control. The greatest shoot length was recorded with 20% leaf extracts of (20%) and flower extracts of (10%) produced the highest and lowest dry weights, respectively.

The effects of these allelochemicals were significant upto 6.7% concentration. At lower concentration (i.e 5%) the phytotoxic effects of these allelochemicals in rice seedlings were not observed.

The study indicated that possibility of using aqueous extracts of leaves at lower concentrations (5%) to promote early germination and vigour of rice seeds and seedlings in place of water alone through soaking treatment.