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Effect of Auxin on establishment of stem cuttings in lemon (*Citrus limon*)

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An experiment was conducted in the green house at the crop farm, Eastern University, Sri Lanka, to study the effect of various concentrations of auxin on the establishment of stem cuttings and to select the optimal concentration of auxin for better root and shoot formation from stem cuttings of lemon (*Citrus limon*). Lemon cuttings having three nodes were dipped in different concentrations of IAA and planted in polythene bags containing top soil: red soil: cow dung at a rate of 2:2:1. This experiment was in a Completely Randomized Design (CRD) and the treatments were 500, 1000, 1500, 2000, 2500 ppm concentrations of IAA as well as a control with three replications. The data revealed the significant effect of different concentrations of IAA on the establishment parameters of lemon cuttings namely, shoot length, number of leaves per shoot, leaf area, number of roots per cutting, length of longest root, rooting percentage, and survival rate. IAA treated cuttings gave performed better than the control. Sixty days after planting of cuttings, shoot length (5.73 cm), number of leaves per shoot (3.67), leaf area (1.45 cm^2), number of roots per cutting (7.67), length of longest root (4.4 cm), rooting percentage (71.33%), and survival rate (90.92%) were high in cuttings dipped in 2500 ppm concentration of IAA. The establishment parameters of the cuttings increased gradually with increase in concentration of auxin. Overall, the exogenous supply of IAA had a positive effect on the establishment of stem cuttings of lemon and application of IAA at 2500 ppm was the best treatment for better root and shoot formation from stem cuttings of lemon among the tested treatments.

Keywords: IAA (Indole acetic acid), citrus stem cuttings