

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

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by

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Abstract

An experiment was conducted in the green house at the Agronomy farm, Eastern University, Sri Lanka to study the effect of various concentrations of auxin on establishment of stem cuttings and also to select optimal concentration of auxin for better root and shoot formation from stem cuttings of lemon. Lemon cuttings having three nodes were dipped in different concentrations of IAA and then planted in polythene bags containing top soil: red soil: cow dung at a rate of 2:2:1. This experiment was designed in a Completely Randomized Design (CRD) with three replicates. The treatments included 500, 1000, 1500, 2000, 2500 ppm concentrations of IAA and a control. The data revealed significant effect of different concentration of IAA on the lemon establishment parameters namely, shoot length, number of leaves per shoot, leaf area, number of roots per cutting, length of longest root, rooting percentage, fresh and dry weights of leaves, shoot, and roots and also survival rate. Further, it was noted that at 60 days after planting of cuttings, shoot length (5.73 cm), number of leaves per shoot (3.67), leaf area (1.45 cm²), number of roots per cutting (7.67), length of longest root (4.4 cm), rooting percentage (71.33%), fresh weights of leaves (4.21 mg), shoot (0.77 mg), and roots (0.43 mg), dry weights of leaves (1.33 mg), shoot (0.10 mg), roots (0.11 mg) and also survival rate (90.92%) of cuttings was high in cuttings dipped in 2500 ppm concentration of IAA. low values were recorded in a control in the above mentioned parameters. Overall, the exogenous supply of IAA had a positive effect on the establishment of stem cuttings in lemon and application of IAA at 2500 ppm was the best treatment for the better root and shoot formation from stem cuttings of lemon among the tested treatments.

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