VEGETATIVE PROPAGATION OF EUCALYPTUS CAMALDULENSIS AND TECTONA GRANDIS BY SHOOT CUTTINGS

D.M.S.H.K. Ranasinghe and T. Hettiarachchi.
Forestry Project, University of Sri Jayewardenepura.

The effect of the age of stock plant and the diameter of the shoot cutting on the propagation of Eucalyptus camaldulensis and Tectona grandis was studied for 5 months in a green house under intermittent mist. Cuttings were made from stems of 1,3 and 8 year old plants of E. camaldulensis while the ages were 1,8 and 10 in Tectona grandis. The shoots were divided into 5 diameter classes (0.5-1.0, 1.0-1.5, 1.5-2.0, 2.0-2.5 and 2.5-3.0cm). All cuttings were treated with Captan (1 ounze in 11/2 gallons of water) and then dipped in Rootone powder (a growth hormone) prior to planting in the medium of sieved soil, sand and quarry dust (2:1:1). Maxicrop (15 ml/6 litres of water) was sprayed on a weekly basis until the termination of the experiment.

The results revealed that age of the stock plant and diameter of the shoot cutting have significant effects ($p<0.05$) on the sprouting and rooting of the cuttings of both Eucalyptus camaldulensis and Tectona grandis. Sprouting was highest in 1 year old cuttings (belonged to diameter classes 0.5-1.0 and 1.0-1.5cm) and decreased with the increase of age. Likewise, shoot diameter greater than 2cm did not give satisfactory results as compared with lesser diameters in both species. However, Eucalyptus camaldulensis did not survive beyond the sprouting stage although Tectona grandis did. Despite the fact that new shoots showed a significant height and diameter increment with time in Tectona grandis, the expansion of leaves and their increase in number were more prominent. The leaf number, average leaf breadth/shoot and shoot dry weight in the diameter range 1.5-2.0cm were significantly higher ($p<0.05$) as compared with other diameter ranges used in Tectona grandis. Age of the stock plant did not exert a significant effect on leaf number, average length and breadth of leaves and shoot height of the new stem in Tectona grandis. However, new shoot diameter takent at the base was higher in 8 year old plants as compared with 1 and 10 year old teak plants.