

## **ABSTRACT**

*Dipterocarpus zeylanicus*, an endemic tree in Sri Lanka offers great potential for bridging the gap between supply and demand of timber in the country. However, at present it has not been widely used as a plantation species. Establishment of plantation by seeds has proved somewhat difficult due to low viability, etc. Genetically uniform planting stock can be obtained rapidly through vegetative propagation.

With the above objective in mind an experiment was conducted to propagate stem cuttings of *D. zeylanicus* using a variety of rooting hormones under both mist and non mist conditions. In all the instances, cuttings of 15 cm length and 0.3-0.4 mm basal diameter with two and half leaves were used. The hormone concentrations used were; Indole Butyric Acid (IBA) 500ppm, 1000ppm and 1500ppm and the commercial hormone Secto (NAA+fungicide). Control did not have any hormone treatments. 5 sets of cuttings were used for each hormone treatment. The medium used was sand. The experiment was conducted under two conditional environments; under an automatic mist and in a non mist polypropagator, a low cost alternative that has also designed to maintain a high humidity through water manipulation.

After the experimental period of 10 weeks, there was a marked difference between the mist and non mist conditions in percentage survival of cuttings. In all the treatments, % survival was higher under mist. In terms of percentage rooting, the cuttings under the non mist propagator did not show rooting at all although callusing was observed in all the treatments at varying success levels. Among the rooting treatments, the highest percentage rooting (38.39%) was shown in the control without rooting hormones closely followed by other hormone treatments. However, the treatment 1000ppm of IBA showed the lowest percentage rooting (11.11%).

From these results, it can be concluded that *D. zeylanicus* can be effectively propagated by stem cuttings under mist conditions.