

EFFECT OF DIFFERENT LEVELS OF SALINITY ON GROWTH PERFORMANCES OF SOME SELECTED TREE SPECIES

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Tsunami was the worst disaster happened to coastal region of Sri Lanka. Due to tsunami, salinity levels were increased in affected areas, therefore selection of salt tolerant tree species are timely important. But the studies conducted on selection of suitable salt tolerant timber species are rather limited. So this study was conducted to select four suitable salt tolerant species in tsunami affected areas.

Four separate pot experiments were conducted at the faculty of Agriculture University of Ruhuna, Mapalana during mid May to October 2005 to study the effect of different levels of salinity (0.13, 2, 4, 6, 8, 12 mscm⁻¹) on growth performances of four selected tree species (*Melia azedarach*, *Artocarpus heterophyllus*, *Swietenia mahogany*, and *Accacia mangium*). The experimental design was RCBD with 10 replicates. Six-month-old seedlings of each species were used for the experiment. After root establishment, treatments were started. Number of leaves, plant height, were measured two weeks intervals by non-destructive method, and total fresh weight, total biomass yield, number of roots were measured in once a month by destructive method. Data were statistically analyzed by using ANOVA and means were separated by using DMRT.

According to the study, *Melia azedarach*, *Swietenia mahogany*, *Accasia mangium* are suitable for tsunami-affected areas. Salinity level tolerance of *Melia azedarach*, *artocarpus heterophyllus*, *Swietenia mahogany*, and *Acacia mangium* are 4 ms/cm, 0.13 ms/cm, 8ms/cm, and 12ms /cm respectively. Normal soil salinity level 0.46ms/cm. Levels of salinity 6ms/cm is the best for *Accasia* among the treatments. Level of salinity 2ms/cm is the best for the *Melia azedarach* among the treatments. Normal salinity level of soil (0.46 ms/cm) gives the best performances for *Artocarpus heterophyllus* and *Swietenia mahogany*.