427/D

Determination of effects of water salinity on seed germination and growth performance of selected mangrove species

K G D Kahangama and M D Amarasinghe*
Department of Botany, University of Kelaniya

Although mangrove ecosystem is considered among the most productive ecosystems they are threatened world wide, because of human activities. Therefore replanting of mangroves is often used for there rehabilitation. Mass production of planting material and successful germination of seeds are essential to rehabilitate degraded mangrove areas.

Being salt tolerant plants the propagules of mangrove plants are able to establish themselves on the range of soil/ water salinities in the inter tidal zone. There performance therefore can be expected to be influenced by the salinity of water/ soil at the time of establishment. The present study was carried out to determine the optimum water salinity for germination and growth performance of seedlings of *Aegiceras coniculatum* (rare species) and *Avicennia marina* (common species)

Nine concentrations (0 ppt, 5 ppt, 10 ppt, 15 ppt, 20 ppt, 25 ppt, 30 ppt, 35 ppt and 40 ppt) of saline solution (NaCl) were used for saline treatments. Immersing in 0-5 ppt concentrations for 10-18 days was found to be the best practice for removal of epicarps of *A. coniculatum* propagules and immersing in 35- 40 ppt for four days of *A. marina* showed best germination and growth performances. Shoot height, number of leaves, leaf area and number of seedlings survived were taken as growth performance measurements.

Present study reveals that use of saline treatment, 35 - 40 ppt concentrations for four days and 0 -5 ppt for 10 -18 days is effective in increasing germination success of *A. marina* and *A. coniculatum.*

*mala@kln.ac.lk Tel: 011-2914480