D-23 : TOLERANCE OF FOREST TREE SPECIES SEEDLINGS TO SUBSTRATE SALINITY

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The percentage survival, height increment and leaf number of four species of 3 months old forest seedlings were assessed at different substrate salinity levels (0, 20, 50, 150 and 350 mmol L^{-1}) in a greenhouse for 2.5 months.

Tree species varied significantly (p) in their salt tolerance. The percentage survival of *Azadirachta indica* and *Casuarina equisetifolia* were high (80, 60, 60, 60, 60%) in all salinity levels tested. However, the percentage survival of *Acacia auriculiformis* was 40% in the highest salt concentration. In contrast, *Sesbania glandiflora* did not survive in any of the salt concentrations above 20 mmol L^{-1}.

The height increment over the study period of the seedlings was significantly different (p) between the tree species studied. *C. equisetifolia* showed the highest increment followed by A. indica and then *A. auriculiformis* when taken as a mean for all salt concentrations. *S. glandiflora* did not put any increment. There was no significant difference (p) between the salt concentrations for height increment.

The leaf number was highest in *A. equisetifolia* followed by *A. indica* and then *A. auriculiformis* in all salt concentrations.

Therefore, of the tree species tried, *C. equisetifolia* and *A. indica* were found to be the most salt tolerant species. *A. auriculiformis* showed moderate salt tolerance for increasing levels of salinity. *S. glandiflora* apeared to be the most sensitive species for saline soils.