B-59: Seed germination and early growth of some agroforestry species under varying salinity regimes

M W A Kanthi, R Senaratne
(Dept of Crop Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya)

Germination and early growth of 5 agroforestry species, namely, Castor (*Ricinus communis*) Ranawara (*Cassia auriculata*) Woodapple (*Feronia limonia*), *Parkinsonia aculeata* and Maliththa (*Woodfordia fruticosa*) were studied under varying salinity regimes.

Low salinity levels (2 dSm^{-1}) hastened and increased seed germination. However, with increasing salinity beyond 4 dSm^{-1}, a progressive decrease in germination was observed, the rate of decrease being dependent on the species. Of the 5 species, Maliththa was the most tolerant. It maintained 33.5% germination even at a salinity level of 12 dSm^{-1}. When the salinity level increased beyond 8 dSm^{-1} a significant reduction in shoot height, root length, number of lateral roots, number of tertiary roots, and leaf area was observed in all species except in Maliththa. Maliththa showed hardly any reduction in growth even at 12 dSm^{-1}. A decrease in shoot: root ratio was generally observed with increasing salinity. The tolerance of the species for salinity is as follows: castor< ranawara < woodapple < parkinsonia << maliththa.