EVALUATION OF GROWTH PERFORMANCES OF SELECTED TREE SPECIES ON SALT-AFFECTED SOILS

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Five separate field experiments were conducted at Hungama in the Hambantota district, Sri Lanka, to evaluate the growth performances of selected five tree species i.e.Tamarind (*Tamarindus indica)*, Wood apple (*Feronia limonia*), Kottamba (*Terminalia catappa*), Kathurumurunga (*Sesbania grandiflora*) and Katuandara (*Acasia leucoploea*), mainly available in the salt-affected areas. Each tree species consisted of six treatments which were differentiated with three potting mixtures (i.e. top soil, sub soil and a mixture of top soil - cattle manure) filled in planting holes and again with mulching and without mulching. The experimental design for all experiments were Randomized Complete Block Design (RCBD) with four replicates. Two months old plants raised in poly bags were used in all the experiments. Plant height and dry matter yield of plants were determined as growth parameters, once in three months.

The experimental site was near the Hungama Lake and salinity of the soil is about 9.5 mmhos/cm at topsoil and 8.3mmhos/cm at 30 cm depth. All the plants have shown good growth performances in all treatments. Growth performances were not significantly affected by mulching for all plant species. Tamarind, Wood apple and Kottamba, which were grown in planting holes filled with subsoil, showed significantly higher growth performances. But in Kathurumurunga, the better performances were observed in the treatment, which used a potting mixture of cattle manure - top soil while in Katuandara, plants grew well in all the treatments irrespective of the treatment effect. Therefore all five tree species, which were used for the experiment, may be recommended as salt tolerant tree species.