Towards the rational use of high salinity tolerant plants

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Soil aeration as an ecological factor governing mangrove zonation

R. Jayasekera,
H. Lieth

Abstract

The growth of both *Rhizophora mangle* L. and *Rhizophora mucronata* Lamk. in saline sand was highly promoted by flooded, reducing conditions in comparison to drained, aerobic conditions, showing the strong tolerance of *Rhizophora* seedlings to waterlogging and salinity. Under well-drained conditions, both shoot and root systems of the plants showed strongly retarded and reduced growth and a profound inverse proportionality was also found between root growth and pot volume; roots of both species were distorted and showed lack of capillary rootlets. The morphology of the root systems was greatly affected by the culture conditions providing evidence for the ecological adaptability of the *Rhizophora* root system to a wide variety of environmental conditions. The results obtained are in good agreement with their position in the lower, flooded zone of natural mangrove communities.