

THE EFFECT OF MOISTURE STRESS ON SEED
GERMINATION OF SOME FOREST SPECIES

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Seeds of Eucalyptus camaldulensis, E. tereticornis, E. citriodora, Acacia nilotica, A. senegal and Casuarina equisetifolia were subject to seven substrate moisture levels (15.2, 7.4, 6.0, 4.6, 3.2, 2.4 and 2.2 percent) and their germination percentage and rate of germination assessed in a greenhouse.

The results revealed that both the species and moisture levels were statistically significant ($p < 0.05$) on germination percentage and rate of germination. All species germinated at moisture levels above 3.2 percent except for Casuarina equisetifolia which germinated only in the highest moisture level of 15.2 percent where it showed a germination percentage of 18.75 within the first two weeks of sowing. Of the Eucalypt species tested, Eucalyptus tereticornis and E. camaldulensis showed higher adaptability to moisture stress as compared to E. citriodora which only survived in substrate moisture levels of 15.2, 7.4 and 6.0 percent. Of all the species tried, only seeds of Acacia nilotica and A. senegal germinated in the three lowest substrate moisture levels. The germination percentage of both A. nilotica and A. senegal was 12.5 in each of the substrate moisture levels of 2.2, 2.4 and 3.2 percent except that of A. nilotica in the lowest moisture level where it was 6.25. The percentage germination within the first two weeks after sowing was 6.25, 6.25 and 12.5 for both species for the above moisture levels.