USE OF A NON MIST PROPAGATION SYSTEM TO VEGETATIVELY PROPAGATE 12 *E. grandis* X *E. camadulensis* HYBRID CLONES

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Eucalyptus trees have proved to be a popular species for farm forestry, however, their vegetative propagation has not been optimised due to inherently poor rooting in some of the hybrid clones, coupled with the high cost of infrastructure used to propagate them in mist propagators, making the technology unaffordable by the rural poor. A series of nursery experiments was carried out to assess the effects of rooting medium (sand and clay subsoil, mixed in the following ratios 1:0, 1:1, 1:2, 0:1 and 2:1 respectively by volume), auxin concentration (0%, 0.6%, 0.8%, and 1% IBA w/w) and leaf area (0, 30, 40, 50, 60, 80 and 100cm^2) on rooting of juvenile cuttings of *Eucalyptus grandis x camadulensis* (EGC) hybrids in a non mist propagation system in order to develop a cheap propagation protocol for Eucalyptus hybrid clones in Kenya. Results showed no significance difference ($p=0.103$, ANOVA) in rooting among different EGC hybrids and IBA concentration. However, rooting was observed in cuttings without application of IBA, with highest rooting in clay sub soil (65.0%). The overall effect of propagation media was significant ($p<0.01$, ANOVA) on rooting and shooting percentage, with sand soil having the least mean rooting (12.5%) and shooting percentage (23.0%) among different EGC hybrids, compared to clay sub soil having the highest mean rooting (59.9%) and shooting percentage (81.9%). Leaf area had a pronounced effect on rooting and shooting percentage of EGC hybrids, with 100cm^2 giving the highest rooting (65.9%) and shooting (78.1%). 0cm^2 gave the lowest rooting (7.5%) and shooting percentage (12.7%). These results show that EGC hybrids can be successfully propagated in a non-mist propagation system. Clay sub soil, in combination with a leaf area of 100cm^2 and no application of IBA, may be recommended for use in this propagation system.

Key words: Vegetative propagation, *E. grandis* and *E. camadulensis* hybrids, Clones