

EVALUATION OF DIFFERENT NURSERY MEDIA FOR SEED SPLITTING AND TESTING OF SEED TREATMENTS FOR GERMINATION AND SEEDLING GROWTH OF CEYLON OLIVE

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Ceylon Olive (*Elaeocarpus serratus* L.) is an underutilized fruit crop in Sri Lanka. Poor seed germination due to the presence of very hard seed coat is one of the major constraints in propagation of Ceylon olive. Experiments were conducted to evaluate an effective nursery media for the seed splitting and to identify an effective seed treatment for fast germination in Ceylon olive. Five nursery media *i.e.* top soil, compost, decomposed cow dung, potting media (sand: top soil: decomposed cow dung in 1:1:1 ratio) and sand as the control were tested on seed splitting. Log mean of seed splitting percentage varied (from 0.37 to 1.92) among the treatments as seeds planted in decomposed cow dung (1.92), potting media (1.80), compost (1.77) and top soil (1.62), compared with the sand medium (0.37) at 3 weeks after sowing. After splitting, soft seeds were treated with gibberellic acid (500 mg/l for 30 minutes) - T₁, hot water (50 °C for 30 minutes) - T₂, over night soaking - T₃ and without any treatment (control) - T₄, treatments to study the impact on germination and seedling growth. Girth, height and number of leaves in emerged seedlings were measured at 28 days after seed germination. No significant difference ($p > 0.05$) was observed for log mean of seed germination percentage and observed to be in the order of T₁ (1.40) > T₃ (1.28) > T₄ (1.25) > T₂ (1.18) at 28 days after sowing. Treatment effect was not significant ($p > 0.05$) on seedling height, girth and number of leaves at 28 days after germination. In conclusion, the results of this study revealed that the seeds planted in decomposed cow dung for three weeks period followed by gibberellic acid treatment (500 mg/l for 30 minutes) can be recommended as a potential agronomic practice for early splitting and fast germination in hard seeds of Ceylon olive.

Keywords: Ceylon olive, Nursery media, Seed germination, Seed splitting, Seed treatment