

HEALTHY *Polyscias balfouriana* ROOTED CUTTINGS FOR LOCAL AND EXPORT FLORICULTURE INDUSTRY

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Polyscias balfouriana is an ornamental plant popular in the floriculture industry. Wilting of rooted cuttings is a major problem which reduces the quality. Therefore, this study was conducted to determine the best potting medium and cane characteristics to prevent wilting symptoms of rooted cuttings. The impact of the potting media (*viz.*, sand only, coir only and sand:coir 1:1), effect of medium of sterilization (i.e. sterile versus non-sterile), cane characteristics (*viz.*, 8 cm and 15 cm lengths and 1 and 2 cm diameters) and appropriate environmental conditions (propagator versus non-propagator) were tested in the study. The parameters measured were the number of leaves, roots, and sprouted nodes, average root length and disease incidence. Koch's postulates were performed to confirm the pathogenicity. Pathogen characterization was undertaken using spore and colony morphology. To minimize the occurrence of disease in the cane cuttings, application of a fungicide (Mancozeb, a contact fungicide) to the top end was tested. Treatments compared were fungicide incorporated with Vaseline, only Vaseline, and the control without any treatment. The parametric data were analysed using General Linear model (MINITAB Statistical software) and non-parametric data were analysed using Kruskal-Wallis test (R version 3.5.3). Plant growth parameters were significantly higher when grown on coir dust medium ($p = 0.001$ and $p = 0.000$ with the number of sprouted nodes and number of leaves, respectively). However, sterilization of the coir dust had no significant effect on the growth performance ($p > 0.05$ and $p = 0.04$ with the number of sprouted nodes and roots, respectively). Cuttings performed significantly well when the cutting length and diameter were 15 and 1 cm, respectively. Due to the cost effectiveness and the less disease incidence, the non-propagator conditions were more suitable compared to the use of propagators. Occurrence of the disease leads to stem hollowing. *Lasiodiplodia* sp. was identified as the diseases causing agent. The disease incidence was less with the fungicidal application. Therefore, choosing proper cane characteristics, potting medium and suitable growth conditions may prevent the disease and give healthy grown canes to the local and export industry.

Keywords: Coir, Disease, Fungicide, *Polyscias balfouriana*