

# EVALUATION OF SYNTHETIC AND NATURAL SUBSTANCES ON ADVENTITIOUS ROOTING OF CHRISTINA (*Syzygium campanulatum* Korth) CUTTINGS

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Christina is one of the most demanded ornamental plants in the landscaping industry. Impaired survival and enhanced rooting time are identified as the main problems in propagation of Christina stem cuttings. Synthetic and natural root-promoting substances are widely used to enhance rooting in plants. Therefore, an experiment was carried out to evaluate the effect of synthetic and natural root-promoting substances on adventitious rooting of Christina softwood cuttings. Twelve treatments *viz.* Indole-3-butyric acid (IBA), aloe vera gel, aloe vera pieces, undiluted bee honey, cinnamon powder, aspirin water, coconut water, aloe vera gel + coconut water, honey + coconut water, cinnamon powder + coconut water, aspirin + coconut water, and water (control) were arranged in a completely randomized design with three replicates. The results revealed that the survival percentage was significantly high ( $p < 0.05$ ) in IBA treatment (92.3%) followed by aloe vera pieces (83.33%) and coconut water + cinnamon powder (83.33%). Two months after the establishment of cuttings, roots were formed only in IBA and aloe vera pieces. Rooting percentage, total number of roots per cutting, total root length per cutting, roots fresh weight significantly increased in IBA than in the aloe vera pieces. In other treatments except in the honey treatment, only a callus could be seen after 2 months of treatments application. Callus length per cutting significantly increased ( $p < 0.05$ ) in coconut water and coconut water-based treatments except in the aspirin dissolved coconut water. Cost-effectiveness was high in the aloe vera pieces (6Rs.cutting<sup>-1</sup>) than in the IBA (8Rs.cutting<sup>-1</sup>). The IBA can effectively be used for rooting of Christina cuttings at the commercial level while the aloe vera pieces can be considered as the natural alternative method for enhancing the rooting ability of Christina softwood cuttings.

**Keywords:** Adventitious rooting, Christina, Natural root promoting substances, Softwood cuttings, Synthetic root promoting substances