Efficacy of Indole-3-Butyric Acid (IBA) and Rooting Media on Stimulating Adventitious Rooting in Croton (*Codiaeum* 'Aucubaefolia')

Dasanayaka Y.M.H.M., Attanayake R.M.T.D., Wickramasinghe P.A.S.C.[1], Sandarenu K.M.S.D., Gamage S.N.W., Hettiarachchi W.A.B.H., Dilshan H.K.L.[1], Dayarathna C.R.[1] and Kumarihami H.M.P.C.[*]

Department of Crop Science,
Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

Codiaeum variegatum 'Aucubaefolia' (Baby Croton) has a higher demand as an ornamental foliage plant in the export market. Rooted and unrooted stem cuttings of croton are exported. The research was conducted to evaluate the effectiveness of rooting media and Indole – 3 – Butyric Acid (IBA) concentrations on the rooting performance of *C. variegatum* 'Aucubaefolia' stem cuttings under the production of rooted cuttings and unrooted cuttings for the export market. Two different rooting media (coir dust and jiffy pellet) and four different concentrations of IBA (0 mg·L^{-1}, 250 mg·L^{-1}, 500 mg·L^{-1}, and 1000 mg·L^{-1}) were tested. In experiment one, the effect of rooting media and IBA was evaluated to produce rooted cuttings. In experiment two, the rooting performances of unrooted cuttings after an export simulation (48 hours of cold storage at 21°C) were tested. Rooting of croton stem cuttings was significantly affected by rooting media. Jiffy pellet medium recorded the highest number of roots per cutting, root-to-shoot ratio, cumulative and root length. Minimum days for root initiation were observed in the coir dust rooting medium. In experiment one, early rooting and a higher number of roots were observed in the jiffy pellet medium with 500 mg·L^{-1} IBA application, while 250 mg·L^{-1} IBA application was effective in root initiation and 500 mg·L^{-1} IBA promote the highest number of roots in coir dust medium. Application of 250 mg·L^{-1} IBA promoted early rooting and 500 mg·L^{-1} IBA promote the highest number of roots in jiffy pellet medium, while 1000 mg·L^{-1} IBA application was effective in root initiation and 500 mg·L^{-1} IBA promote the highest number of roots in jiffy pellet medium after 48 hours export simulation. The appropriate rooting media and optimum concentration of IBA would stimulate the rooting of *C. variegatum* 'Aucubaefolia' stem cuttings.

Keywords: Croton, Cuttings, IBA, Propagation, Rooting media

We acknowledge the research support provided by Mike Flora (Pvt) Ltd., Rambukkana, Sri Lanka

[1]Mike Flora (Pvt) Ltd., Rambukkana, Sri Lanka
[*]prathibhani@agri.pdn.ac.lk