

Effect of Culture Media States (Liquid and Solid) on Non-Parametrical Measurements of *In-Vitro* Sub-Culturing of *Anthurium* 'Lady Jane'

P.G.C.H.K. Kapilarathne^{1*}, H.M.I. Herath² and N. Dahanayake¹

¹Department of Agricultural Biology, Faculty of Agriculture, University of Ruhuna, Sri Lanka

²Floriculture Research and Development Unit, Department of National Botanic Gardens, Peradeniya, Sri Lanka

*chathurikakapilarathne@gmail.com

Anthurium 'Lady Jane' which was introduced in Hawaii, is a hybrid plant belonging to family Araceae with higher market demand as an indoor potted plant and cut flower due to attractive glossy shape dark green foliage and colorful flowers. Micro-propagation is used to production of plants to fulfill the market demand. However, a high cost associated with agar as a solidifying agent is major drawback in micro-propagation. Therefore, this study was conducted to identify low cost preferable media and physical matrices for agar in 'Lady Jane' production. Effect of Murashige and Skoog (MS) basal medium with 6-Benzylaminopurine (BAP) (1 mg/1L) solidified with agar (control experiment) and liquid medium supported with pure cotton wool on morphological and quality parameters of 'Lady Jane' plants were investigated. Six-month old 'Lady Jane' plantlets grown *in-vitro* were used as explants. Leaf color, stiffness of the leaves and strength of the stem were considered. Data were recorded at three-week intervals up to two months. Data were analyzed through one-sample Wilcoxon sign rank test by IBM SPSS software. Result showed better performance for both liquid and solid medium. Plantlets in Liquid and Solid medium both are appear healthier and greener. Cost analysis showed that 140 Rs/ liter of medium could be reduced by using pure cotton wool in a liquid medium instead of solid medium with agar. Parametrical measurements showed better performance for liquid media. Final results indicated the liquid media is better for production of higher number of healthy 'Lady Jane' plantlets.

Keywords: *Anthurium* 'Lady Jane', Low cost, Media states, Non-parametrical, Pure cotton