

## Investigation of Applicable and Cost Effective Culture Medium for *In-vitro* Sub Culturing of *Anthurium* ‘Lady Jane’

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*Anthurium* ‘Lady Jane’ is popular as an indoor potted plant and as a cut flower. Micro-propagation is widely used for production of higher number of healthy plantlets within short time period for large scale commercial production. However, high costs associated with distilled water and agar are major drawbacks in micro-propagation. Therefore, this study was conducted to identify low cost alternatives for agar and distilled water and preferable culture media states. Murashige & Skoog (MS) basal medium with Benzylaminopurine (BAP) (1mg/1mL) used for all experiments. Six-month old ‘Lady Jane’ plantlets grown *in-vitro* were used as explants and data were recorded at three-week intervals up to two months. Distilled water (control), tap water, rain water and ground water were used as water sources for experiment. Agar (8 g/L), Sago (120 g/L), Semolina (90 g/L), kithul flour {*Caryota urens*} (90 g/L), Corn flour (90 g/L), Agar (4 g/L) + Sago (60 g/L), Agar (4 g/L) + Semolina (45 g/L), Agar (4 g/L) + Kithul flour (45 g/L) and Agar (4 g/L) + Corn flour (45 g/L) were used as gelling agents for experiment two. Liquid medium (without agar) and solid medium (with agar) were used as experiment three. The experimental units were arranged according to Completely Randomized Design and the data were analyzed by SAS (Version 9.3.1.) soft-ware. Media prepared using rain water significantly increased plant height (3.4±0.04 cm), number of leaves (15.9) and number of plantlets (20.6) when compared to the control (3.0±0.04 cm, 11.9, 7.5) respectively. Plants with the medium with kithul flour and corn flour showed significantly increased plant height (3.8±0.02 cm), (3.6±0.03 cm) and number of leaves (12.9), (12.9) respectively than the control (3.0±0.02 cm, 12.8). Plants grown in agar + kithul flour showed significantly increased plant height (3.6±0.03 cm) compared to control (3.0±0.02 cm). Liquid medium showed a significantly higher plant height (3.1±0.03 cm), number of leaves (13.7) and number of plantlets (11.9) than solid medium. Rain water showed 100% cost reduction and corn flour showed 85.3% cost reduction for the production of plantlets.

**Key words:** *Anthurium* ‘Lady Jane’, Low cost, Alternative gelling agents, Alternative water sources, Media states