

Induce Variations of *Anthurium andreanum* var: Angel through Chemical Mutagens

Rathnayaka RMPA¹, Kuruppu M² and Fernando KMC¹

¹Department of Crop Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya

²Division of Tissue Culture, Regional Agricultural Research and Development Centre, Bandarawela

Abstract

Anthurium andreanum is one of the major plant species which was in commercial floriculture sector in Sri Lanka mainly used as cut flowers and foliage plants. Anthurium is usually propagated vegetatively through stem cuttings and suckers. Planting materials produced by these conventional methods are poor in quality and not enough to fulfill the market demand. Tissue culture propagation methods can be used to produce large amount of planting materials and to create novel genotypes to overcome the above challenges. Hence a study was carried out to induce variations and improve morphological characteristics of *Anthurium andreanum* var. Angle.

The present study was carried out to find out the effects of different colchicine levels on morphological characteristics of Var. Angle. Half strength Murashige and Skoog (MS) medium supplemented with 0.1 mg/l 2, 4-D and 1.0 mg/l BAP were used for the experiment. MS medium was prepared without supplying of CaCl₂.2H₂O/ MgSO₄. 7H₂O. After two months, equal weight of callus (340 mg) were introduced to new medium containing different colchicine levels (0, 1 mg/l, 0.3 mg/l, 0.5 mg/l, 0.7 mg/l and 1.0 mg/l). Control treatment was prepared without colchicines.

Results revealed that, there was a significant effect of treatments on callus weight, number of shoots per ex-plant and number of leaves per shoot. The control treatment and 0.1 mg/ L colchicine level were produced similar phenotypic characters with highest number of shoots per ex-plant (3.1) and highest number of leaves per shoot (3). Whitish stem and dead leaves were observed in 0.5 mg/l, 0.7 mg/l and 1.0 mg/l colchicine levels containing medium. Further studies would be necessary to find out induced variations by observing foliage and flower characteristics of *Anthurium andreanum* Var. Angle.

Keywords: *Anthurium andreanum*, colchicine, induce variations, Murashige and Skoog