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Effect of benzyl adenine (BA), naphthalene acetic acid (NAA), on leaf propagation of Chirita Royal Queen

H. P. T. Harshani[1]*, G. D. K. Kumara[1] and M. M. D. J. Senarathne[2]

[1]Department of Export Agriculture, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka
[2] Peradeniya Royal Botanic Gardens - Peradeniya, Sri Lanka
*tharukaharshani91@gmail.com

Chirita '*Royal Queen'* is an ornamental plant belongs to the family Gesneriaceae and novel to the floricultural industry. They need to be propagated in large quantities especially for biological conservation and commercial purpose. *Chirita 'Royal Queen,'* are currently propagated through stem cuttings and this results one single plant per cutting. Hence the present study was carried out at The Royal Botanic Gardens, Peradeniya, to establish an efficient, simple *in vivo* multiplication method by leaves to satisfy the demand on semi-succulent ornamental *Chirita 'Royal Queen'.* This experiment was conducted according to Complete Randomized Design (CRD) with six treatments replicated 15 times. Healthy, partially mature leaves were used for propagation. Hormone application was done as a foliar application after establishment of leaves. The effect of Naphthalene Acetic Acid (NAA) 1 g/l alone and NAA in combination with Benzyl Adenine (BA) (1, 1.5, 2, 2.5 g/l) on regeneration ability of leaves under *in-vivo* conditions was tested in the present study. No hormones were applied to the control. In this experiment, number of shoots, shoot length, number of leaves, number of roots and root length were observed after four weeks. The results revealed that NAA in combinations with Benzyl Adenine (BA) 2.5 g/l and 2 g/l have positive effects in relation to shoot length, number of shoots, and number of leaves. Using NAA 1 g/l alone significantly increases the number of roots. Hence, the combination of auxin and cytokines (NAA 1 g/l and BA 2.5 g/l, respectively) in higher concentration significantly stimulates the regeneration of *Chirita 'Royal Queen'* from leaves under *in-vivo* conditions

Keywords: BAP, *Chirita 'Royal Queen'*, Leaves, NAA, Regeneration ability