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Enhancing *in vitro* Grown and Propagation of Bulbs for Cryopreservation in Lily Genetic Resources

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Plants regenerated from in vitro cultures are associated with chromosomal variations, which have been generally found in long-term culture. Reducing plant culture age is one of the ways to reduce genetic and epigenetic changes. The present study focused on the efficient *in vitro* propagation of lily cultivars and has intensified to speed up bulb propagation for cryopreservation. The multiplication process applied in this experiment uses starting material, which the newly small bulb formed from bulb-scales in two lily cultivars. The adventitious bulb from bulb-scale tissue cultured on three different media following Murashige and Skoog (MS) basal medium supplemented with 1 g/L Charcoal, MS medium containing 0.3 mg/L IAA and 0.4 mg/L BA hormone with or without Charcoal, respectively. After about seven weeks, there is little change in the number of newly propagated bulbs in small bulbs of the two media. Compared to the both mediums, the number of the propagated bulbs is increased 5 times in MS medium containing 0.3 mg/L IAA and 0.4 mg/L BA hormone without Charcoal. After about seven weeks, the results of the propagation showed that the number of the propagated bulbs is increased 5 times in MS medium containing 0.3 mg/L IAA and 0.4 mg/L BA hormone without Charcoal compared to the both mediums. The number of propagated bulbs ranged from 5 to 6 and 4 to 6 with an average of 5 in Tropicalpink and Greenstar cultivars, respectively. There is little change in the number of newly propagated bulbs in small bulbs of other media. The multiplication process applied in this study may save *in vitro* culture period and effort.

Key words: *Lilium*, Bulb, Scales, Propagation

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