MICROPROPAGATION OF *Loropetalum chinense* Plant

By

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ABSTRACT

This study was carried out in the Plant Tissue Culture Laboratory, Horticulture Research Institute, Agriculture Research Center, Ministry of Agriculture and land reclamation, Giza, Egypt, during the period from 2016 to 2019. An efficient direct shoot regeneration micropropagation protocol has been established successfully for commercial *in vitro* propagation of *Loropetalum chinense*, an ornamental plant with medicinal values. The optimized sterilization conditions for the Terminal node stem cuttings with its two axillary buds explants were exposure to sodium hypochlorite at 0.25 % for 20 min and 0.5 % for 15 or 20 min gave the highest value of survived explants (100 %). In establishment stage, MS medium supplemented with 0.5 mg/l IBA gave (3.0 shoots) the highest number of shoots. The multiplication stage should be cultured on MS medium supplemented with 2.0 mg/l BA which recorded 7.67 shoots at the end of the third subculture. For rooting of the regenerated shoots, using WPM medium supplemented with NAA at 1.0 mg/l resulted in significantly highest number of roots (4.0) and highest rooting percentage (100%) than that recorded with other treatments. Growing medium consists of peatmoss and vermiculite at the ratio of 1:1 (v/v) was the best for acclimatization. Inter simple sequence repeats (ISSR) analysis detected similarity to the mother plant in the in *vitro* propagated plants, that the protocol will be useful for *Loropetalum chinense* production. This plant protocol could be used for large scale regeneration of *Loropetalum chinense.*

Key words : *Loropetalum chinense*, IBA, BA, ISSR analysis ,Tissue culture.

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