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Micropropagation of *Heliconia psittacorum* var. St. Vincent Red

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Abstract : Shoot tips of *Heliconia psittacorum* var. St. Vincent Red were successfully established in the MS medium supplemented with BA 5.00 mg l^{-1}. Addition of BA 2.00 mg l^{-1} to the MS medium gave better results with respect to multiple shoot proliferation. Supplementation of NAA 0.50 mg l^{-1} to the basal medium gave the highest rooting response. The rooted plantlets were successfully planted out in sand medium.

Key words : *Heliconia psittacorum*, St. Vincent Red, Micropropagation, Shoot tips

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Heliconias are among the most popular garden plants, both for the ease with which they are grown and the sheer magnificence of the blooms. The variety St. Vincent Red belongs to *Heliconia psittacorum* group with small erect inflorescence. The brilliant colours of their blooms have made them exceptionally popular as cut flowers and also as landscape plants. These plants are usually propagated by rhizomes or suckers. This method of propagation has got high risk of bacterial disease transmission and moreover, inorder to meet the increasing demands of the planting material, a reliable and faster multiplication method is necessary. Hence, the present study was undertaken to standardize *in vitro* propagation techniques in this variety using shoot tip explants.

RESEARCH METHODS

The present experiment was conducted in the Department of Pomology and Floriculture and the Department of Plant Biotechnology, College of Agriculture, Vellayani, Thiruvananthapuram during 2006-2008. The explants (shoot tips) were collected from young actively growing plants and were washed thoroughly in running tap water to remove all the dirt and soil particles adhering to them. They were reduced to a length of about 2 cm using surgical blade, retaining the apical dome (1 cm). Thereafter, they were kept immersed in water with a few drops of wetting agent, labolene for half an hour. It was immediately followed by rinsing in distilled water to remove traces of labolene. Further sterilization procedures were carried out inside laminar air flow chamber, where the shoot tips were subjected to surface sterilization using mercuric chloride 0.10 per cent for 10 minutes followed by dipping in mercuric chloride 0.05 per cent for 5 minutes after trimming. Thereafter, they were transferred carefully to sterile blotting paper placed over sterile Petri plate to remove excess water and were then inoculated into the culture establishment medium using sterile forceps.

The basal medium used for *in vitro* culture was MS (Murashige and Skoog) medium. For culture establishment, cytokinins like BA (1.00-10.00 mg l^{-1}), kinetin (5.00 and 10.00 mg l^{-1}) and 2 ip (5.00 and 10.00 mg l^{-1}) alone or in combination with auxins namely NAA (0.50 mg l^{-1}) and IAA (0.05 mg l^{-1}) and gibberellic acid (2.00 mg l^{-1}) were tried (Table A). Activated charcoal @