Developing a Surface Sterilization Protocol and Multiplication Media for Philodendron Black Cardinal Plants

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Abstract

The Philodendron Black Cardinal plant is an ornamental plant with a higher market demand. However, despite its demand the production is low, and there is no any exact surface sterilization protocol available for the preparing of the In-vitro propagation. Therefore, this investigation was aimed at developing a surface sterilization protocol to select a suitable multiplication media. The experiment was conducted at TC PLANT, Homagama. For the surface sterilization protocol, mother plants were treated with fungicide and then shoot tips were taken. Shoot tips were washed in Tepol, soaked in fungicide, Clorox solution [(10%, 15%, 20%, and 30% concentration) for a time duration of 20 and 30-minutes, and 70% alcohol, Mercuric chloride ($HgCl_2$) were inoculated to the media. During the initiation period, contamination rate, implementation of the length in shoots and viability of shoots were taken as data. The experiment was led in a Complete Randomized Design (CRD) and all the taken data were analyzed with SAS software package. According to the data analysis 15%, (30 minutes) Clorox concentration was selected as the best surface sterilization protocol. In the multiplication stage, 6-Benzylaminopurine (BAP) levels were changed in the Murashige and Skoog (MS) medium. Data obtained for one month were used to select the most suitable medium for multiplication. Medium with the BAP 5g/L was selected as the best multiplication media based on the number of shoots obtained.

Keywords: *Philodendron Black Cardinal Plant, Surface Sterilization Protocol, Multiplication Media, Shoot Tips, BAP*