

Somatic Embryogenesis Derived from Protoplast of *Murraya Paniculata* L. Jack and Their Regeneration into Plant Flowering in vitro

Authors : Hasan Basri Jumin

Abstract : The in vitro flowering of orange jessamine plantlets derived from protoplast was affected by the manipulation of plant growth regulators, sugar and light conditions. MT basal medium containing 5% sucrose and supplemented with 0.001 mg 1-1 indole-acetic-acid was found to be a suitable medium for development of globular somatic embryos derived from protoplasts to form heart-shaped somatic embryos with cotyledon-like structures. The highest percentage (85 %) of flowering was achieved with plantlet on half-strength MT basal medium containing 5% sucrose and 0.001 mg1-1 indole-acetic-acid in light. Exposure to darkness for more than 3 weeks followed by re-exposure to light reduced flowering. Flowering required a 10-day exposure to indole-acetic-acid. Photoperiod with 18 h and 79.4 $\mu\text{mol m}^{-2} \text{s}^{-1}$ light intensity promoted in vitro flowering in high frequencies. The sucrose treatment affected the flower bud size distribution. Flower buds originating from plantlet derived from protoplasts developed into normal flowers.

Keywords : indole-acetic-acid, light-intensity, *Murraya-paniculata*, photoperiod, plantlet, Zeatin

Conference Title : ICOASE 2015 : International Conference on Organic Agricultural Sciences and Engineering

Conference Location : Barcelona, Spain

Conference Dates : August 17-18, 2015