World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:10, No:07, 2016

Protoplast Cultures of Murraya paniculata L. Jack and Their Regeneration into Plant Precocious Flowering

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Abstract : Protoplasts isolated from embryogenic callus of Murraya paniculata (L. Jack.) were cultured in MT (Murashige and Tucker, 1969) basal medium containing 5% sucrose supplemented with kinetin, malt extract (ME) and 0.6 M sorbitol. About 85% of the surviving protoplasts formed a cell wall within 6 d of culture and the first cell division was observed 7 days after isolation. The highest plating effi¬ciency was obtained on MT basal medium containing 5% sucrose supplemented with 0.01 mg 1-1 kinetin 600 mg 1-1 ME, MT basal medium containing 5% sucrose and supplemented with 0.01 mg 1-1 Indole-acetic-acid (IAA) was found to be a medium suitable for the development somatic embryos into heart-shaped somatic embryos. The highest percentage of shoot formation was obtained using 0.1 mg 1-1 Indole-acitic-acid (IAA) 0..1 mg 1-1 gibberellic acid (GA3). In this investigation 40 plants were survived and grew normally in the soil. After two months maitained in the soil plants formed flower and flower developed into fruits on the soil treated with BA.

Keywords : gibberellic-acid, indole-acetic-acid, protoplast, precocious-flowering, somatic-embryo
Conference Title : ICAB 2016 : International Conference on Agriculture and Biotechnology
Conference Location : Stockholm, Sweden
Conference Dates : July 11-12, 2016