

7th Asia-Pacific

Biotech Congress

July 13-15, 2015 Double Tree by Hilton, Beijing, China

Rapid clonal multiplication and conservation of *Lavandula angustifolia* – An aromatic and medicinal plant, using apical buds and root by *in vitro* techniques

D Leelavathi
Bangalore University, India

Lavandula angustifolia L. is a perennial shrub, belonging to the family Lamiaceae, cultivated for its leaves for extraction of essential oil. Oil is used in flavor, perfumery and pharmaceutical industries. In order to meet the growing demand of its oil and herbage, *in vitro* techniques are being used as alternative method for large scale multiplication and conservation. In the present investigation, *in vitro* apical bud explants were cultured on MS basal medium supplemented with BAP (8.88 μM) and NAA (2.68 μM) to induce multiple shoots. *In vitro* root explants were cultured on MS basal medium supplemented with BA (8.88 μM) and NAA (5.36 μM) to induce callus which was sub-cultured on same medium to obtain profuse callus. Callus was later cultured on shoot regenerating medium, MS supplemented with BAP (4.44 μM), KN (4.64 μM) and NAA (2.68 μM) to produce multiple shoots. Well developed multiple shoots developed roots on MS medium supplemented with BA (8.88 μM) and NAA (2.68 μM) and IBA (4.92 μM). The hardened, regenerated plants were acclimatized which were transferred to soil with 80% - 90% survival frequency. *In vitro* and *in vivo* leaves were subjected to phytochemical analysis for the determination of principle component. The *in vitro* apical buds were used for synthetic seed production using Sodium alginate and Calcium chloride as matrix and complexing agent for encapsulation. Hardened multiple shoots obtained from apical bud, root callus and synthetic seeds serve as a source of *ex-situ* conservation. The percentage of Linalool was found to be more in *in vivo* leaf when compared to *in vitro* propagules.

Biography

D Leelavathi is working as an Associate Professor in the Department of Botany at MES College, Bangalore. She has published 10 research papers, presented research papers in various international and national journals/conferences and is presently working on a minor research project funded by UGC. During her research she has travelled to USA and presented a paper in 4th International Conference on Medicinal plants and Herbal products held at John Hopkins University, Rockville, MD, USA, 2012.

leela28siga@gmail.com

Notes: