808/B

In vitro propagation of *Pogostemon heyneanus* Benth (Lamiaceae)

C H G V Hettige[1*], R M Dharmadasa[2] and D L C K Fonseka[1]
[1]*Faculty of Agriculture, Mapalana, Kamburupitiya*
[2]*Herbal Technology Section, Industrial Technology Institute, Colombo 07*

Pogostemon heyneanus Benth. is an industrially important, widely used medicinal plant grown in Sri Lanka. It is commonly known as "Kollankola". Propagation through seeds and stem cuttings result in many difficulties. Therefore, there is an urgent need to develop a protocol for mass propagation of *P. heyneanus* to meet the requirement in the country. Leaf and nodal explants were collected from healthy mother plants. These were sterilized in different concentrations of sodium hypochlorite (NaOCl) for 10 minutes. *Murashige and Skoog* (MS) medium supplemented with 6- Benzyladinine (BA;0 mg/L, 0.5 mg/L and 1 mg/L) and Indole- 3- butyric acid (IBA; 0 mg/L, 1 mg/L and 2 mg/L) was used for callus induction from leaf explants and shoot multiplication from nodal explants. Nodes were cultured in liquid and solid media containing 2 mg/L BA. Rooting was carried out in MS medium supplemented with IBA(0 mg/L and 1 mg/L) and activated charcoal (AC; 0% and 0.5%). All experiments consisted of 20 replicates and the statistical design was of completely randomized design. Optimum sterilization conditions for leaf and nodal explants were 10% NaOCl for 10 minutes and 20% NaOCl for 10 minutes respectively. The highest mean callus weight was observed in explants cultured in 1 mg/L BAand 2 mg/L IBA. The highest number of shoots (2.00 ± 0.00) for shoot multiplication were observed in MS medium supplemented with 1 mg/L BA, 1 mg/L IBA and 1 mg/L BA ,2 mg/L IBA. There was a significant difference between treatments in these two parameters (Pr>f=0.0001). The highest shoot multiplication (3.3 ± 1.3) was observed in liquid medium supplemented with 2 mg/L BA (Pr>f=0.0078). The highest number of roots (5.5 ± 0.58) and root length (1.63 ± 0.63 cm) were observed in MS medium supplemented with 0.5% AC and 1 mg/L IBA. There was no significant difference between treatments in root number (Pr>f=0.1099) and root length (Pr>f=0.0950). Rooted shoots were transferred to the medium containing sand and compost in a 1:1 ratio. Acclimatized shoots exhibited 95% survival after 2 weeks of acclimatization.

Keywords: *Pogostemon heyneanus,* medicinal plant, MS medium

dharmadasarm@gmail.com Tel: +94 71 8573260