

**IN VITRO PROPAGATION AND AUTHENTICATION OF
PHYTOCHEMICAL PROFILES OF *Pogostemon heyneanus* BENTH.
(LAMIACEAE)**

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Pogostemon heyneanus Benth. (Lamiaceae) is widely used in traditional systems of medicine and the essential oil is an important raw material for perfume, cosmetics and food flavoring industries. Establishment of large scale cultivation of *P. heyneanus* is hampered due to lack of planting materials. Information on authentication of tissue cultured plants is lacking. Present study describes tissue culture protocol and authentication of phytochemical profiles of field grown and hydroponically grown tissues and callus of *P. heyneanus*.

Explants were taken from field and hydroponically grown plants. Nine treatments were used for the sterilization. The highest uncontaminated leaf culture (15%) was obtained from hydroponically grown plants, when treated with 10% NaOCl for 15 min (T₄), while the least uncontaminated leaf culture (5%) was observed in explants taken from field grown plants. All leaf explants sterilized with HgCl₂ alone or in combination with NaOCl, turned brown within 3 days. When treating with 10% NaOCl for 5 min (T₅) and 0.1% HgCl₂ for 5 min. gave 5% live cultures for nodal explants.

Microscopic observation of morphological features confirmed that the main contaminant of leaf and nodal cultures of *P. heyneanus* was *Chalaropsis* species. TLC profiles of dichloromethane extracts from leaf and nodes of both field grown and hydroponically grown plants and the callus of *P. heyneanus* gave 3 common spots (R_f-0.2258, R_f-0.5411, R_f-0.7647) for Vanillin-sulphuric acid while 4 common spots (R_f-0.3674, R_f-0.5176, R_f-0.6588, R_f-0.8) for anisaldehyde-sulphuric acid. Hydroponically grown leaf cultures gave the lesser number of spots with low intensity. TLC profiles of essential oils of hydroponically and field grown sample gave the same banding pattern. Results can be concluded that hydroponic culture and callus culture could be suggested as alternative for phytochemical extraction of *P. heyneanus*.

Key words: *Chalaropsis* spp., Lamiaceae, Phytochemical extraction, *Pogostemon heyneanus* Benth, TLC