

MICROPROPAGATION OF *BACOPA MONNIERI* LINN.

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ABSTRACT: *Bacopa monnieri* L. (Hindi: Brahmi) is a medicinal plant of immense pharmaceutical value, but is fast disappearing from its natural habitat. The species is threatened with extinction due to its indiscriminate collection as raw material for pharmaceutical industry, where it is used for manufacturing drugs for anxiety, in improving memory for several countries. It is also claimed to be useful in the treatment of cardiac, respiratory and neuropharmacological disorders like insomnia, insanity, depression, epilepsy and stress. An attempt has been made for development of *in vitro* propagation procedure for the species, involving four steps, *viz.*, culture establishment, shoot multiplication, rooting and hardening. Aseptic cultures were established on MS (Murashige and Skoog) medium supplemented with 5 μ M BA (N⁶-Benzyladenine) using nodal segments (1cm) as explants from *in vitro* raised shoots. MS (Murashige and Skoog Medium) supplemented with different doses of TDZ (Thidiazuron), (0, 2.5, 5.0 and 10.0 μ M) were tested for shoot multiplication at 30 days after inoculation. TDZ at 5.0 μ M proved optimum for *in vitro* shoot multiplication and resulted in 2.05 shoot number explant⁻¹, 3.22 node number shoot⁻¹ and 5.80 node number explant⁻¹ at one month after inoculation. The *in vitro* multiplied shoots were tested for *in vitro* root induction on MS medium with auxin IBA treatments (0, 2.5 5.0 and 10.0 μ M) in experiment laid out in simple randomized design. MS medium without IBA was screened to be excellent for induction and growth of adventitious roots resulting in 100% rooting and 3.0 root number explant⁻¹ at 30 days after inoculation. The *in vitro* propagated plants exhibited excellent growth. Therefore, the present study recommends a procedure for *in vitro* production of *Bacopa monnieri* plants on a commercial scale to meet the requirement of pharmaceutical industries and save the species from extinction.

Keywords : *Bacopa monnieri*, Brahmi, Medicinal plant, Micropropagation