

IN-VITRO MICROPROPAGATION OF MEIZOTROPIS PELLITA WALL. EX HOOK, F & GREV. (VERN, PATWA) A VERY RARE ENDANGERED & ENDEMIC PLANT OF PATWADANGER, NAINITAL, UTTARAKHAND

The *Meizotropis pellita* (vern, Patwa) is endemic but an endangered wild woody shrub quiet hard to regenerate *in vitro*. The PI has demonstrated a process technology to regenerate the whole plant applying tissue culture technique. *In vitro* germination of the seeds of Patwa was obtained successfully after incubation for 20 days and plantlets up to a height of 15-20 cm with profuse rooting were observed after incubation for 8 weeks in hormone free MS medium. These then served as a source of explant for further work. Callus induction was successfully observed in the leaf/shoot/root explant taken from *in vitro* germinated seeds of Patwa. Best callus induction and proliferation was observed in leaf explants after 15 days of incubation in MS medium containing 2-4,D (9.06 μ M)+2-iP (7.38 μ M).

Shoot induction was achieved from 2 months old callus obtained from leaf explant after 35 days of incubation in MS medium supplemented with BA (13.2, 17.6 μ M)+GA₃ (1.0 μ M). Direct shoot regeneration was achieved from cotyledonary node of *M. pellita* in MS medium supplemented with Kinetin+GA₃ (4.6 μ M + 1.0 μ M). The shoots (3-5 cm high) were transferred to root induction medium containing full strength MS medium supplemented with IBA (2.45-9.8 μ M) and NAA (2.7-10.8 μ M). IBA (4.9 μ M) was more effective in root regeneration. Half strength MS medium supplemented with IBA (4.9 μ M) was more effective than full strength MS medium. PI has successfully grown the tissue culture raised plants in field conditions and optimized process parameters.



Habitat of Patwa Plant



Seeds of Patwa



8 weeks of incubation



In vitro regenerated plant of *M. pellita* after hardening

UTTARAKHAND