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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



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Seeds of Patwa



8 weeks of incubation



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