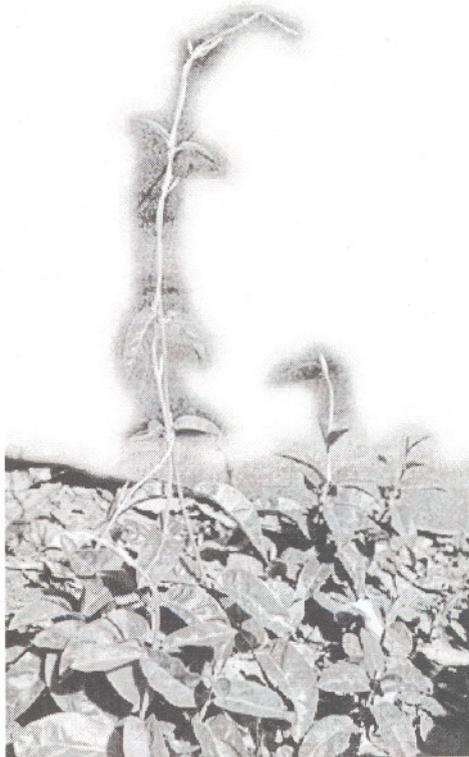


Large scale micropropagation of antiasthmatic plant *Antamul*

Extraction of pharmacologically active constituents, tylophorine and tylophorinine from leaves and roots of Indian Ipecacuanha [*Tylophora indica* (Burm f.) Merrill] has led to over exploitation and threat to this plant in the wild. Therefore, large scale production of this plant through micropropagation technique is required for continuous supply of its alkaloids. Among several other methods somatic embryogenesis has gained much attention for large scale cultivation of various important drugs. A simple method for obtaining embryoids and subsequently plantlets from leaf derived callus of this species has been developed in tissue culture laboratory at University of Kerala. In this method mature leaf explants from 6 months old plants were taken and a callus yielding somatic embryos was achieved. About 30 embryos were recovered from 100 mg of embryogenic callus within 60 days at an optimum concentration of 2 mg/L of BA. Kinetin (1-5 mg/L) was used as the sole growth hormone; it induced the development of embryoids showing either shoot or root primordia in 30% of the



cultures. After two weeks of hardening, the plantlets were transferred to the greenhouse where rate of survival was found to be 90 per cent (Manjula *et al*, *Indian J Exp Biol*, 2000, **38**, 1069).

Micropropagation of Niger for commercial production

Niger [*Guizotia abyssinica* (Linn.f.) Cass.; Hindi – *Kalatil*] is an oil yielding crop, grown in various parts of India. The oil is used for edible purposes and also in industrial application. However, the production of the oil is very low. Self-incompatible nature of the crop causes difficulty in developing and maintaining new varieties. The only method for achieving high yield is *in vitro* technology. This technique for developing somatic embryos from matured leaf explants has been found easier than other techniques known for this plant. The leaf explants were cultured on MS medium with 2, 4-D and BAP/Kn individually and in combination (Kumar *et al*, *Indian J Exp Biol*, 2000, **38**, 1073).

In vitro propagation can save the endangered Red Sandal Wood

Red Sandal Wood (*Pterocarpus santalinus* Linn.) is a valuable plant for foreign trade but its supply is limited and the plant is listed as an endangered tree. To safeguard its future existence tissue culture offers a promising alternate technique for mass propagation. Normal propagation by seeds requires about 1 year stratification period to break the dormancy. A procedure for developing multiple shoots from cotyledon and other explants derived from *in vitro* germinated seedlings has been achieved by Arockiasamy and his team. For this experiment detached cotyledons from *in vitro* germinated seedlings were cultured on MS medium containing NAA (0.1 mg/l), BA (1 mg/l) and Kinetin (1mg/l). Thus one year period can be reduced to about one month for developing plantlets (Arockiasamy *et al*, *Indian J Exp Biol*, 2000, **38**, 1270).