B-118: *In vitro* studies in *Garcinia mangostana* (Mangosteen)

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Mangosteen, a fruit tree indigenous to South Asia, is considered as an underexploited tree with a promising economic value. The drawbacks to its cultivation are, the long juvenile period, recalcitrant nature of the seeds, low seedling survival and a limited range in habitat. Tissue culture methods were investigated with the objective of improving some of these drawbacks.

Seeds of mature fruits were induced to produce adventive buds directly,using a high content of 6-benzylaminopurine (8-10 mgl^{-1}) in a basal MS medium. Histological studies showed that the inner tissues of the seed became meristematic, and differentiated into shoot apices. Incorporation of myoinositol and pyridoxine improved bud induction and their further development into shoots. Repeated transfer to the same medium improved their development in both liquid and semi-solid media. About 40% rooting was induced when shoots were separated and treated with indolebutyric acid or naphthaleneacetic acid. Rooted plants survived on transfer to soil.

If rooting can be improved, this method could be used to micropropagate mangosteen. When proliferating shoots were allowed to stand in the medium without transfer for over one year, the shoots stopped growth but survived. On transfer to new medium they began to develop further.