D38: Effect of media formulations and genotypic differences on the callus forming ability and plant regeneration in the genus *Psophocarpus*

S R Dahanayake[1], I Wimalasooriya[2], T D Silva[2]
([1]Dept of Botany, Open Univ, Nawala, [2]Dept. of Botany, Univ of Colombo, Colombo 3)

In vitro callus formation by cotyledonary explants and subsequent plant regeneration were investigated using 4 genotypes of *Psophocarpus*. These included 3 *P. tetragonolobus* genotypes, i.e. UPS 122, SLS 44, MED 007 and a single genotype of P. scandens. Cotyledons removed from mature seeds of the 4 genotypes were inoculated onto Murashige and Skoog (MS) medium which was supplemented with naphthalene acetic acid (NAA) and benzylaminopurine (BAP). Each of these hormones was supplied at 2 levels, of 2 mg/l and 5 mg/1, so that 4 different media formulations were tested.

Callus was produced in all 4 genotypes and in all media formulations. Highest percentage of callusing was observed in *P. tetragonolobus* genotype MED 007, where 95% of the cultured cotyledons formed callus. *P. scandens* was found to respond poorly with only 43% of the cotyledons callusing while the other 2 genotypes also performed well over 75% callus production. The medium which supported the maximum callus production was MS medium which contained 5 mg/l NAA and 2 mg/l BAP on which 82% cotyledons formed callus. From this callus, shoots were regenerated largely on the MS medium with 2 mg/l NAA and 5 mg/l BAP. These shoots were isolated and rooted in MS medium supplemented with 0.1 mg/l NAA to obtain whole plants. Regeneration of whole plants was achieved in all genotypes tested.