B-56 Seasonal effects on the availability of young primary culms of *Dendrocalamus giganteus* for induction of callus and organogenesis

K Yakandawala, S M S D Ramanayake
(*Institute of Fundamental Studies, Kandy*)

Large scale planting of *Dendrocalamus giganteus* is restricted due to the lack of propagules. This paper presents the investigations on using leaf sheath segments of emerging primary culms as the initial explant in inducing callus

for somatic embryogenesis. Investigations on the phenology of this species were made to determine the period of availability of explants for *in vitro* studies.

The number of emerging primary culms per clump were recorded every month for 2 years in 3 undisturbed clumps. Culms 40-80 cm in height were collected, surface sterilized and the inner leaf segments were cultured in an MS medium modified with 5,15 and 25 mg/l 2,4-D. Explants were placed in 3 different orientations, either vertically or horizontally with the abaxial or adaxial surface in contact with the medium.

Primary culms suitable for obtaining leaf sheath segments for *in vitro* studies develop only during June to July.

There was no significant difference between callus initiation in the number of segments placed with their abaxial or adaxial surface in contact with the medium. Callus initiation was significantly higher in explants placed horizontally in the medium when compared to those which were placed vertically.

The hormone level that gave the highest number of segments that induced callus was 2 5 mg/l 2,4-D. Three types of cali namely hard,friable and mucillaginous differentiated. Organogenesis leading to formation of roots was seen in 23% of the hardalli in the medium containing 15 mg/l 2,4-D.

Financial assistance by the Norwegian Agency for Development Research is acknowledged.