B-140 Callus induction and direct shoot formation in *in vitro* cultured immature inflorescence tissues of coconut

V R M Vidhanaarachchi, L K Weerakoon
Coconut Research Institute, Lunuwila

Clonal propagation of elite palms is a promising possibility for producing uniform planting material and improving productivity in coconut lands. In the absence of a natural vegetative propagation method, *in vitro* culture remains the only approach for vegetative multiplication of coconut.

Immature infloresence material has been shown to be a promising source of explants for coconut tissue culture. In the present study, 4 different culture media (medium 72; modified Eeuwens Y_3 medium; coconut anther culture medium; modified Black's medium) were evaluated for callus induction in floral explants. Immature inflorescences (having an external spathe length of 10-20 cm) were collected non-destructively from 8-12 year old Sri Lanka tall coconut palms and rachilla segments (1-1.5 mm in thickness) obtained from these inflorescences were cultured into above media. The cultures were incubated in the dark at 30 ± 1°C.

Of the 4 culture media tested, callus production was observed only in the explants cultured on medium 72. In this medium (which contained 24 µm 2,4-dichlorophenoxyacetic acid and 0.25% activated charcoal), about 30% of the floral explants produced compact calli. Direct generation of shoots from floral primordia occurred at a very low frequency in the modified Eeuwens Y_3 medium which contained 200 µm 2,4 - dichlorophenoxyacetic acid and 0.2% activated charcoal. No callogenesis or direct organogenesis were obseved in the floral explants cultured on the other 2 culture media tested.