Determination of the best conditions for the regeneration of microplants and the elimination of YMV from excised meristems of yam nodal cuttings (*Dioscorea* spp.).

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Eight clones belonging to 5 species of *Dioscorea* , taken from a nodal cutting *in vitro* germplasm collection (Malaurie *et al.*, 1992), were kept for meristem culture. Before the excision of meristems, a phytosanitary check using ELISA (Thouvenal & Malaurie, 1992) showed that 5 of these clones were infected with yam mosaic virus (YMV).

In order to determine the best growth conditions, several culture media were tried which had different concentrations and combinations of phytohormones eg. NAA (0.5 – 1.5 mg l^{-1}), BAP (0.1 – 0.3 mg l^{-1}) and GA3 (0 – 0.1 µM l^{-1}). The basal medium was a modified Knop medium (Malaurie *et al.*, 1992) containing 200 mg l^{-1} glutamine, 0.8% agar and/or 0.4% agarose. Several sizes of excised meristem were used between 0.2mm and 1mm. Meristems for excision were chosen from either primary or lateral shoots and from apical or nodal positions. The meristems were cultured into two types of vessel: Petri dishes and test tubes.

Two virus infected *D. cayenensis–rotundata,* cv. "Grosse caille" (PB04) and *D.praehensilis* (EA08) were found in a plant health check. The effect of media, location and size of the excised meristem were studied at 90, 240 and 327 days, on meristem viability and on microplant development. Meristems ranging from 0.3 to 0.5mm in size produced virus free microplants. Media containing GA3 was found to be better for meristems between 0.5 and 1 mm, especially at the end of the growth. For the production of microplants after 327 days, the success rate ranged from 16% (34/207) to 56% (16/285) depending on the clones. After three ELISA tests 76% (111/147) of microplants of clone PB04 and 20% (4/20) of clone EA08 appeared virus free.

Malaurie, B., Okito, P., Dumont, R. Trouslot, M.F & Noirot, M., 1992. A yam (*Dioscorea* spp.) *in vitro* germplasm collection by nodal cutting for genetic resource preservation (unpublished results).

Thouvenel, J.C. & Malaurie, B., 1992. The use of the ELISA technique for the phytosanitary control of a yam (*Dioscorea* spp.) *in vitro* nodal cutting germplasm collection (unpublished results).

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