PAPAYA PLANTLET GENERATION VIA CALLUS CULTURE

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The indirect mode of somatic embryogenesis involves the formation of asexual embryos through an intervening callus stage. The genetic uniformity of the plantlets produced through this method is questionable.

Callus was induced from stem sections and petiole pieces of field grown Papaya seedlings on Murashige and Skoog (MS) basal medium with high auxin and low cytokinin concentrations. Indole butyric acid (IBA) and Naphthalene acetic acid (NAA) were used as auxins and Benzyl adenine (BA) and Kinetin were used as cytokinins. In most of the media used, explants were able to produce various kinds of callus. Dark yellowish compact type of callus was generated in the MS medium supplemented with 12.0 mg/l IBA and 0.03 mg/l BA. When this callus was transferred to a MS medium with 6.0 mg/l IBA and 0.003 mg/l BA, plantlets were produced in a non-synchronised manner within a 6 to 10 week period. These plantlets were separated aseptically and incubated in a medium without growth regulators to enhance further growth before planting in soil.

(This work was funded by the USAID through NARESA)

References:

Dixon, R.A. (1985) Plant Cell Culture-P.practical approach, IRI Press.