Production of Friable Embryogenic Calli and Regeneration in Indian Cassava (Manihot esculenta Crantz) Cultivars

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Development of novel strategies for engineering virus resistance in cassava via genetic transformation with friable embryogenic calli (FEC) as target tissue is highly amenable due to its high regeneration efficiency. This study focuses on FEC production and plant regeneration from the Indian cassava cultivars viz. H-165, H-226, Sree Athulya, and Sree Apoorva.

Materials and Methods

Axillary buds induction
Three to four weeks old nodal explants in CAM media [MS+CuSO\textsubscript{4}(2mM)+BAP(1mgL\textsuperscript{-1})], for 2 days in dark.

Somatic embryo induction
Axillary buds in CIM media [MS+CuSO\textsubscript{4}(2mM)+picloram(12mgL\textsuperscript{-1})], for 4 weeks in dark.

FEC induction
Transferred somatic embryos to GDP [GD medium containing picloram (12mgL\textsuperscript{-1})] for FEC initiation.

Plant regeneration from FECs
Transferred FECs obtained from H-165 and Sree Athulya to regeneration medium (MS+CuSO\textsubscript{4}+NAA=MSN) followed by shooting (MS+CuSO\textsubscript{4}+BAP=CEM) and rooting medium (MS+CuSO\textsubscript{4}+IAA) for plantlet development.

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