A B S T R A C T

Most of the papaw (Carica papaya) fruits found all over the world show considerable variation in taste, flavour, texture, keeping quality and processing characteristics. Even when selected hybrid plants are cultivated, there is significant variability in characteristics. To overcome this problem, investigations were undertaken to develop the technology for the in vitro propagation of selected papaw plants.

Apical end and axillary bud explants were used to develop the protocol for mass propagation of plants. Surface disinfested explants started growing in Murashige & Skoog (MS) basal medium containing 0.5g/L casein, hydrolyzate and 10% coconut water with the addition of 0.03 mg/L Indole Butyric acid (IBA) and 0.3 mg/L 6- Benzyl Aminopurine (BA). Shoot proliferation was most effective in this medium. Depending on the plant material five to twelve fold shoot proliferation was observed. Root formation with apical dominance occurred in MS medium supplemented with 5.0 - 6.0 mg/L IBA and 0.03 mg/L BA. Rooted plantlets were acclimatized to soil under controlled humidity, temperature and water. Growth commenced within a period of two to three weeks.

Young petiole explants produced embryonic callus after repeated subculturing in MS medium with 12.00 mg/L IBA and 0.03 mg/L BA. These embryos produced plantlets in MS medium with 6.0 mg/L IBA and 0.003 mg/L BA.

The technology developed would enable the laboratory propagation of selected papaw plants which carry desired characteristics.