B-50 : TISSUE CULTURE STUDIES OF PINEAPPLE (*Ananas comosus* L.)

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Pineapple tissue culture studies at Plant Genetic Resources Centre, Gannoruwa were initiated to achieve the objectives of developing methodology for propagation, conservation and crop improvement. Leaf axillary buds of pineapple were initially cultured on treatments prepared with three basal media (MSW, MSC, and MSB). MSW medium was prepared with the basic salts of MS (Murashige and Skoog, 1962) medium and vitamin complements of Whites medium. MSC medium was prepared by adding 10% v/v coconut milk to hormone-free MS medium. Both MSW and MSC media were further modified with BAP (0.5, 1.0, 1.5 and 2.0 mg/1) to prepare the treatments used for culturing axillary buds, obtained from ratoons of pineapple. For buds obtained from the crown, MSC medium was enriched with 1 mg/1 cytokinin (BAP or Kinetin) and 0.5, 1.0, 1.5 or 2 mg/1 auxin (2, 4 - D, IAA IBA or NAA). MSB medium contained biotin (0.2 mg/1), Ca - Pantothenate (0.5 mg/1), Casein hydrolasate (100 mg/1), GA (0.2 mg/1) BAP (1 mg/1) and IBA (0.2 or 0.4 mg/1). All these media (pH 5.7) were solidified with 0.8% (w/v) agar.

Bud break in explants was observed following 4 weeks of culture in MSW and MSC media when BAP concentration was at 1 mg/1. Root initiation was also observed in these cultures. MSC medium supplemented with 2 mg/1 2,4 - D and 1 mg/l kinetin also induced bud break. Shoots immerged were with broad leaves compared to those grown in media with 1 mg/1 BAP. Early bud was observed with MSB medium and the treatment with 0.4 mg/1 of BAP was the best for growth.

All those shoots, produced were transferred to liquid MSB medium containing 0.4 mg/1 IBA. A prolific shoot formation was observed when the shoots were transferred to liquid medium. However shoot multiplication was not observed with the shoots transferred from MSC medium supplemented with 2,4 - D (2 mg/1) and kinetin (0.1 mg/1). All the cultures were maintained under light (2000 Lux, 16h) at 26 + 1°C.