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Influence of genotype, growth regulators and explants on in-vitro callus formation in Musa spp

In banana, where conventional breeding is difficult, *in-vitro* culture provides an alternative method for crop improvement. Callus culture is the initial stage for mutational breeding, somatic embryogenesis, and somoclonal variation. Hence, experiments were conducted to investigate the effect of genotype, explant type, type and concentration of auxin, cytokinin to auxin ration and addition of casein, adenine sulphate and coconut water on callus formation.

Explants such as leaf sheaths, floral parts, immature fruits and rhizome pieces from genotypes AAA, AAB and ABB were cultured on MS medium to investigate the effect of

different explant types and genotypes and cytokinin to auxin ration, 2,4-Dpicloram, BAP/2,4-D, BAP/picloram combinations were tested at four differn tlevels using leaf sheath explant of ABB. Four different levels of auxin or picloram were 0.25, 1.00,2.00,4.00mg/1 and when auxin or picloram combine with 1 mg/1 BAP ratios were 1;0.25, 1:1,1:2,1:4Callus formation was also tested with addition of different concentratiosn of casein, sulphate and coconut water using leaf sheath explant of ABB.

The genotype AAA gave the highest callus formation and floral parts were the best source of explants for callus production. The best auxin/cytokinin combination for callusing was BAP/2,4-D at the ration of 1:4mg/I. Addition of coconut water at 10% level of promoted callus formation in genotype ABB. Addition of casein and adenine sulphate did not improve the callus production at tested levels.