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Enhancing propagation efficiency of banana cv. MONTHAN (ABB) through micropropagation

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ABSTRACT : An investigation was carried out at Plant Tissue Culture Laboratory of Horticultural College and Research Institute, Coimbatore during 2012-2013. Shoot tip of banana cv. MONTHAN were cultured in MS medium fortified with different growth regulators (BAP @ 4, 5 and 6 mg l^{-1}) either alone or in combination with NAA (0.5 mg l^{-1}) and kinetin (2 mg l^{-1}) to study the influence of growth regulators on multiplication rate. The data on number of multiple shoots, days for multiple shoot induction and micro shoot length were recorded. MS+BAP 6 mg l^{-1} + kinetin 2 mg l^{-1} recorded maximum number of multiple shoots (5.07). MS + BAP 6 mg l^{-1} recorded least days for multiple shoot induction (27.06 days) and highest micro shoot length (6.73cm). Further to enhance multiplication best growth regulator combination (MS + BAP 6 mg l^{-1} + Kinetin 2 mg l^{-1}) along with different concentration of coconut water (5, 10 and 15%) and casein hydrolysate (100, 200 and 300 mg l^{-1}) were supplemented. MS + BAP 6 mg l^{-1} + kinetin 2 mg l^{-1}+coconut water 5 per cent recorded the highest number of multiple shoots at all the intervals of subculture (5.13). The best growth regulator combination (MS+BAP 6 mg l^{-1} + kinetin 2 mg l^{-1}) along with B5 vitamins in specific to different thiamine concentration (5, 10 and 15 mg l^{-1}) for further multiplication were supplemented and B_5 vitamins with thiamine combinations did not increase the multiplication rate. The degree of efficiency of shooting was found to be dependent on type of hormone.

KEY WORDS : Banana, Multiplication, BAP, Kinetin, Coconut water, Thiamine

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