

## Ex Situ Conservation of Neutraceutical Banana-Musa paradisiaca cv. Karibale Monthan

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**Abstract :** Edible Bananas (*Musa spp.*) are the major staple food for rural and urban consumers in India and an important source of rural income. The cultivar *Musa paradisiaca cv. Karibale Monthan* is an endemic cultivar of Malnad region of Karnataka and used as a glomolueroprotective neutraceutical to solve kidney problems. The protocol for mass multiplication of plantlets for this indigenous banana cultivar *Karibale Monthan* has not yet been standardized so far. In the present study, an attempt has been made to develop high frequency in vitro regeneration protocol and evaluation of morphoagronomic characteristics in the farmyard. The high frequency shoot initiation (93.33 %) was recorded at the synergetic effect of BAP (2 to 8mg/L), TDZ (0.1 to 1.2mg/L) and coconut water (0.1 to 1.2ml/L). It was optimized at the concentration 5 mg/l BAP, 0.5 mg/l TDZ and 0.5 ml/l coconut water with  $15.90 \pm 1.66$  frequency of shoots per propagule. Supplementation of 1.0 mg/l IBA induces  $5.33 \pm 1.21$  numbers of roots with a mean root length of  $7.50 \pm 1.87$  roots. 99% of plantlets with distinct roots and shoots were successfully acclimatized in the green house and transferred to the field to evaluate the agro-morphological variations. The micropropagated plants showed significantly higher morphometric values for height of the plant ( $16.80 \pm 2.17$ ), number of leaves ( $12.40 \pm 1.14$ ), length of the bunch ( $56.20 \pm 2.17$ ), weight of the bunch ( $13.60 \pm 1.14$ ), number of hands in a bunch ( $11.40 \pm 1.14$ ) and girth of the pseudostem ( $49.80 \pm 1.48$ ) when compared with in vivo plants.

**Keywords :** banana cv. *Karibale Monthan*, neutraceutical, high-frequency regeneration, morphometric evaluation

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