

Morphological and molecular characterization of elite somaclonal variants from tissue cultured 'Grand Naine' banana (Musa spp. AAA)

V. Phani Deepthi, G. Usharani and P. Narayanaswamy

Plant Molecular Biology Laboratory, Division of Horticulture, University of Agricultural Sciences, GKVK, India

In vitro propagation of 'Grand Naine' banana (Musa sp. 'AAA') is gaining importance in the banana industry. However, the occurrence of somaclonal variants is at present limiting the use of tissue cultures plants in spite of several advantages. Hence a brief study was carried out to characterize the somaclonal variants of tissue cultured 'Grand Naine' banana from the farmers' fields around Bangalore during 2005-07. Eleven positive variants were characterized based on their morphological and yield characters. To confirm the variants at DNA level, RAPD analysis was conducted to identify the difference in the banding patterns. Forty three primers were used for the analysis of which OPF-09 differentiated the variants and the normal 'Grand Naine' bananas. A band size of 320 bp was produced in all the normal samples but was absent in the variants tested. In the present study RAPD markers were proved to be effective and precise to confirm the variants identified using molecular characters. Of the eleven superior variants analyzed, variants GNV-04, GNV-08 and GNV-10 showed positive phenotypic characters which could be used in developmental programmes of 'Grand Naine' banana.

Biography

V. Phani Deepthi has completed her M.Sc. (Hort) in Fruit Science from University of Agricultural Sciences, Bangalore and Ph.D (Hort) from Dr. Y.S.R. Horticultural University, V.R. Gudem, Andhra Pradesh. I had published few papers in reputed journals and popular articles. I am a recipient of Junior Research Fellowship (JRF) from Indian Council of Agricultural Research (ICAR), New Delhi during M.Sc (Hort). My area of interest is fruit breeding and post harvest technology.

deepthivellaturi@gmail.com