IMPACT: International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS)
ISSN(P): 2347-4580; ISSN(E): 2321-8851
Vol. 4, Issue 10, Oct 2016, 141-150

SOMACLONAL VARIATION IN MICROPROPAGATED BANANAS

V. PHANI DEEPTHI

Teaching Associate, College of Horticulture, Dr.YSR Horticultural University,

Anantharajupet, Kadapa, Andhra Pradesh, India

ABSTRACT

In any micro propagation program, somaclonal variation is not desirable as it defeats the primary objective of clonal propagation. Obvious, chromosome breakages or aberrant number of chromosomes are found even in conventional sucker-grown plants. However, these defects get magnified in plants grown in vitro and more incidences are observed with increase in ploidy level. Hence, restricting the number of sub-culture cycles to 5-7 is considered safe. Although, somaclonal variation produces agronomically inferior off types in banana, it can be used to advantage as a source of new variation in Musa spp. by proper methods of detection, evaluation and improvement of useful variants obtained in banana with higher resistance to yellow sigatoka disease wilt, with dwarfism, heavier bunch, shorter growing cycle and tolerance to low temperature or low light. The current status of biotechnology is very close to making a significant contribution to the breeding of new cultivars. Tissue culture and in vitro mutagenesis techniques are being developed for induction of heritable variations with a high potential for banana breeding. This paper reviews the advantages and limitations of somaclonal variation in bananas available at present, as well as the main results of most the past investigations carried out on the topic.

KEYWORDS: Musa, Somaclonal Variation, *in vitro*, Explant, Marker