

BP20

MOLECULAR IDENTIFICATION AND CHARACTERIZATION OF *FUSARIUM SACCHARI* ASSOCIATED WITH WILT AND POKKAH BOENG DISEASE

C. G. BALAJI^{1*}, P. MALATHI², R. SELVAKUMAR²,
A. RAMESH SUNDAR² AND R. VISWANATHAN²

¹R&D Centre, Rajshree Sugars and Chemicals Limited, Villupuram-605 602

²ICAR- Sugarcane Breeding Institute, Coimbatore-641 007, India

* Corresponding author e-mail: balajicg@rajshreesugars.com

Key Words: Wilt, Pokkah boeng, *Fusarium sacchari*

Wilt is an important disease of sugarcane reported nearly 100 years ago in India that was responsible for the elimination of many elite varieties in both tropical and subtropical regions. Cultural, morphological and molecular tools established that *Fusarium sacchari* is the causal agent. Severe Pokkah boeng (PB) caused by different species of *Fusarium* such as *F. sacchari*, *F. verticillioides*, *F. andiyazi*, *F. subglutinans* and *F. semitectum* drastically reduced inter nodal elongation of canes. Though both wilt and PB diseases occur independently in the field, now it is recorded that they occur together in the same sugarcane plant. Characterization of *Fusarium* isolates of wilt and PB affecting sugarcane varieties was done by sequencing TEF1-a gene which has been widely used for species identification. Most of the earlier studies results revealed that *F. sacchari* is the major causal organism of wilt disease and *F. proliferatum* and other *Fusarium* species are associated with pokkah boeng disease. Gene sequencing and phylogenetic analysis of 48 isolates revealed that 44 isolates of wilt and PB were *F. sacchari* and the remaining four isolates of PB were *F. proliferatum*. Wilt and PB isolates of Co 0238 and MS 901 cultivars were only *F. sacchari* and the several other varieties also exhibited progressive disease severity through different phases of PB and that resulted in wilt development. Thus, *F. sacchari* is the major causative agent of two distinct diseases present in sugarcane plant in India viz., wilt and PB.