

**DETERMINATION OF GENETIC VARIATION BY USING ISSR MARKERS
IN TOXIGENIC STRAINS OF *ASPERGILLUS* IN PADDY FROM TELANGANA STATE,
INDIA**

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ABSTRACT

Twenty four strains of *Aspergillus* species isolated from paddy (*Oryza sativa* L.) of four districts of Telangana State, India were tested for their genetic variation by using ISSR markers. Out of 50 ISSR primers, 16 primers produced scorable and reproducible banding patterns. Sixteen primers produced 388 band positions (loci) and out of these loci 370 loci amplified were polymorphic. Majority of the primers which produced polymorphic bands were GA or AG repeats followed by AC or CA repeats. Among the primers used, UBC-842 [(GA)₈ YG] produced maximum number of loci (and also polymorphic loci) while UBC-817 [(CA)₈A] produced least number of loci. The polymorphism (%) of the primers ranged between 88 (primer 809) and 100% (primers 808, 816, 834, 835 and 841). The PIC value ranged between 0.54 and 0.85. Most of the 3-prime single base anchored GA and AC repeats had higher PIC values (0.74-0.85) compared to 3-prime single base anchored AG and CA repeats (0.54-0.84). Using pooled ISSR data, a dendrogram was generated, (16 primers, 302 loci, 3042 bands) which divided 24 strains of *Aspergillus* into 7 major clusters based on their species and geographical origin.

KEYWORDS: Strains of *Aspergillus*, ISSR Markers, Genetic Variation