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RESEARCH PAPER

Characterization of seed borne *Fusarium* sp. biodiversity in major cereals through morphological and molecular basis

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Abstract : Totally 8 *Fusarium graminearum* (Wheat) isolates and 16 *Fusarium moniliforme* (4 sorghum and 12 maize) isolates were obtained. *F. graminearum* and *F. moniliforme*, the entire plate was completely covered (90 mm) with in 6 and 8 days, respectively. The colour of the mycelium of *F. graminearum* was cottony pinkish white in initial days, later it has turned in to red colour or dark red colour. It produced maximum amount of macroconidia and few microconidia. Most of the isolates produced falcate shape macroconidia with foot cells, few of isolates produced sickle shape conidia with foot cells. It has 4-6 septation and 22-24 x 2.5-3.5 µm in size. But in *F. moniliforme*, the colour of the mycelium was initially white, later turned in to cream colour or lilac colour. It produced colourless microconidia and rarely produced macroconidia. Molecular analysis of seed-borne *Fusarium* sp., all the *Fusarium* sp. isolates were grouped into two major clusters (similarity coefficient at 0.65) such as A and B. The cluster A consisted of nine isolate Fg1-8 and Fm14 and these isolates highly variable from other isolates. Cluster B was divided into two main clusters (similarity co-efficient at 0.69) namely B_1 and B_2. B_1 consisted of twelve isolates and B_2 comprised of one isolate (Fm17).

Key Words : *Fusarium*, RAPD-PCR, Conidia

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