NATIONAL SEMINAR

ON

BIOTECHNOLOGICAL APPROACHES TOWARDS THE INTEGRATED MANAGEMENT OF CROP DISEASES

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ABSTRACTS

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levels respectively, that was sharply declined to the level of 60% at P20 indicating avoidance of fungal partner by the plant where the soil contains sufficient quantity of available phosphorus.

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SEED HEALTH TEST OF MINOR MILLETS GERMPLASM FROM MEDIUM TERM STORAGE IN THE GENE BANK AT ICRISAT

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Seed health testing was done using blotter method for 1839 accessions of minor millets (finger millet - 980, kodo millet - 396, barnyard millet - 190, little millet - 171, proso millet - 89 and foxtail millet - 13) from the medium term storage (~~15~~ 4°C, 40% RH) of the ICRISAT genebank. Of the 1839 accessions tested, 1739 were found infected with fungal species (belonging to 18 genera), 149 with bacteria and 5 with nematodes. The predominant fungal species belonged to *Alternaria, Bipolaris, Cladosporium, Curvularia, Exserohilum, Fusarium* and *Phoma*. Others were species of *Aspergillus, Cunninghamella, Cercospora, Chaetomium, Epicoccum, Nigrospora, Penicillium, Rhizopus, Trichothecium, Trichoderma* and *Verticillium*. Seed infection across all millets ranged from 4% to 98% with mean infection of 21% in kodo millet, 13% in finger millet, 25% in barnyard millet, 18% in little millet, 23% in proso millet and 31% in foxtail millet. The mean germination was reduced by ~~19-23%~~ 4.4 to 19 in infected seeds by these predominant fungi across all the millets compared to 0.5-18% in uninfected seeds. The highest reduction was in ~~barnyard~~ proso millet 23%) and the least in ~~finger millet (10%)~~ kodo 4.4. *Fusarium* was the major among the predominant fungi in hampering the germination (1-11%) in all millets except barnyard and kodo millets, where it was *Phoma* (5%) and *Alternaria* (4%), respectively. Five accessions of barnyard millet (IEC 566, IEC 633, IEC 489, IEC 501 and IEC 465), which showed high infection (64-98%) were treated with seed dressing, fungicide thiram, benomyl or a mixture of thiram + benomyl @ 3.5, 2.5 and 3.0 g kg-1 seed, respectively. Seed treatment significantly reduced the infection compared to control in all the five accessions. Mixture of benomyl + thiram treatment was most effective in eradicating the most