

Efficacy of fungicides against grain spot disease in rice (*Oryza sativa*)

ABSTRACT

A field study was conducted to evaluate the efficacy of the five selected fungicides viz., iprodione (rovral), tebuconazole (folicur), and hexaconazole (Hayconazole, Orazole and Titan) against grain spot disease in rice. The experiment was conducted at the Field Laboratory, Bangladesh Rice Research Institute (BRRI), Gazipur and two regional stations at Barisal and Satkhira in Bangladesh. A high yielding cultivar BRRI dhan28 was selected for the study as test crop. Percentage of unfilled grain at different experimental sites showed a large variation from 4.4 to 14.1% in control. The lowest unfilled grain found in Titan treated plot at Barisal (13.6%) and Satkhira (3.8%), while the lowest unfilled grain (7.0%) found in orazole treated plot at Gazipur. Application of rovral (12.4%) and folicur (15.8%) reduced the percentage of spotted grain as compared with control (23.6%) in Satkhira site. The average 100 grain weight considerably varied among the sites and was comparatively higher in Satkhira. Seed health test revealed low rate of seed infection with *Bipolaris oryzae*, *Curvularia lunata*, *Alternaria tenuis* and *Trichoconis padwickii* irrespective of the sites. Seed infection with *B. oryzae* at Barisal, Gazipur and Satkhira in different treatments ranged from 2.88-4.34%, 3.50-5.67% and 1.10-2.55%, respectively. In all the sites, the highest incidence of *C. lunata* was observed in control treatment but the differences with fungicide application were non-significant, which indicated a minimal effect of tested fungicides against *C. lunata*. Tested fungicides were found ineffective in controlling *A. tenuis* and *T. padwickii*. The results showed that incidence of all the above mentioned pathogens in seed were comparatively higher at Gazipur site.

Keyword: Discolorations; Fungicide; Grain spotting; *Oryza sativa*; Seed health