

## STUDIES ON VARIETAL STABILITY IN SPRING WHEAT FOR RESPONSES TO *ALTERNARIA* BLIGHT AND BROWN RUST IN BIHAR

A. K. SINGH, A. K. SINHA AND M. TAIYAB

Cereals Breeding Division, Rajendra Agricultural University, Bihar  
Agricultural Research Institute, Patna 800001

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Races of a pathogen vary from place to place. Hence, wheat genotypes were screened at different sites to study the varietal stability in respect of response to *Alternaria* blight and brown rust in Bihar.

One hundred twenty one diverse indigenous as well as exotic stocks, including commercial strains, of wheat (*Triticum aestivum* L. and *Triticum durum*), were tested at three different places of Bihar (Patna, Pusa, and Sabour) for resistance to *Alternaria* blight (*Alternaria triticipinae* Prasada and Prabhu) (rabi 1986-87 and 1987-88) and brown rust (*Puccinia recondita*) (rabi 1986-87) under heavy incidence of both the diseases in natural conditions. The varietal responses to *Alternaria* blight was recorded by adopting a 0-9 scale as follows: free (0), resistant (R) 1-2, tolerant (T) 3-5, moderately susceptible (MS) 6-7, and susceptible (S) 8-9, whereas brown rust was noted by combining severity and response reactions together. Genotypes exhibiting similar disease reactions in all the observations were considered as stable genotypes.

Table 1. Wheat genotypes recording similar scores for *Alternaria* blight (T) and brown rust (0) at Patna, Pusa and Sabour in all observations

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VL 614, CPAN 2077, CPAN 2055, CPAN 3004, CPAN 2016, CPAN 2063  
CPAN 2067, CPAN 3006, CPAN 2045, CPAN 2051, DL 153-2, CPAN 6117,\* CPAN 2044

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\* *Triticum durum*, all other genotypes *T. aestivum*.

The studies indicated that 13 genotypes (Table 1) had stable reactions to both the infections, *Alternaria* blight (T) and brown rust (0), whereas, 42 strains (Table 2) displayed stability for only brown rust (0), suggesting that these genotypes can be utilized as donors for

**Table 2. Wheat genotypes free from brown rust at Patna, Pusa and Sabour (1986-87)**

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NI 8188, CPAN 1992, CPAN 1990, HW 971, CPAN 2099, CPAN 3013,  
HD 2470, CPAN 3030, HI 1114, Raj 3077, CPAN 2024, CPAN 2054,  
CPAN 2059, DL 230-6, DL 230-7, CPAN 1909, CPAN 2009, HD 2320,  
CPAN 3027, CC 527, CPAN 2091, CPAN 2092, CPAN 3016, CPAN 3019,  
CPAN 3021, CPAN 3022, CPAN 3028, CPAN 3033, HD 2270, HD 2278,  
HD 2307, HD 2380, HD 2385, HD 2402, HD 2428, HDR-2, HI 1123,  
HS 207, PBW 65, PBW 138, PBW 175, DWR 39

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improving resistance against these diseases in spring wheat. The remaining strains showed divergent disease reactions under different observations, indicating that races of the pathogens for these diseases were variable at different locations covered by these studies.