

### **Broad-spectrum disease resistance in winter and spring wheat**

S. GURUNG (1), J. M. Bonman (2), S. Ali (1), J. S. Patel (1), M. Myrfield (1), M. Mergoum (1), P. K. Singh (3), T. B. Adhikari (1)

(1) North Dakota State University, Fargo, ND, USA; (2) USDA-ARS, Small Grains and Potato Germplasm Research Unit Aberdeen, ID, USA; (3) Global Wheat Program, CIMMYT, Mexico

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A total of 825 spring and winter wheat accessions from the USDA-ARS National Small Grains Collection were evaluated for resistance to tan spot (caused by *Pyrenophora tritici-repentis*) and Stagonospora nodorum blotch (SNB) (caused by *Phaeosphaeria nodorum*) at the seedling stage in a growth chamber during 2006 to 2008. Eighty-eight accessions exhibited resistant reaction to both tan spot and SNB. Data from the Germplasm Resources Information Network (GRIN) further suggested that 28 of the accessions also had resistance to multiple diseases of wheat including leaf and stripe rusts. Resistance gene analog polymorphism primers were used to assess the genetic relationship among the 88 resistant accessions, and accessions with similar growth habit grouped together based on the marker analysis despite differences in country of origin. Resistance to SNB and tan spot was more common in winter wheat accessions than in spring wheat accessions. These newly identified genetically diverse wheat accessions have high levels of resistance to multiple diseases and can be used in wheat breeding programs to develop resistant cultivars.