

**Assessing resistance in wheat to *Xanthomonas translucens* pv. *undulosa***

T. B. ADHIKARI (1), S. Gurung (1), J. Bonman (2), M. Mergoum (1), S. Ali (1), P. Singh (3)

(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, D. F., Mexico

Phytopathology 99:S2

Bacterial leaf streak (BLS) caused by *Xanthomonas translucens* pv. *undulosa* (Xtu), is a re-emerging disease of wheat in the northern Great Plains of the United States. Planting resistant cultivars offers the best approach to control BLS in the absence of effective bactericides. However, currently grown wheat cultivars appear to have inadequate level of resistance to control BLS. This study was conducted to determine genetic relationships among 39 strains of Xtu using repetitive sequence-based PCR (rep-PCR) and insertion sequence-based PCR (IS-PCR) primers and evaluate the reaction of wheat cultivars, land races, and advanced breeding lines to BLS in a greenhouse. The results suggested that the strains were highly diverse and similarity coefficients based on the three primers and clustering by UPGMA revealed four clusters. One cluster consisted of 30 strains from both wheat and barley. The other clusters contained a few strains or a single strain. Wheat accessions showed a wide range of susceptibility to BLS. Four wheat cultivars and breeding lines with the low disease scores were identified and these will be evaluated further for their utility in breeding wheat for resistance to BLS.