

KHAN, MOHAMED F. R.*^{1,2}, AARON L. CARLSON¹, GARY A. SECOR¹, VIVIANA V. RIVERA¹ and MELVIN D. BOLTON³, ¹Plant Pathology Department, North Dakota State University, ²University of Minnesota, Fargo, ND 58108-6050 and ³USDA, ARS, NCSL, Box 5677, University Station, Fargo, ND 58105. **Effect of fungicides on disease control, yield and quality of sugar beet inoculated with different sources of *Cercospora beticola* inocula.**

ABSTRACTS

Cercospora leaf spot caused by *Cercospora beticola* is the most damaging foliar disease of sugar beet in Minnesota and North Dakota. Growers use a combination of partially resistant varieties, crop rotation, incorporation of debris by tillage operations, and timely applications of fungicides for effective disease control. It is known that misuse, overuse and prolonged usage of fungicides may lead to the development of fungicide resistant isolates of *C. beticola* and reduced disease control in field conditions. *C. beticola* inocula were obtained from two different sources and used to artificially inoculate two trials at Foxhome, MN. Plots were treated with multiple applications of the same fungicide with the first application in late July. Fungicides from different chemical classes – triphenyltin hydroxide (SuperTin), triazoles (Eminent, Proline and InspireXT), and strobilurin (Headline) were applied. There was also an untreated check. *Cercospora* leaf spot disease ratings were done after each fungicide application and before harvest. The middle two rows of each plot were harvested, weighed, and samples were collected and analyzed for quality at American Sugar Company tare laboratory at East Grand Forks, MN. The results from the trials will be presented and discussed.