BREDEHOEFT, MARK^{1*}, ALAN CATTANACH² AND LARRY SMITH³. ¹Southern Minnesota Sugar, P. O. Box 500, Renville, MN 56284, ²North Dakota State University, Department of Soil Science, Fargo, ND 58105, ³Northwest Experiment Station University of Minnesota, Crookston, MN 56716. <u>Cercospora</u> leaf spot control in Minnesota and North Dakota.

Cercospora leaf spot control has changed dramatically over the past two years. The discovery of tolerance of cercospora leaf spot to TPTH has changed the outlook on control of cercospora leaf spot. This has increased the need for new fungicides to be used for cercospora leaf spot control. In 1996 a cooperative effort was undertaken in Minnesota and North Dakota to evaluate registered as well as unregistered fungicides for control of cercospora leaf spot. Four locations were established in a randomized complete block design. A total of 31 treatments were evaluated by collecting cercospora leaf spot control rating as well as yield and quality data. The untreated check gave a significantly lower sugar production and higher cercospora leaf spot rating, in comparison to all other treatments. This indicates the importance of good cercospora leaf spot control. The best treatment was a unregistered fungicide Tetraconazole which produced 7,169 pounds of sugar and a 3.0 cercospora leaf spot rating compared to 5,513 pounds of sugar and a 6.7 cercospora leaf spot rating for the untreated check. The standard treatment of Supertin at 3.75 oz/Acre (TPTH based product) was significantly higher on cercospora leaf spot rating at 3.7 and significantly lower on yield and quality in comparison to the Tetraconazole treatment. Unregistered fungicides TX-2343-02, Terranil, Bravo Weather Stiker, IB14121 and RH7592 all performed as good or better than the standard treatment of Supertin. Supertin alternated with other fungicides performed as good or better than Supertin alone. The performance of Topsin (Benzimadazole based product) was variable depending on location. In southern Minnesota where cercospora leaf spot tolerance to Benzimadazole was more prevalent Topsin did not perform as well as in northern Minnesota where cercospora leaf spot tolerance to Benzimadazole was less prevalent.