KHAN, MOHAMED F.R.[1*], LARRY J. SMITH[2], MARK BREDEHOEFT[3], STEVE ROEHL[3], AND RANDY NELSON[1], [1]North Dakota State University & University of Minnesota, Soil Science Department, Fargo, ND 58105-5758, [2]University of Minnesota, Northwest Research and Outreach Center, Crookston, MN 56716, and Southern Minnesota Beet Sugar Cooperative, Renville, MN 56284. **Managing Cercospora leaf spot on sugarbeet with fungicides.**

Cercospora leaf spot is the most serious foliar disease of sugarbeet in Minnesota and North Dakota. The objective of this study was to evaluate the efficacy of labeled and experimental fungicides, and determine the best fungicide rotation for managing Cercospora leaf spot. In 2002, studies were conducted at Crookston, Breckenridge, and Willmar, MN. In 2003, studies were conducted at Crookston, Foxhome, and Renville, MN. Each plot was 6 22-inch rows wide by 30 or 35 feet long. All experiments were arranged in a randomized complete block design with four replications. Treatments were applied with 4-nozzle boom sprayers calibrated to deliver 20 gal/acre of solution at 100 psi pressure to the middle 4-rows of plots. Treatments were applied at 14 or 21 d intervals. Cercospora leaf spot severity was assessed throughout the season. The middle 2-rows of plots were harvested and root yield and quality were determined. All sites were affected by Cercospora leaf spot. Disease severity varied from moderate to high at the different locations. In 2002, at Crookston and Breckenridge, the use of two, three, or four different classes of fungicides in an alternation program, provided significantly better Cercospora control and significantly higher recoverable sucrose than the untreated check. At Willmar, 4 applications of two different classes of fungicides provided effective disease control and significantly high recoverable sucrose than the untreated check. In 2003, at all locations, all fungicide alternations resulted in significantly better disease control and significantly higher recoverable sucrose compared to the untreated check. In both 2003 and 2003, treatments that included Eminent, and/or Headline or Gem, consistently provided effective Cercospora control.