

IDENTIFICATION AND EVALUATION OF SUGARBEET FUNGAL PATHOGENS

Project Description (Continuing): This service identifies sugarbeet root disease pathogens for producers, industry personnel, and crop consultants. Identification of pathogens results in improved disease management strategies.

Project Leader: Ashok K. Chanda, University of Minnesota, NWROC, Crookston

Other Personnel Involved: NWROC research scientists, project personnel; sugarbeet producers and industry, consultants, other interested personnel who submit samples

Project Location: University of Minnesota, NWROC, Crookston and sugarbeet fields in MN and ND

Objectives:

- a.) Identify soilborne fungal pathogens of sugarbeet in producers' fields, as problems arise.
- b.) Provide specialized services requested by sugarbeet companies (e.g., evaluate roots/soil from research trials for pathogens).

Materials and Methods: Plant samples brought to the NWROC by producers, agriculturists, consultants and others, will be assayed to isolate and identify pathogens. Plant and soil samples from sugarbeet company research trials will be assayed for pathogens following standard methods.

Time Line of Anticipated Accomplishments: Ongoing, most diagnostic activity and specialized services occur between emergence and harvest.

Progress Toward Objectives of On-going Projects:

- a.) In 2017, sugarbeet samples (each with multiple plants) were received from 54 fields; of those fields, 67% had *Rhizoctonia*, 6% *Aphanomyces*, 0% *Pythium*, 4% *Fusarium*, 4% chemical damage, 11% nutrient deficiency, and 11% had no recovery of pathogens and/or other causes (some samples had multiple pathogens/problems, so numbers add up to more than 100%). Just 4% of samples had both *Aphanomyces* and *Rhizoctonia* due to low percentage of samples with *Aphanomyces* (**Note:** samples with mixed infection were 18% in 2016 and 8% in 2015).
- b.) In 2017, three soil samples from SMBSC research trials have been received and are being processed for *Aphanomyces* soil indexing.

Budget Requested: \$16,832.00

LABOR: SALARIES (11,316.00) AND FRINGE (3,016.00)

EQUIPMENT (OVER \$250.00): NONE

SUPPLIES: 2,500.00

TRAVEL: NONE

LEASES: NONE

OTHER: NONE

TOTAL: 16,832.00