

AGRICULTURAL BEET

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Cercospora Leaf Spot Survey
Results - Part 3

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A Case Study of Successful Cercospora Management in 2018 – Part 3

The 2018 growing season was another season with high levels of Cercospora leaf spot. In part three of this three part series, we summarize the results of the previous two CLS survey editions. SMBSC Agronomists conducted the survey with shareholders in their district that were the most successful at managing Cercospora leaf spot in 2018. The shareholders surveyed were from every growing district in the Cooperative. These operations were located in the following counties: Chippewa, Kandiyohi, Pope, Redwood, Renville, Stearns, Stevens, and Swift. For more information on any of the topics in this edition, please refer to CLS Management Survey Part 1 or 2 that are posted on the Agricultural Beet section of the SMBSC website.

Yield Benefit

The total acreage of the shareholders in the survey was 14,058 acres or approximately 12% of the 2018 acreage. The fields of these shareholder operations were grown in 45 townships across the SMBSC growing area. Table 1 shows the average yields of the surveyed shareholders versus the average yield of all the fields in the same 45 townships. The surveyed shareholders were more successful in managing CLS in their fields in 2018, and the yields of these fields show the yield advantage of their efforts.

Yield Comparison

	Ton/Acre	Sugar %	Ext. Sugar/Acre (lbs.)
Surveyed Operations Ave.	24.2	15.0	6036
Average of all fields in same townships	20.8	14.7	5123
Advantage	3.4	0.3	913



Surveyed Shareholder's CLS Practices in 2018 – Summary

1. Number of Applications: **The surveyed operations averaged 6.1 fungicide applications in 2018.** With the high levels of CLS inoculum present in our fields for 2019, shareholders should plan for six fungicide applications.
2. Tank-mixed fungicide applications: **91.8% of the fungicide applications made by the surveyed operations were a tank-mix of two effective modes of action.** SMBSC recommends all CLS fungicide applications need to be a tank-mix of two effective modes of action.
3. Spray volume: **The average spray volume of the surveyed operations was 19.4 gallons per acre.** Spray volume is critical for coverage of sugar beet leaves with CLS fungicides. SMBSC recommends spray volumes of 20+ gallons of water per acre.
4. Spray Pressure: The average spray pressure of the surveyed shareholders was 89 psi. Since the survey was conducted, consultation with spray application experts has produced a recommendation of droplet size in place of a recommended spray pressure. **Shareholders should choose spray nozzles and spray pressures to obtain medium-fine to fine size droplets.** This droplet size will help obtain the best fungicide coverage with the least amount of loss to drift and evaporation.
5. Spray tips/nozzles: The surveyed shareholders utilized a variety of spray tips including flat fan, twin tip/twin fan, turbo TeeJet, and a few others. The most important part of selecting the spray tip/nozzle is the droplet size that will be produced. Select your spray tips/nozzles to produce a medium-fine to fine size spray droplet at a spray volume of 20 gallons/acre or more.
6. Spray intervals: **The majority of the surveyed operations were targeting a 10-12 day interval for their fungicide applications.** 82% of the operations reported adjusting their spray intervals shorter if environmental conditions warranted a shorter interval.
7. Start date and date of last application: **The average date of the first fungicide application was July 3 and 87% of the operations applied their last application in September.** Season long protection is important with high CLS inoculum loads across the growing area.
8. Spray adjuvants: 74% of the operations reported using a spray adjuvant in at least one or more of their applications. The correct adjuvant can help increase the effectiveness of a fungicide and a wrong adjuvant can decrease the effectiveness. Consult fungicide labels for adjuvant directions and ask your Agriculturist if you have questions on specific adjuvants.
9. Variety resistance: The top varieties for CLS resistance mentioned by the surveyed shareholders were Beta 9475 and SV 863. Variety resistance is an important cultural practice for CLS management. **Plant the most resistant varieties available on common lines to 2018 fields and protected areas of the field that may develop CLS first or experience increased disease pressure.**
10. Other practices: Window framing fields with fungicide early and also after any aerial application were practices mentioned by several of the surveyed operations. Additional practices include scouting for disease development, applying fertility products, and managing tillage between fields.

For More Information

For more information on any of the practices mentioned in this Agricultural Beet, refer to Part 1 and Part 2 of the CLS Survey Agricultural Beet found on the SMBSC website.

Contact your Agriculturist with any questions regarding CLS.



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