

# Agricultural Beet

Dec 3<sup>rd</sup> 2021  
 Cercospora Leaf Spot  
 Use of HCT Varieties

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## Use of High Cercospora Tolerant (HCT) Varieties

During the 2021 season SMBSC conducted a CLS Variety Tolerance x Fungicide Program Trial to look at how upcoming varieties with a higher tolerance to Cercospora Leaf Spot would perform under different fungicide programs compared to the best commercially available varieties. This trial was planted near Clara City to three varieties with a KWS rating of a 4.0 (Crystal M977), a 3.0 (Crystal discontinued), and a 2.0 (Crystal M002). These varieties were then compared across six fungicide spray programs.

Planted: April 24<sup>th</sup>

Inoculated: June 28<sup>th</sup>

Harvested: Sept. 23<sup>rd</sup>

Fungicide Applications:

A – June 30<sup>th</sup>    B – July 13<sup>th</sup>

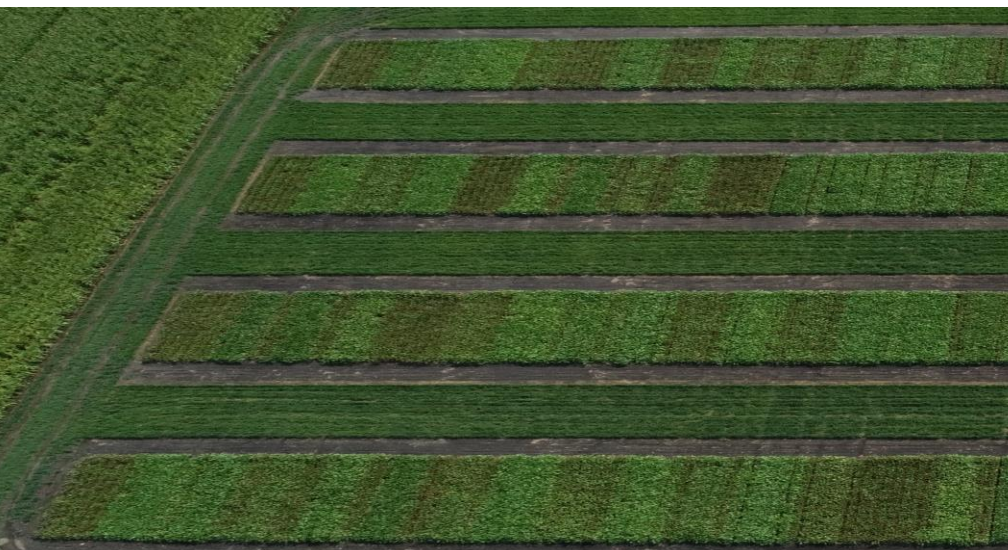
C – July 27<sup>th</sup>    D – Aug. 9<sup>th</sup>

E – Aug. 19<sup>th</sup>    F – Aug 31<sup>st</sup>

Fungicide Program	CLS Rating <sup>1</sup> (1-9)
<b>Crystal M002 (2.0)</b>	
Check	6.8 e
6 Spray Program	1.2 j
2 Spray Program (AC) <sup>2</sup>	3.1 gh
3 Spray Program (ABC)	2.4 i
3 Spray Program (CDE)	2.9 hi
2 Spray Program (CE)	3.9 f
<b>Crystal discontinued (3.0)</b>	
Check	9.0 a
6 Spray Program	3.1 gh
2 Spray Program (AC)	8.9 ab
3 Spray Program (ABC)	8.0 cd
3 Spray Program (CDE)	6.6 e
2 Spray Program (CE)	7.9 d
<b>Crystal M977 (4.0)</b>	
Check	9.0 a
6 Spray Program	3.6 fg
2 Spray Program (AC)	9.0 a
3 Spray Program (ABC)	7.8 d
3 Spray Program (CDE)	7.7 d
2 Spray Program (CE)	8.5 bc
Mean	6.1
CV%	5.5
Pr>F	<.0001
Isd (0.05)	0.47

<sup>1</sup>CLS Ratings were taken on Sept. 15<sup>th</sup>

<sup>2</sup>Capital letters in the treatment indicate the dates that the treatment was sprayed.



## HCT Economics

Clara City CLS Trial						Net\$/Acre	Fungicide Program	Estimated	Total Difference
						Versus	\$/Acre Saved	Additional Seed	\$/Acre
Variety	Fungicide Program	Sugar	TPA	EST	ESA	Traditional	Versus Traditional <sup>1</sup>	Cost \$/Acre	Versus Traditional
Crystal M977	6 Spray	15.3	42.4	254.9	10822.6	\$0.00	\$0.00	\$0.00	\$0.00
Crystal M002	No Spray	14.4	38.2	236.9	9026.1	(\$352.01)	\$144.90	(\$38.60)	(\$245.71)
Crystal M002	3 Spray	15.3	42.7	258.8	11052.4	\$57.83	\$72.45	(\$38.60)	\$91.68

<sup>1</sup>The money saved in the fungicide program by planting an HCT variety assumes an average cost of \$24.15 per application. This table was generated using one year of data from the Variety Tolerance Trial at the Clara City location. The economic data was generated using the Nov. 24th 2021 payment estimate.

OVT 2 Year Data						Estimated	Total Difference	
						Fungicide Program	Additional Seed	\$/Acre
Variety	Sugar	TPA	EST	ESA	Net\$/Acre	\$/Acre Saved <sup>1</sup>	Cost \$/Acre	\$/Acre
Crystal M977	15.9	42.7	265	11229	\$0.00	\$0.00	\$0.00	\$0.00
Crystal M002	16.1	40.9	269	10943	(\$30.98)	\$72.45	(\$38.60)	\$2.87

<sup>1</sup>The money saved in the fungicide program by planting an HCT variety assumes an average cost of \$24.15 per application with a 3-spray reduction compared to the traditional variety. This table was generated using two years of data from the Official Variety Trials. The economic data was generated using the Nov. 24th 2021 payment estimate.

## Fungicide Program Recommendations

Traditional CLS Varieties – Application 0 (June EBDC) + 6 tank-mixed fungicide applications = 7 total applications

- Early applications are important to keep disease inoculum low.
- Need to maintain 10 to 12 day spray intervals.

HCT Varieties (< 2.5 KWS score) – Application 0 (June EBDC) + 3 tank-mixed fungicide applications = 4 total applications

- Early applications are important to keep disease inoculum low.
- Extended intervals that are dependent on weather conditions.
- Regular scouting required to be assured disease severity remains low.

## Summary

- **There are many factors that influence variety placement in fields other than CLS tolerance.**
- **Continue to incorporate established CLS spray technique BMP's.**
- **We do not recommend a no tank-mix fungicide program. This is currently not a good long-term resistance management strategy for keeping our fungicides viable.**
- **Contact your agriculturalist with any questions on how to best utilize these new HCT varieties.**



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