Cercospora

Your Way To Grow

Crookston Factory District

Mar 9, 2023

Gauging the game of Cercospora

Topics covered

- Application tips
- qPCR detection and results
- ACSC application and RSA data
- ACSC 2023 recommendations –(NON CR+)
- CR+ data and 2023 ACSC recommendations

Fungicide Application Tips

CLS variety rating – CLS control should improve with a better CLS variety rating. However, this may not equate to fewer fungicide applications. ariety Selector

Daily Infection Values – Monitor Daily Infection Values (DIV's) and weather forecasts for timing initial and following fungicide applications. Found on:

- NDAWN
- NDAWN Mobile Friendly

Timing of fungicide program – Start program once rows close and coinciding with Moderate to Severe DIV's. Start early and stay on track. Cercospora Leaf Spot can appear 5 to 21 days after spore infection. Fungicides are protectants and being proactive by applying fungicides ahead of infection limits the development of Cercospora leaf spot. Both CR+ and Non-CR+ varieties require timely initial fungicide applications.

Fungicide Application Tips

Full rates – In tank mixes utilize full application rates of each tank mix partner, following label recommendations.

Spray intervals – The time interval between applications should not exceed 12 days, plan best as possible around adverse weather conditions (rain, wind, hail). For EBDC's alone follow a 7-day spray interval.

Aerial application – If too wet for ground application, stay on schedule with an aerial application.

Glyphosate tank mixes – Are not recommend with CLS fungicide applications since optimum water volume requirements are different for glyphosate and CLS fungicide applications as the target pests are not the same.

Fungicide Application Tips

Pre-Pile & Fungicide Pre-Harvest Intervals – Be aware of each fungicide's Pre-harvest Interval and how that may impact pre-pile harvest plans. Adjust your fungicide spray program accordingly.

Water volume – CLS fungicides need excellent coverage to protect the sugarbeet leaf surface. To achieve this requires 15 to 20 gallons of water per acre.

Pressure – High pressure applications at 80+ psi provides improved leaf coverage depending on the spray tip chosen.

Spray nozzles/tips & droplet size – Using nozzles that will produce Medium droplet sizes of 250–350µm (microns) is optimum for fungicide applications. Utilize nozzle manufacturer's recommended application pressure to operate within this range. Use proper spray boom height above crop canopy depending on chosen spray nozzle degree angle for best coverage.

Fungicide Application Tips

Tank mixes – All fungicide applications should contain more than one chemistry or mode of action (MOA). Only exception would be EBDC's. Tank-mixing fungicide MOA's and rotating MOA's are paramount. Using only a single fungicide, MOA, increases resistance development pressure to that fungicide. Single fungicide applications may "get you by" but will increase and compound resistance to fungicides on your farm and surrounding neighbors. Utilizing all available fungicide chemistry wisely is vitally important for current fungicide options today and tomorrow. Any tank mix should be sprayed out as soon as possible, with agitation, do not allow mix to sit overnight, spray tank out completely, and rinse sprayer (all lines and tank) with clean water daily.

Water temperature – Warm water is best for dissolving & mixing fungicides. Pre-warm water in dark bulk tanks a few days prior to use, sunlight aids in warming the water.

Scout fields –during the growing season to evaluate how your fungicide spray program is working.

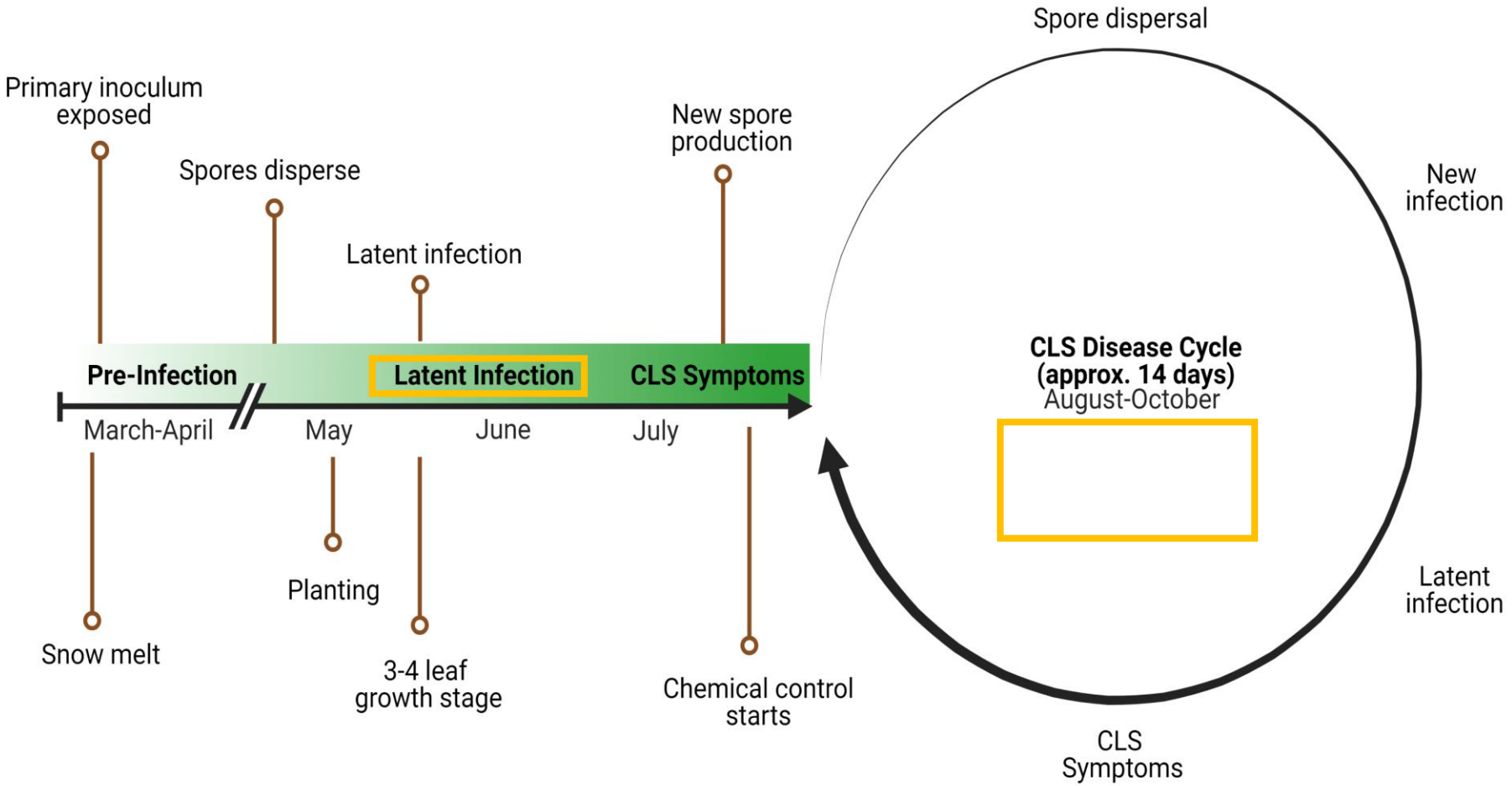
Fungicide Application Tips

Fungicides are **protectants** and are **not curatives**, use them as such.

To limit CLS infections, be proactive by applying fungicides to protect the sugarbeet leaves before infections can occur.

qPCR detection and results

CLS disease cycle: Timeline



New opportunities to track fungicide resistance

Nate Wyatt, Research Plant Pathologist, USDA-ARS, Fargo ND

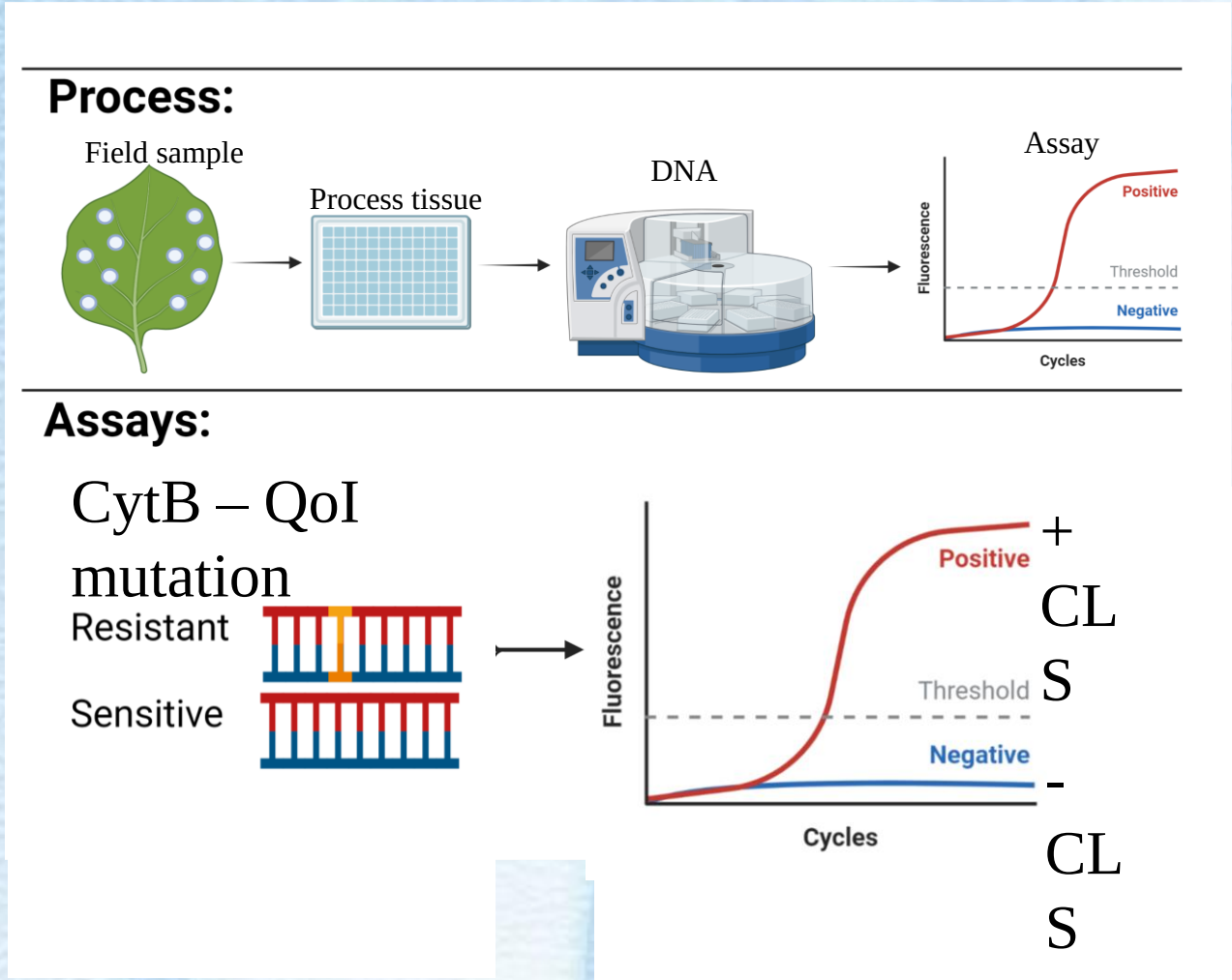
Molecular assays for detection

Detecting *Cb* DNA

CytB QoI target is great for detecting *Cb* DNA in plants because it is multicopy.

168 fields from ACSC

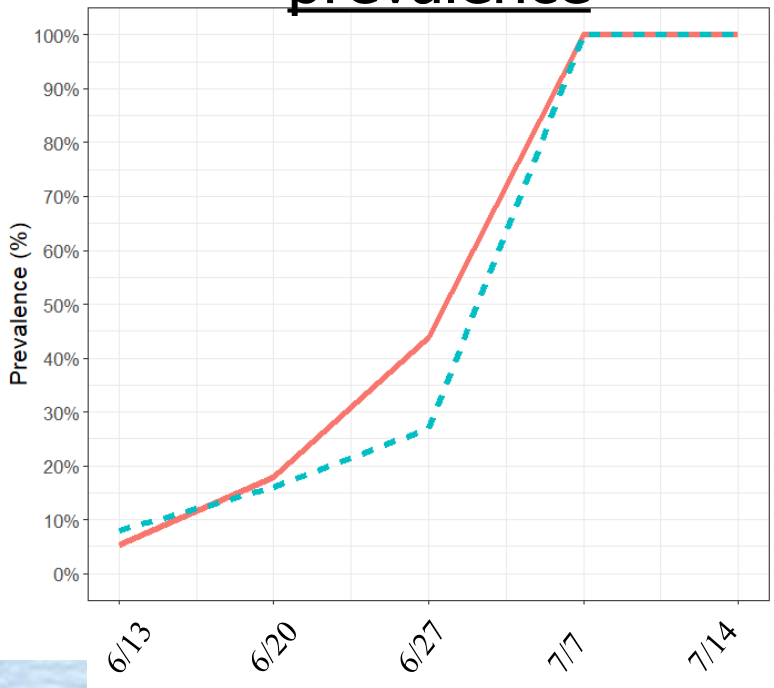
5 leaves/field sampled over 4-5 weeks.



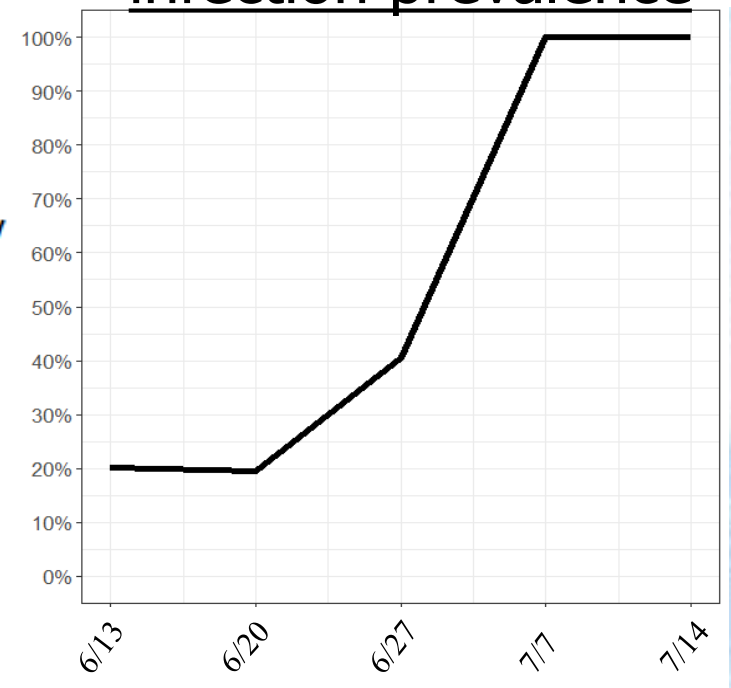
Nate Wyatt, Research Plant Pathologist, USDA-ARS, Fargo ND

2022 ACSC asymptomatic CLS infection

ACSC CLS infection prevalence



RRV wide CLS infection prevalence



*First look at when infection begins (Useful for modeling disease risk)

*Prevalence reaches 100% by first week of July regardless sugar beet variety

Nate Wyatt, Research Plant Pathologist, USDA-ARS, Fargo ND

qPCR detection results

June 13 positive samples

- RRV 6%
  - 5 of 84 samples
  - MHD 1 of 24
  - HLB 2 of 23
  - CRK 1 of 14
  - EGF 0 of 14
  - DTN 1 of 9

June 20 positive samples

- RRV 15%
  - 24 of 156 samples
  - MHD 4 of 28
  - HLB 3 of 28
  - CRK 4 of 21
  - EGF 4 of 33
  - DTN 9 of 46

qPCR detection results

June 27 positive samples

- RRV 26%
  - 43 of 163 samples
  - MHD 9 of 28
  - HLB 10 of 28
  - CRK 5 of 21
  - EGF 3 of 37
  - DTN 16 of 49

July 5 positive samples

- RRV 100%
  - 166 of 166 samples
  - MHD 28 of 28
  - HLB 28 of 28
  - CRK 21 of 21
  - EGF 40 of 40
  - DTN 49 of 49

2022 In-season pilot study

Setup

Selected 3 fields

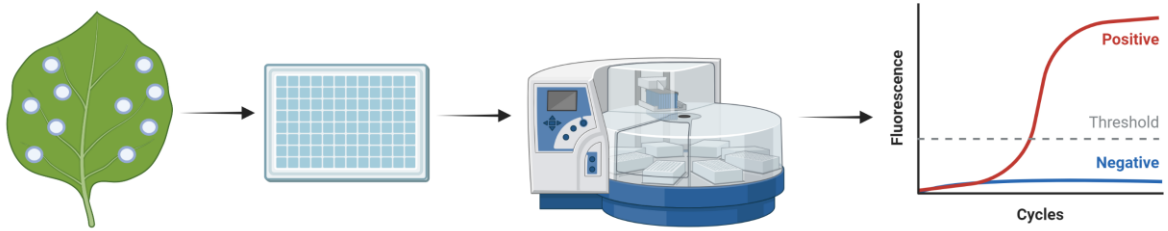
84 leaf samples/field

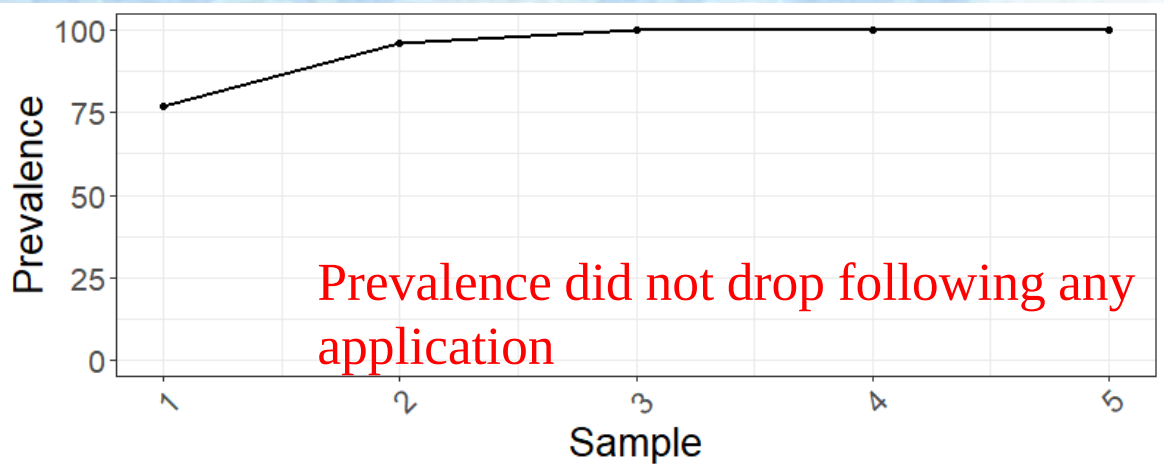
Time points:

1. Before all applications
2. After 1st application
3. After 2nd application
4. After 3 application

Process as done in latent assays.

Process:





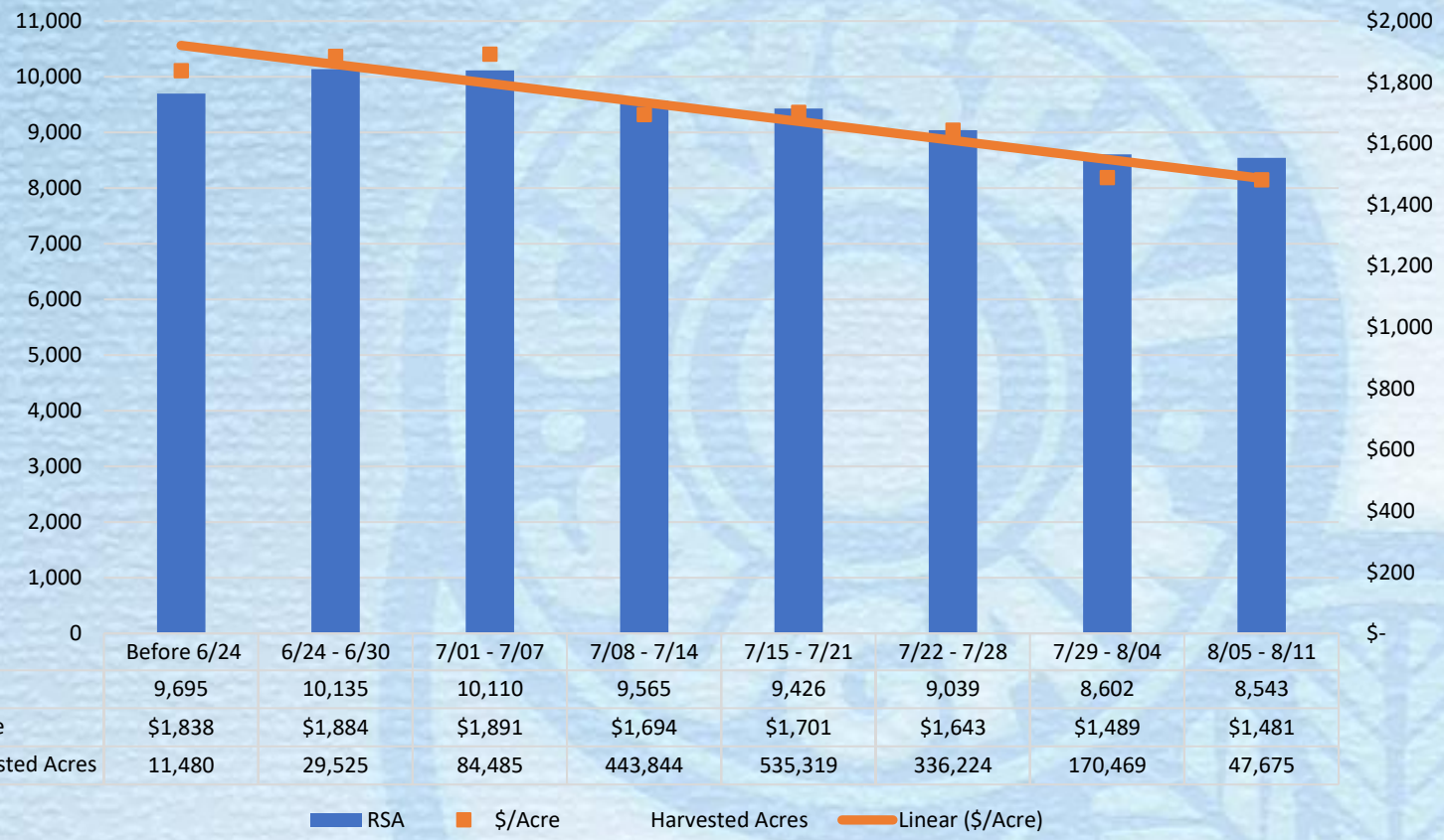
*Values shown are averages from the 3 fields

Nate Wyatt, Research Plant PathologistUSDA-ARS, Fargo ND

ACSC Data

- Initial timing
- Number of applications

RRV 5 Yr Avg Initial Fungicide App Timing (2018 - 2022)
RSA & Rev/Acre

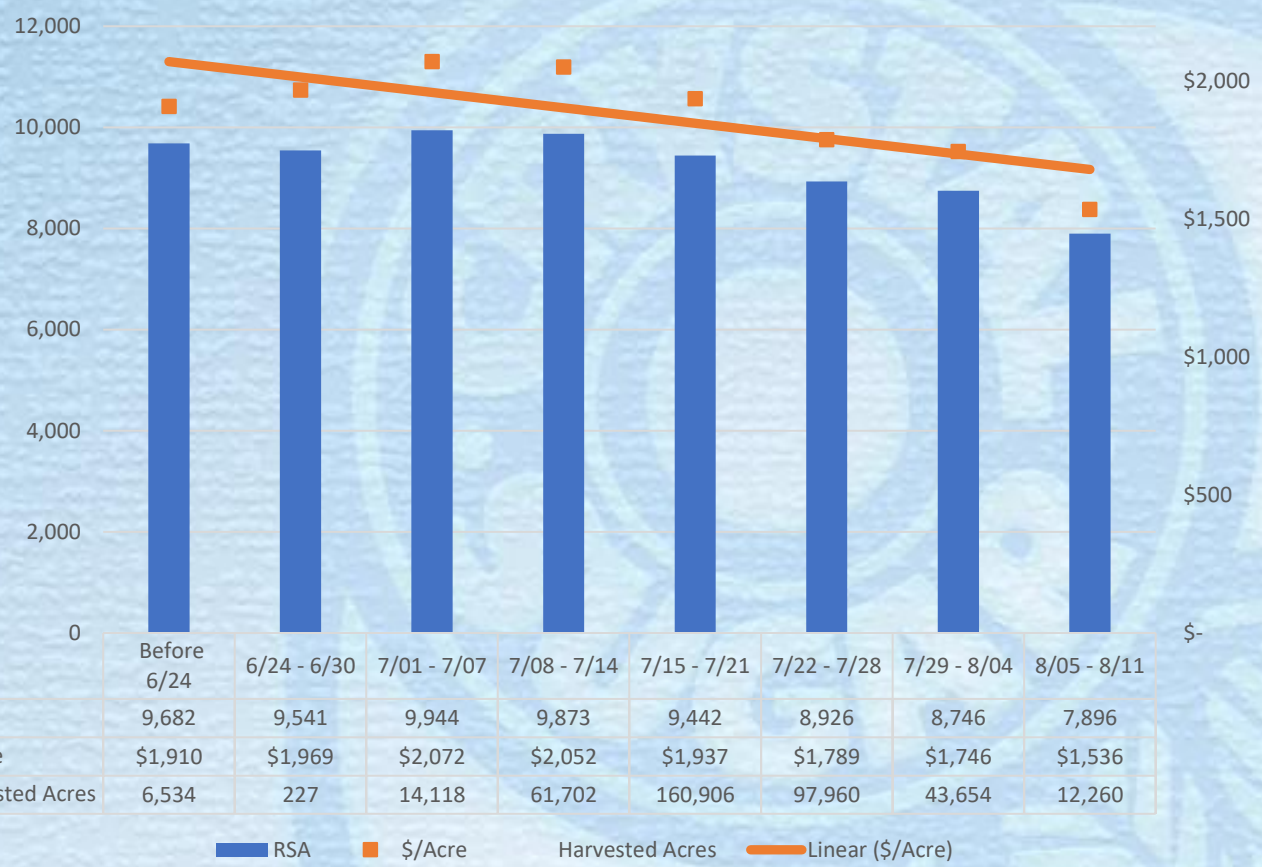


	Before 6/24	6/24 - 6/30	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28	7/29 - 8/04	8/05 - 8/11
RSA	9,695	10,135	10,110	9,565	9,426	9,039	8,602	8,543
$/Acre	$1,838	$1,884	$1,891	$1,694	$1,701	$1,643	$1,489	$1,481
Harvested Acres	11,480	29,525	84,485	443,844	535,319	336,224	170,469	47,675

RRV 5 Yr Avg # of Fungicide Apps (2018 - 2022)
RSA & Rev/Acre

	0	1	2	3	4	5	6
RSA	7,100	8,441	8,884	9,254	9,588	9,933	9,845
Harvested Acres	6,978	112,706	336,598	568,287	566,024	150,356	17,186
$/Acre	$1,254	$1,476	$1,570	$1,639	$1,681	$1,737	$1,709

RRV Initial Fungicide App Timing (2022)
RSA & Rev/Acre



	Before 6/24	6/24 - 6/30	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28	7/29 - 8/04	8/05 - 8/11
RSA	9,682	9,541	9,944	9,873	9,442	8,926	8,746	7,896
$/Acre	$1,910	$1,969	$2,072	$2,052	$1,937	$1,789	$1,746	$1,536
Harvested Acres	6,534	227	14,118	61,702	160,906	97,960	43,654	12,260

RRV # of Fungicide Apps (2022)
RSA & Rev/Acre

	0	1	2	3	4	5	6
RSA	7,364	8,814	8,619	9,055	9,648	10,108	9,370
Harvested Acres	887	18,669	57,758	168,657	141,289	24,417	1,596
$/Acre	$1,547	$1,753	$1,715	$1,824	$2,000	$2,118	$1,946

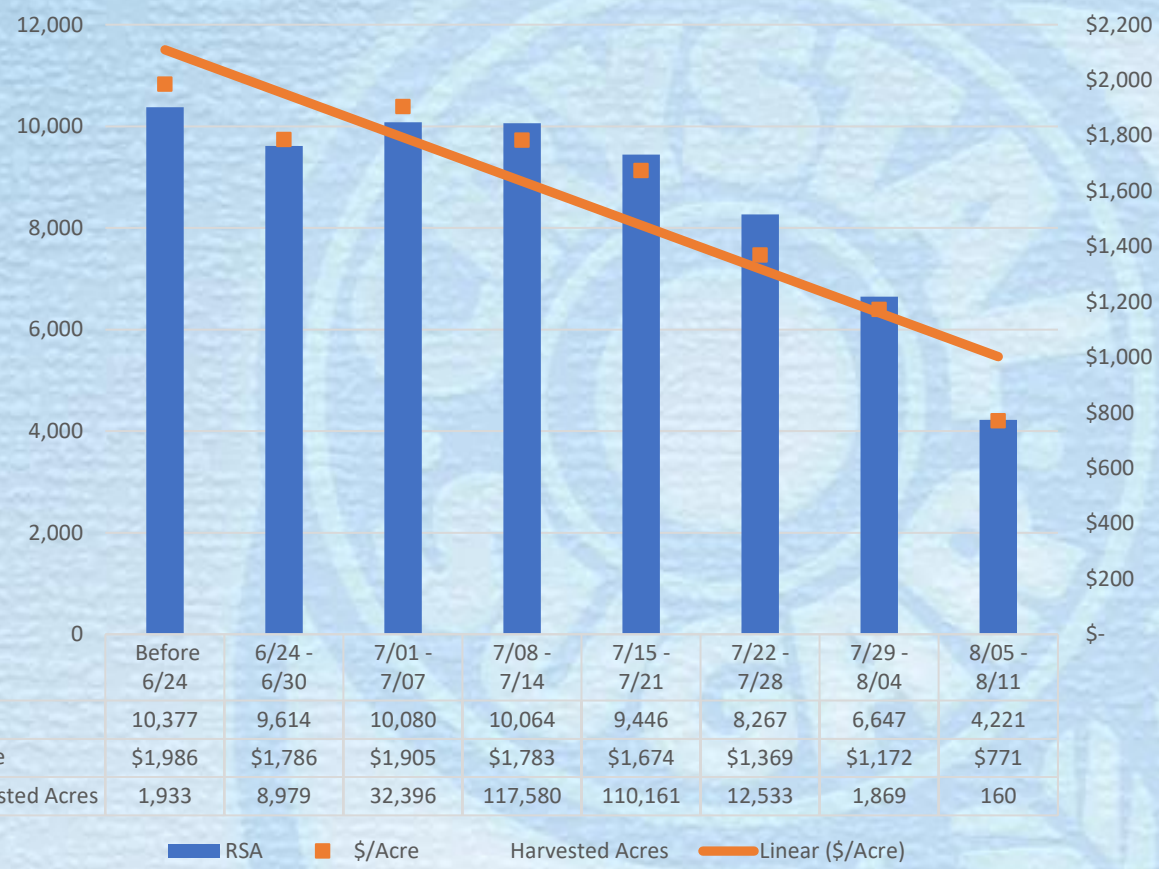
MHD 5 Yr Avg Initial Fungicide App Timing (2018 - 2022)
RSA & Rev/Acre

	Before 6/24	6/24 - 6/30	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28	7/29 - 8/04	8/05 - 8/11
RSA	9,041	10,464	9,960	9,409	9,250	8,316	7,652	8,480
$/Acre	$1,569	$1,952	$1,804	$1,611	$1,517	$1,372	$1,328	$1,214
Harvested Acres	353	18,277	29,273	117,771	74,987	13,476	1,857	786

MHD 5 Yr Avg # of Fungicide Apps (2018 - 2022)
RSA & Rev/Acre

	1	2	3	4	5	6	7
RSA	8,357	8,731	8,905	9,603	9,903	10,084	11,093
$/Acre	$1,423	$1,479	$1,499	$1,640	$1,687	$1,746	$1,891
Harvested Acres	10,942	18,336	53,204	129,877	41,491	8,149	121

HLB 5 Yr Avg Initial Fungicide App Timing (2018 - 2022)
RSA & Rev/Acre

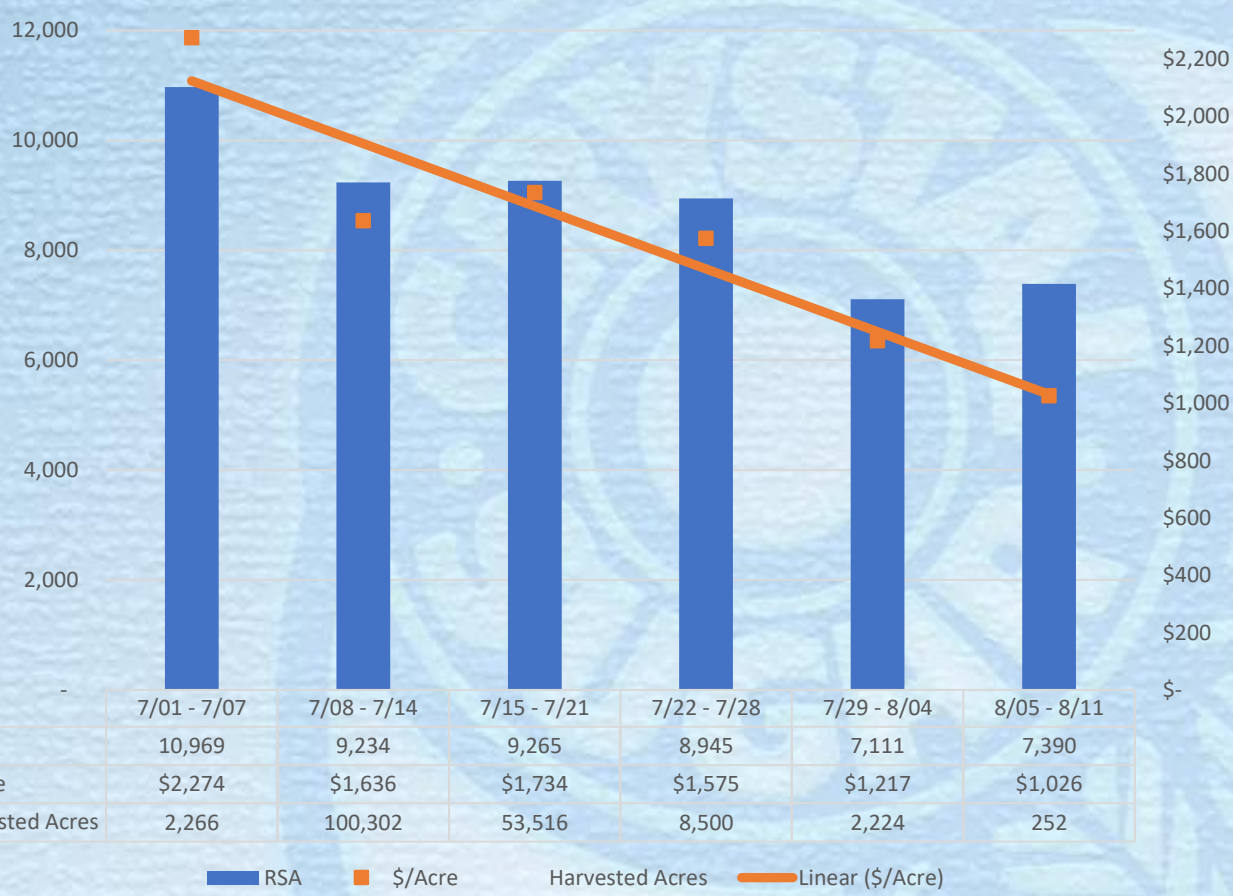


	Before 6/24	6/24 - 6/30	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28	7/29 - 8/04	8/05 - 8/11
RSA	10,377	9,614	10,080	10,064	9,446	8,267	6,647	4,221
$/Acre	$1,986	$1,786	$1,905	$1,783	$1,674	$1,369	$1,172	$771
Harvested Acres	1,933	8,979	32,396	117,580	110,161	12,533	1,869	160

HLB 5 Yr Avg # of Fungicide Apps (2018 - 2022)
RSA & Rev/Acre

	0	1	2	3	4	5	6
RSA	4,576	8,932	9,151	9,152	9,690	10,034	9,434
$/Acre	$672	$1,477	$1,554	$1,580	$1,699	$1,755	$1,615
Harvested Acres	146	8,006	13,207	38,396	180,897	54,593	7,514

CRK 5 Yr Avg Initial Fungicide App Timing (2018 - 2022)
RSA & Rev/Acre

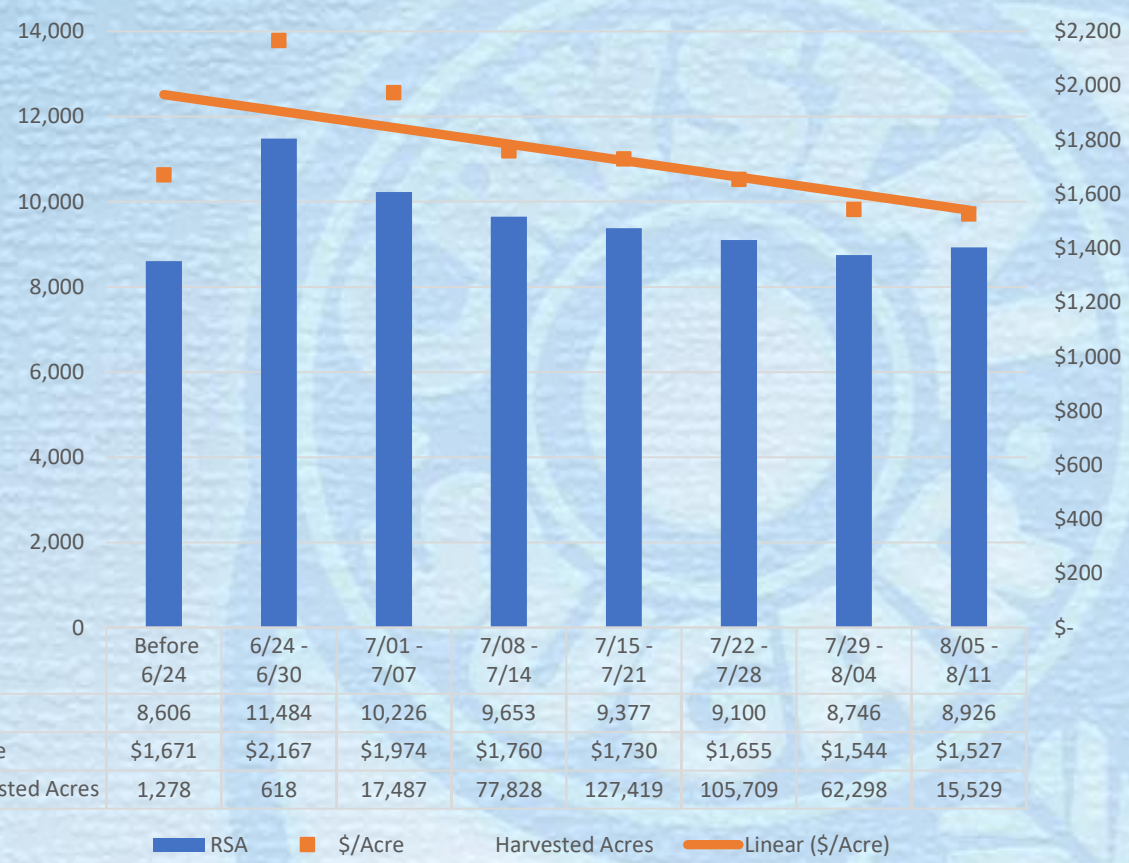


	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28	7/29 - 8/04	8/05 - 8/11
RSA	10,969	9,234	9,265	8,945	7,111	7,390
$/Acre	$2,274	$1,636	$1,734	$1,575	$1,217	$1,026
Harvested Acres	2,266	100,302	53,516	8,500	2,224	252

CRK 5 Yr Avg # of Fungicide Apps (2018 - 2022)
RSA & Rev/Acre

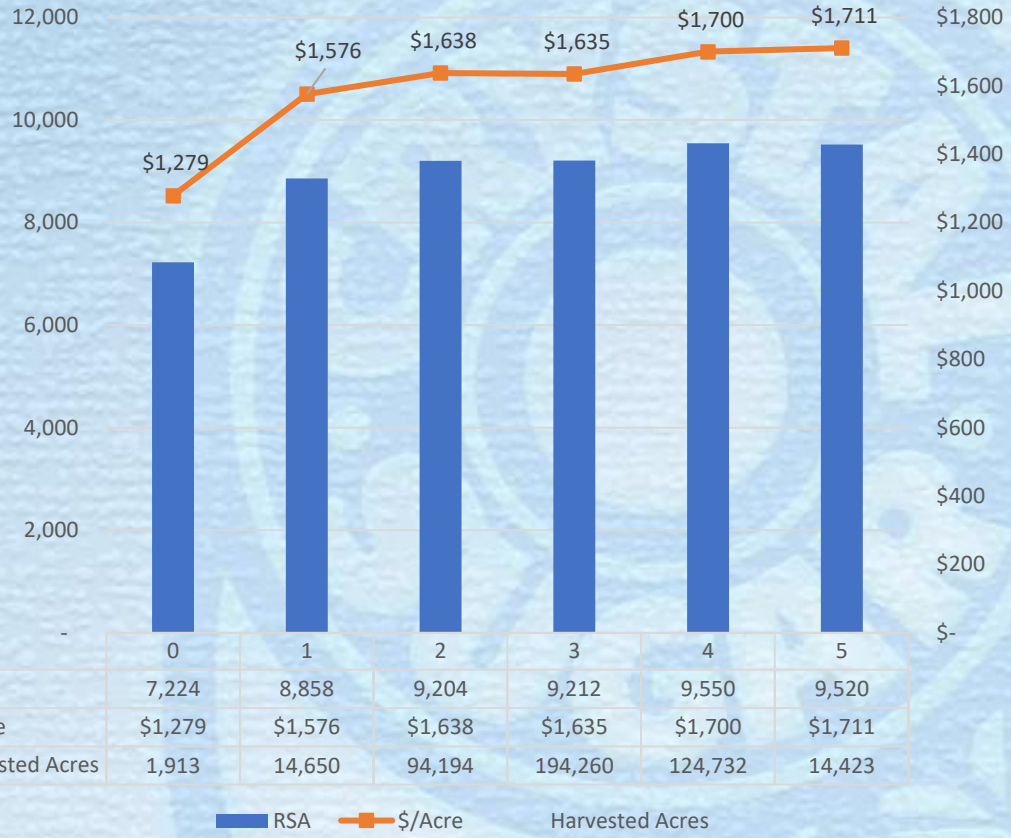
	0	1	2	3	4	5	6
RSA	6,470	7,402	8,550	8,476	9,241	9,838	10,563
$/Acre	$1,151	$1,194	$1,476	$1,467	$1,625	$1,743	$1,954
Harvested Acres	144	3,123	11,414	25,229	90,082	37,759	1,522

EGF 5 Yr Avg Initial Fungicide App Timing (2018 - 2022)
RSA & Rev/Acre



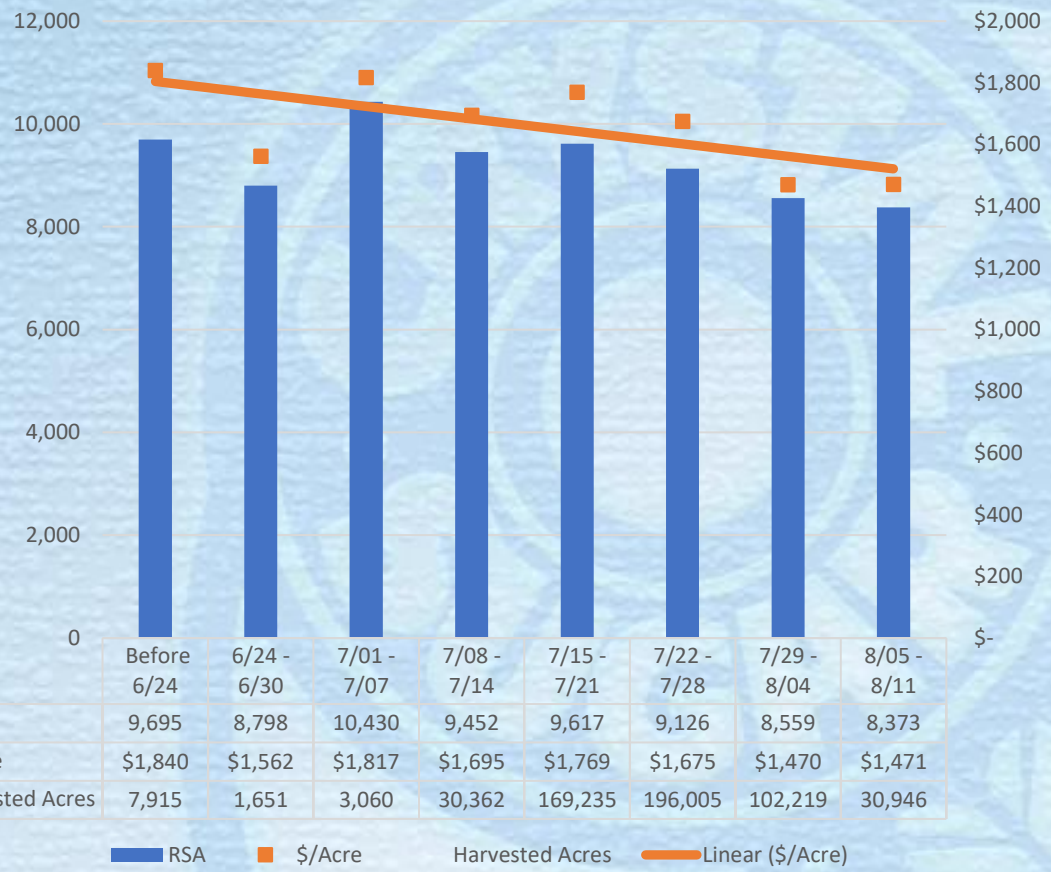
	Before 6/24	6/24 - 6/30	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28	7/29 - 8/04	8/05 - 8/11
RSA	8,606	11,484	10,226	9,653	9,377	9,100	8,746	8,926
$/Acre	$1,671	$2,167	$1,974	$1,760	$1,730	$1,655	$1,544	$1,527
Harvested Acres	1,278	618	17,487	77,828	127,419	105,709	62,298	15,529

EGF 5 Yr Avg # of Fungicide Apps (2018 - 2022)
RSA & Rev/Acre



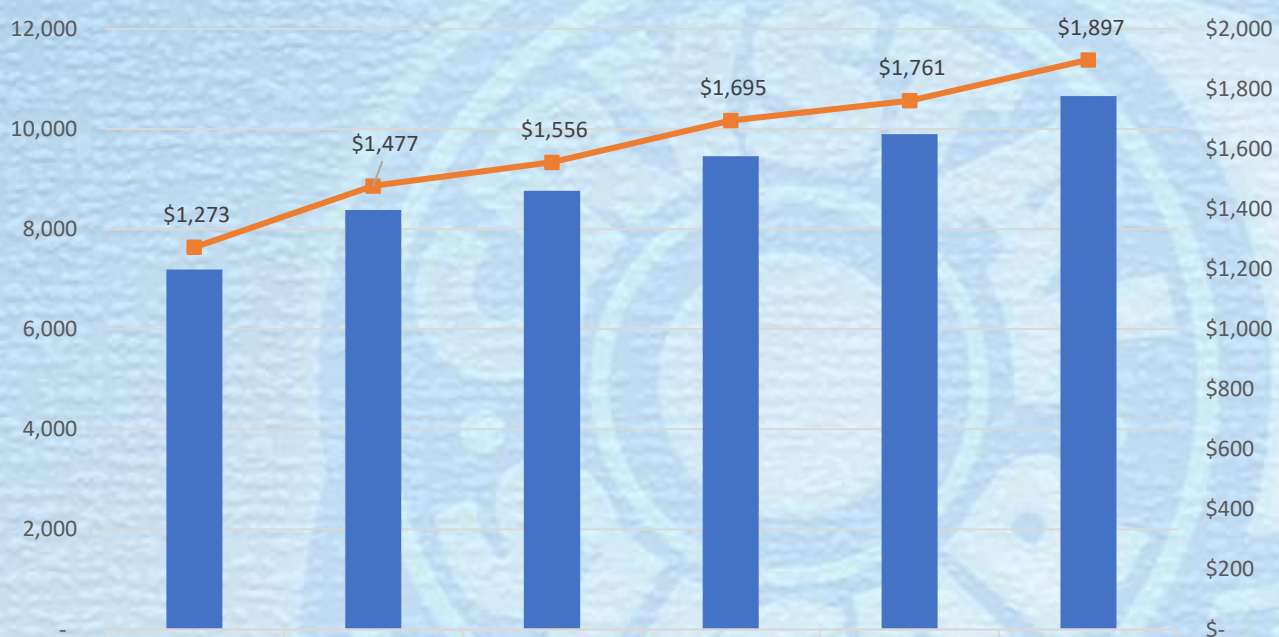
	0	1	2	3	4	5
RSA	7,224	8,858	9,204	9,212	9,550	9,520
$/Acre	$1,279	$1,576	$1,638	$1,635	$1,700	$1,711
Harvested Acres	1,913	14,650	94,194	194,260	124,732	14,423

DTN 5 Yr Avg Initial Fungicide App Timing (2018 - 2022)
RSA & Rev/Acre



	Before 6/24	6/24 - 6/30	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28	7/29 - 8/04	8/05 - 8/11
RSA	9,695	8,798	10,430	9,452	9,617	9,126	8,559	8,373
$/Acre	$1,840	$1,562	$1,817	$1,695	$1,769	$1,675	$1,470	$1,471
Harvested Acres	7,915	1,651	3,060	30,362	169,235	196,005	102,219	30,946

DTN 5 Yr Avg # of Fungicide Apps (2018 - 2022)
RSA & Rev/Acre



	0	1	2	3	4	5
RSA	7,190	8,379	8,763	9,458	9,896	10,657
$/Acre	$1,273	$1,477	$1,556	$1,695	$1,761	$1,897
Harvested Acres	4,773	76,983	199,445	257,196	40,435	2,087

2022 ACSC Recommended

(Non CR+ Varieties)

Cercospora Fungicide Program					
Application # Sequence based on Initial Fungicide Application Timing & 12-Day Intervals	**Late June Initial Application**	**Early - Mid July Initial Application**	**Mid - Late July Initial Application**	**Late July Initial Application**	
				Option 1	**Option 2**
1	Triazole + EBDC	Triazole + EBDC	Triazole + EBDC	Triazole + EBDC	TPTH + Benzimidazole
2	EBDC	TPTH + Benzimidazole	TPTH + Benzimidazole	TPTH + Benzimidazole	Triazole + EBDC
3	TPTH + Benzimidazole	Triazole + EBDC	Triazole + EBDC	Triazole + Headline/Priaxor	Headline/Priaxor + TPTH
4	Triazole + EBDC	EBDC	Headline/Priaxor + TPTH		
5	EBDC	Headline/Priaxor + TPTH			
6	Headline/Priaxor + TPTH				

- Late July Rec – not best for optimizing RSA & Rev/acre
- Last application designed for last week of Aug. – 1st week of Sept.
  - Benefits of CLS control include better frost tolerance/recovery, and plant health for storage
  - Fungicide application may still be needed in September
    - Discuss with Agriculturist fungicide options for Prepile & Stockpile w/PHI's

CR+ Varieties

- New Cercospora trait. (**Tolerance not immunity**)
- CR+ Cercospora ratings around 2.2-2.6 compared to the current best at 3.9 (NON CR+) and approximately 4.6 average for all currently approved varieties for 2023.
- Tank-mixing and rotating fungicide MOA's will still be important to maintain the use of this trait.
- Several CR+ Varieties are available for the ACSC growing area in 2023. Second year of availability in the ACSC market.

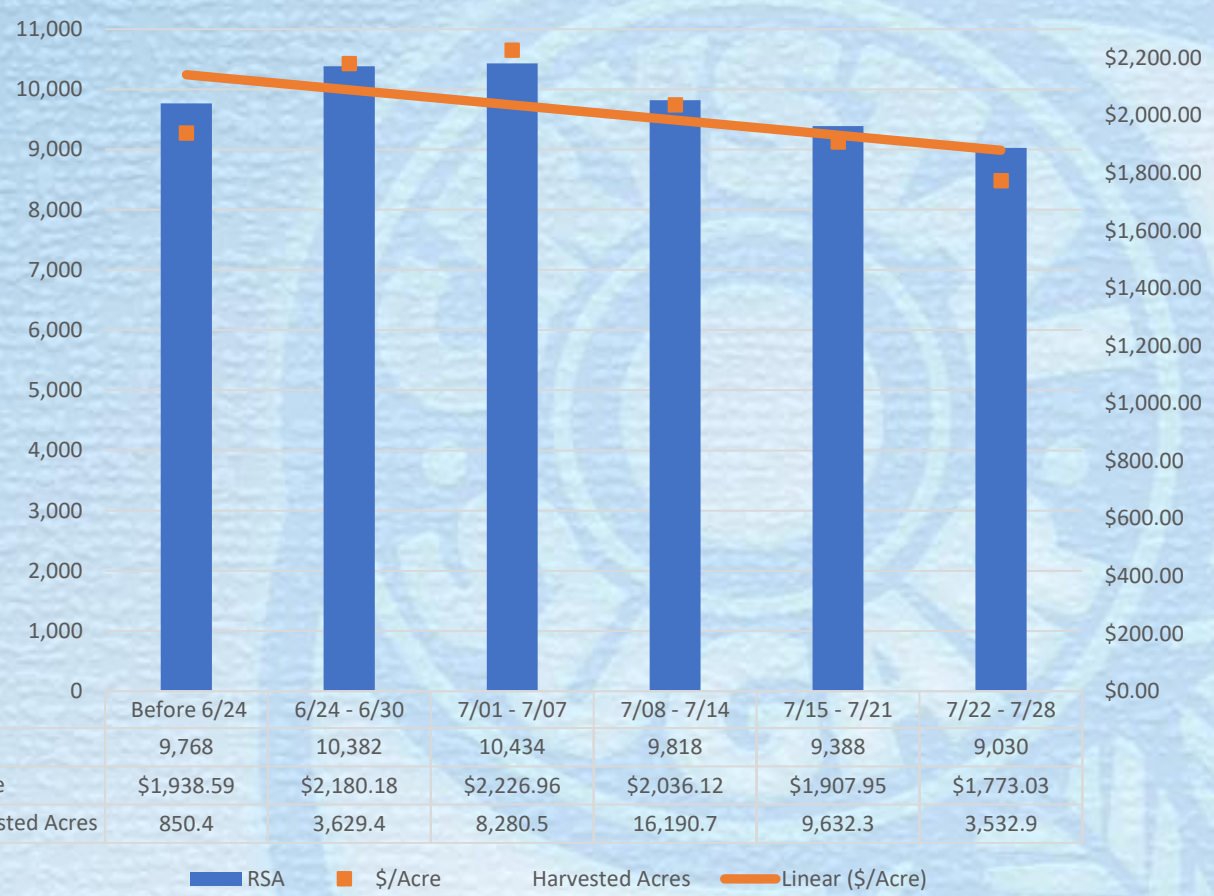
ASCS CR+ Variety Tips

- Early fungicide applications optimize control & RSA
- 1st two applications are important to achieve maximum potential
- Resistance management still necessary
  - Preserve trait's effectiveness
  - Bring back fungicide efficacy?
  - Decrease CLS inoculum?

ASCS CR+ Variety Tips

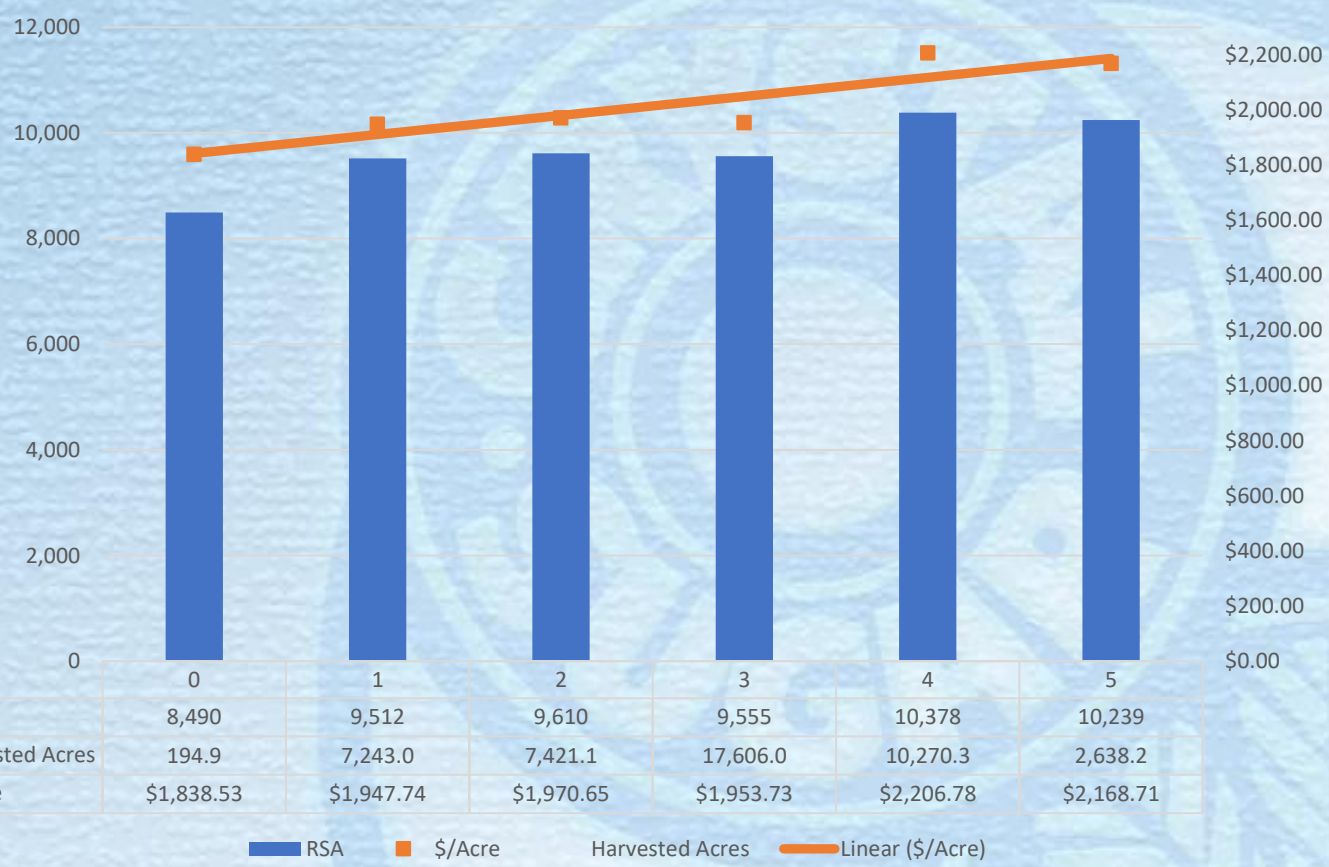
- Placement of CR+ varieties
  - Fields bordering last year's beet fields with high pressure
  - Fields protected from wind (higher humidity) – river fields/shelter belts
  - Farther away fields – difficult to reach for timely applications
  - Field not planned for prepile deliveries
- Advantages: Keep CR+ fields in good shape to withstand late-season CLS outbreaks (example - 2021)

CR+ 2022 RRV Avg Initial Fungicide App Timing
RSA & Rev/Acre



	Before 6/24	6/24 - 6/30	7/01 - 7/07	7/08 - 7/14	7/15 - 7/21	7/22 - 7/28
RSA	9,768	10,382	10,434	9,818	9,388	9,030
$/Acre	$1,938.59	$2,180.18	$2,226.96	$2,036.12	$1,907.95	$1,773.03
Harvested Acres	850.4	3,629.4	8,280.5	16,190.7	9,632.3	3,532.9

CR+ 2022 RRV Avg # of Fungicide Apps
RSA & Rev/Acre



	0	1	2	3	4	5
RSA	8,490	9,512	9,610	9,555	10,378	10,239
Harvested Acres	194.9	7,243.0	7,421.1	17,606.0	10,270.3	2,638.2
$/Acre	$1,838.53	$1,947.74	$1,970.65	$1,953.73	$2,206.78	$2,168.71

2022 ACSC Recommended

CR+ Variety CLS Fungicide Program				
Application # Sequence based on Initial Fungicide Application Timing & 12-Day Intervals	**Late June Initial Application**	**Early - Mid July Initial Application**	**Mid - Late July Initial Application**	**Late July Initial Application**
1	Triazole + EBDC	Triazole + EBDC	Triazole + EBDC	Triazole + EBDC
2	TPTH + Benzimidazole	TPTH + Benzimidazole	TPTH + Benzimidazole	**Extended Interval**
3	**Extended Interval**	**Extended Interval**	**Extended Interval**	Headline/Priaxor + TPTH
4	Triazole + EBDC	Triazole + EBDC or EBDC	Triazole + Headline/Priaxor	
5	**Extended Interval**	Headline/Priaxor + TPTH		
6	Headline/Priaxor + TPTH			

- **Extended Intervals ARE NOT Skips** – Continue to monitor conditions for high DIV's and CLS
  - May require treatment based on pressure
- Last application designed for: Last week of Aug. – 1st week of Sept.
  - Benefits for CLS control, frost recovery, and plant health for storage
  - Fungicide application may still be needed in September
    - Discuss with Agriculturist fungicide options for Prepile & Stockpile w/PHI's

Questions?

Sugarbeet Root Disease Management

Fusarium

NDSU Extension

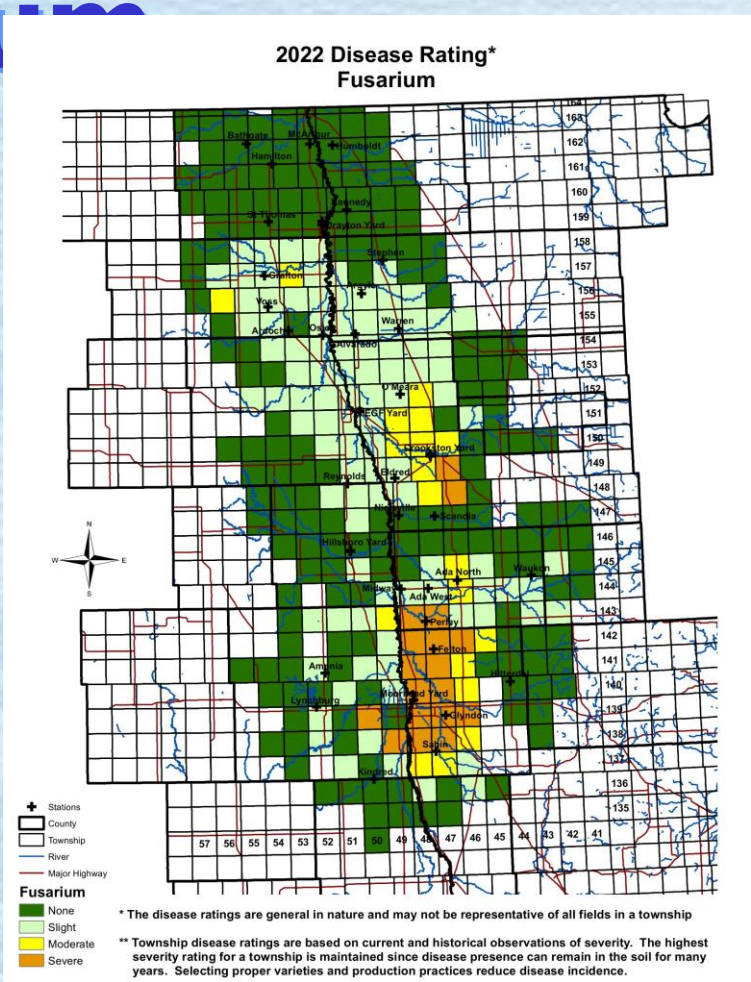
Fusarium

- Caused by soil borne fungus Fusarium oxysporum
- Overwinters in soil for long periods of time
- Warm soil temps and waterlogged fields provide

Joe Hastin

Fusariu

- Was most severe in Clay and Norman County
- Has spread south in Wilkin County MN
- Moderate areas in the Crookston district with severity



Fusarium Symptoms

- First appears on older leaves as chlorosis
- Half the leaf will display chlorosis
- As disease progresses older leaves become necrotic

NWRO

Joe Hasti

Fusarium Management

- Choose resistant varieties
- Use good drainage practices
- Control alternate weed hosts
- Plant early
- Proper crop rotation

Aphanomyces

Aphanomyces

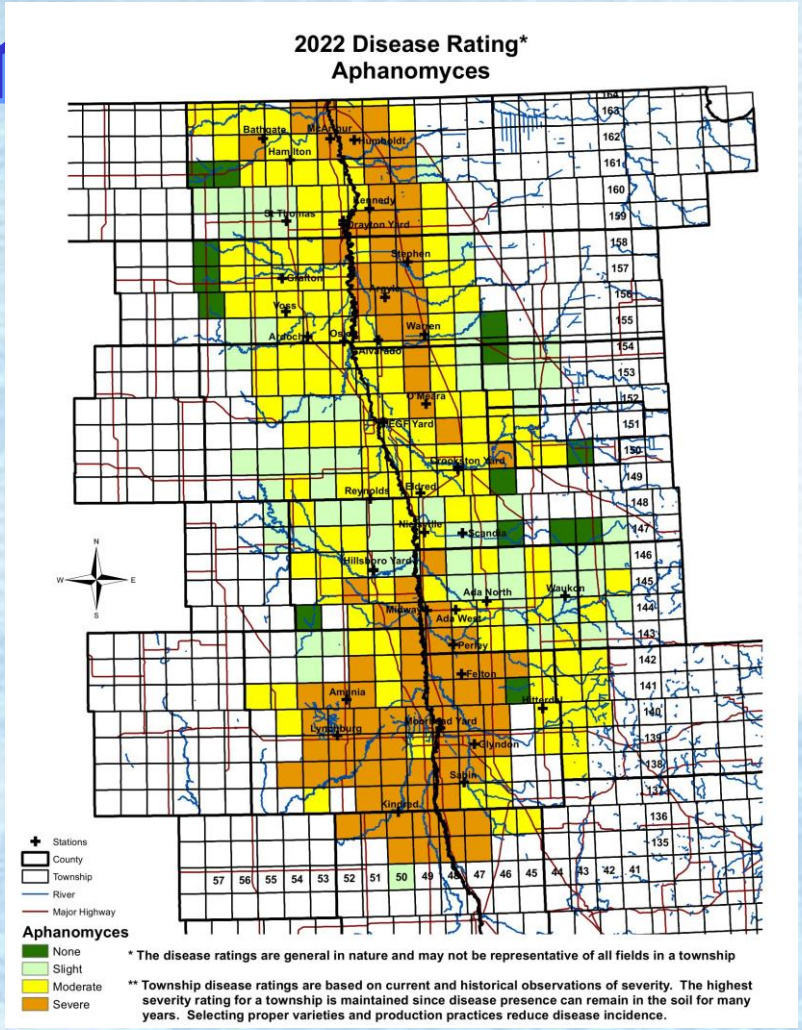
- Caused by soil borne fungus Aphanomyces cochliodes
- Warm and hot temperatures with wet soil conditions promote development

NWRO

Aphanomyces Active Rot vs Inactive

Aphanom

- Aphanomyces is found throughout the valley with ranges in severity
- High Severity in the Moorhead District and in the southern part of the Hillsboro District

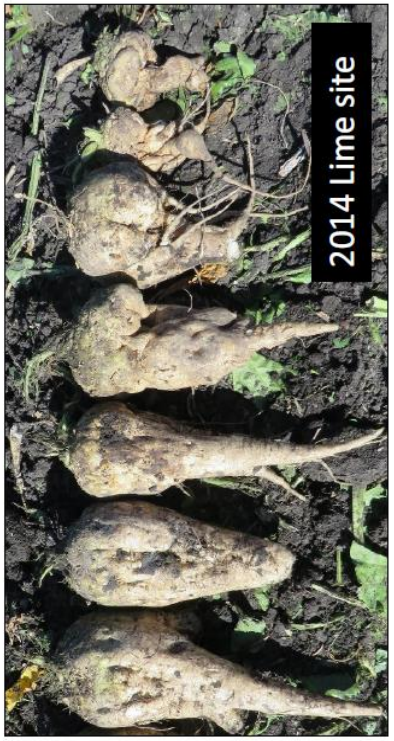


Aphanomyces Symptoms

- Damping off in sugarbeet seedlings
- Poor canopy development and chlorotic leaves
- Water-soaked lesions on roots
- Russeting occurs

Jason Brant

Sugar Beet - Aphanomyces Root Rot



UNIVERSITY OF MINNESOTA | EXTENSION

Ashok Chanda & Jason Brantner

Aphanomyces Management

- Plant resistant varieties
- Use a Tachigaren seed treatment
- Apply Versalime
- U
  d actices
- Plant early
- Use proper crop

Rhizoctonia

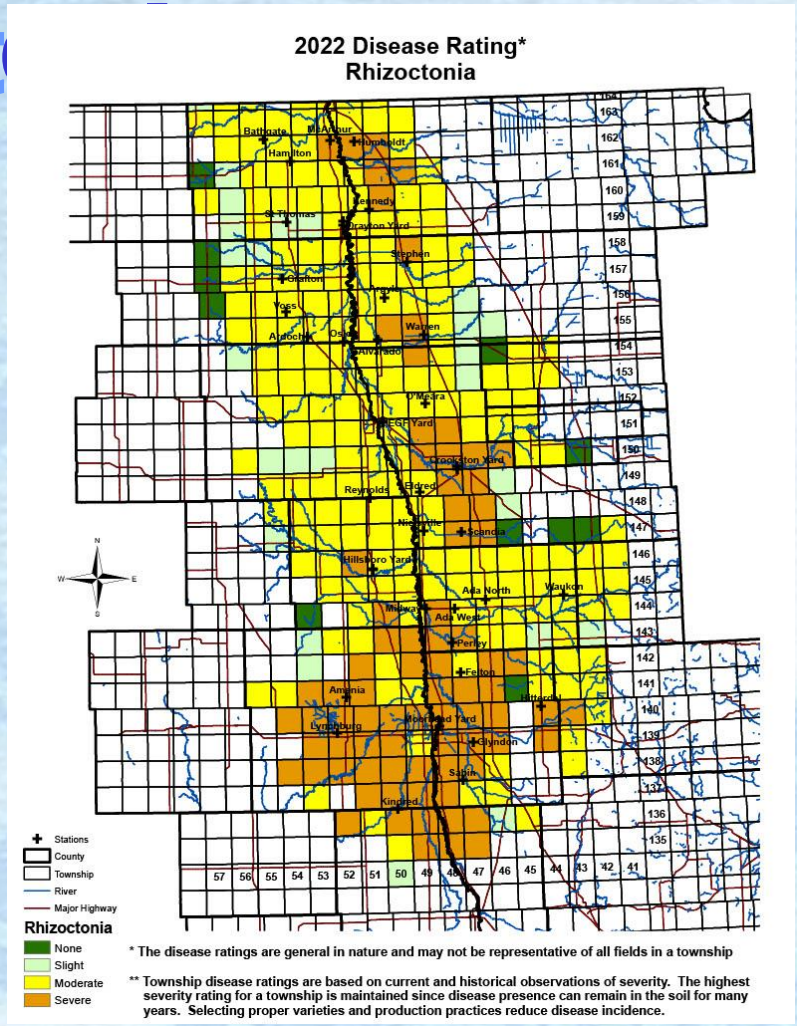
Justin Krieg

Rhizoctonia

- Caused by soil borne fungus Rhizoctonia solani.
- Warm and wet soil temps favor disease development
- Susceptible crops include corn &

Rhizoct

- Rhizoctonia is found throughout the RRV
- Can be found virtually in every sugarbeet field today
- Most of the Valley has a moderate rating



Rhizoctonia Symptoms

- Damping off in sugarbeet seedlings
- Rarely can cause foliar blight
- Wilted petioles that turn black
- Leaves become prostrate on soil

Jason Brantner
TSC

Sugar Beet - Rhizoctonia Root Rot

UNIVERSITY OF MINNESOTA | EXTENSION

Ashok Chanda & Jason Brantner

Rhizoctonia Management

- Plant resistance varieties
- Use a fungicide seed treatment
- Use at plant, in-furrow and post fungicide treatments
- Follow beets on small grain crops
- Limit mechanical weed control

Recommended Products	AZteroid® FC 3.3	Priaxor® Xemium® Brand Fungicide	Quadris®	Elatus®	EXCALIA™
METHOD	IN-FURROW/T-band BAND (3-7")/Broadcast	BAND/BROADCAST	BAND (7-11") BROADCAST	IN-FURROW BAND (3-7")	BAND (6-7") BROADCAST
LABELED TIMING	AT-PLANT Post 4 to 8 leaf	4 to 5 weeks after planting	4 to 8 leaf stage	In-Furrow at Plant Post 2-8 Leaf Stage	2 to 8 leaf stage
RATE	6 oz/Acre in-furrow/t-band 9.4 oz/Acre Band & Bdcst	6.7 oz/Acre	10 oz/Acre Band 15 oz/Acre Bdcst	At Plant: 7.1 oz./Acre on 22" rows (0.3-0.6 oz/1,000 row feet) Post: 7.1 oz/Acre	Band: .64 oz/Acre on 22" rows (0.023 to 0.027 oz/1,000 row feet) Bdcst: 2 oz/Acre
TANK-MIXES	w/starter fertilizer	Glyphosate w/surfactant	Glyphosate w/surfactant	Do not mix with Starter Fertilizer	No concerns. Consult your agriculturist.
WATER VOLUME	5-10 gal/acre	10-15 gal/Acre	10-20 gal/Acre	Minimum 10 gal/Acre	Minimum 10 gal/Acre

NWRO

Rhizoctonia In-Furrow Control

Elatus

- 7.1 oz on 22” rows
- **Do not** mix with starter fertilizer
- Applied as in-furrow spray
  - Minimum of 10 gals.
- **Do not** apply as dribble application
- Don’t use if extended emergence is expected

Elatus®

syngenta

Rhizoctonia In-Furrow Control

Azteroid FC 3.3

- 6 oz Rate
- Mixes with starter fertilizer*
- Add water to starter to help flow
- Don't use if cool weather is forecasted

*may increase phytotoxicity

Rhizoctonia Post Control

Azteriod FC 3.3

- 3-7″ Band or Broadcast
- 9.4 oz rate Band & Broadcast
- 4 – 8 Leaf Stage Timing
- Don't use COC or

Rhizoctonia Post Control

Quadris

- 7-11” Band or Broadcast
- 10 oz/acre Banded
- 15oz/acre Broadcast
- 4 – 8 Leaf Stage

Rhizoctonia Post Control

Elatus

- 3 - 7” Band
- 7.1oz/acre
- 2 – 8 Leaf Stage Timing
- Mixed with conventional herbicides or oils

Rhizoctonia Post Control

Excalia

- 6-7” Band or Broadcast
- .64 oz/acre on Band
- 2 oz/acre on Broadcast
- 2 – 8 Leaf Stage

Rhizomania

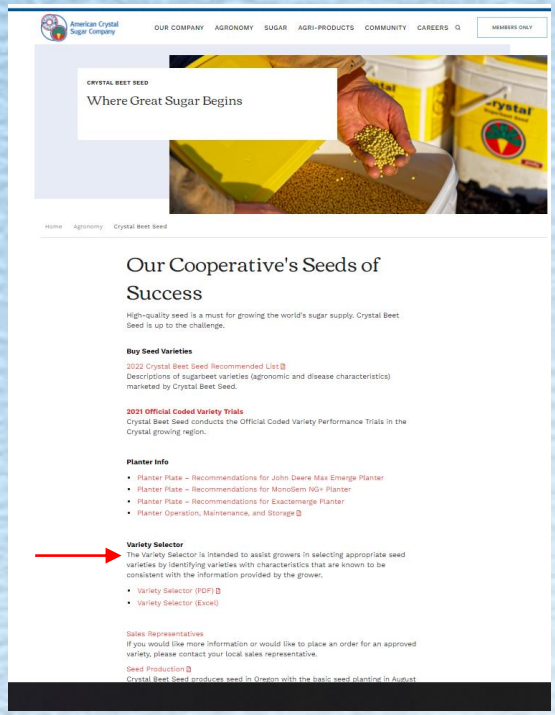
Rhizomania

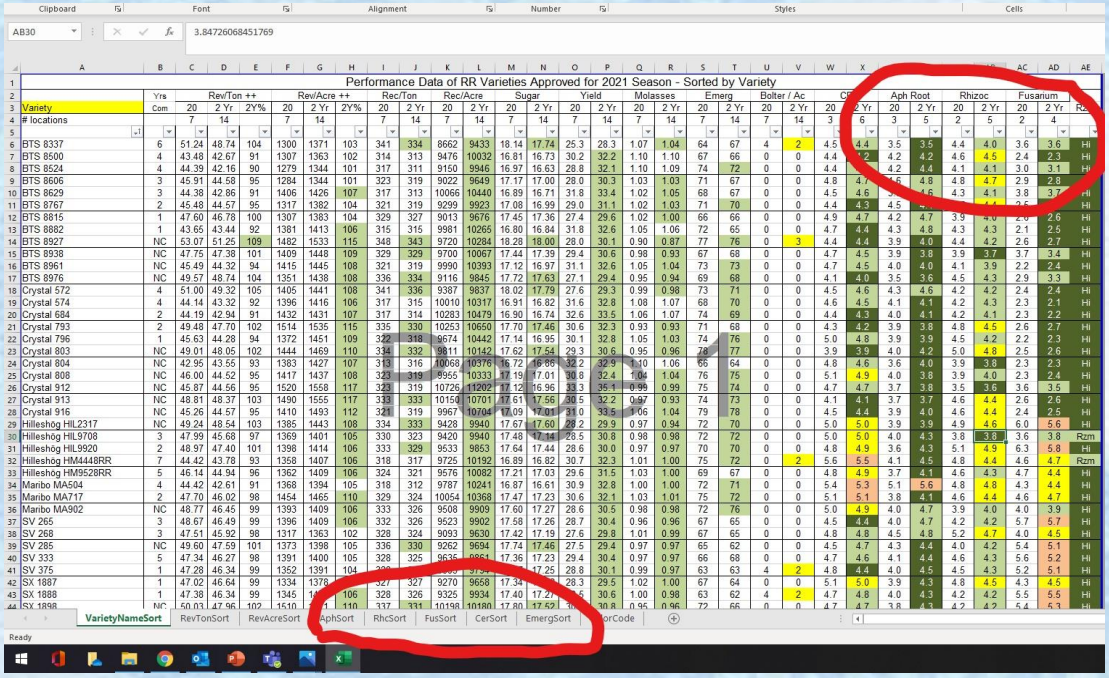
- The bearded root
- Root takes a wine glass shape with crazy root hairs
- Will show as blinkers in the field
- Controlled by resistant varieties

Keys to Sugarbeet Root Disease Management

- Use resistant seed varieties
- Use proper seed treatments when needed
- Apply timely chemical control when available
- Use good drainage practices
- Plant early
- Use crop rotations to your advantage
- Know your field history

Crystal Beet Seed Variety Selector

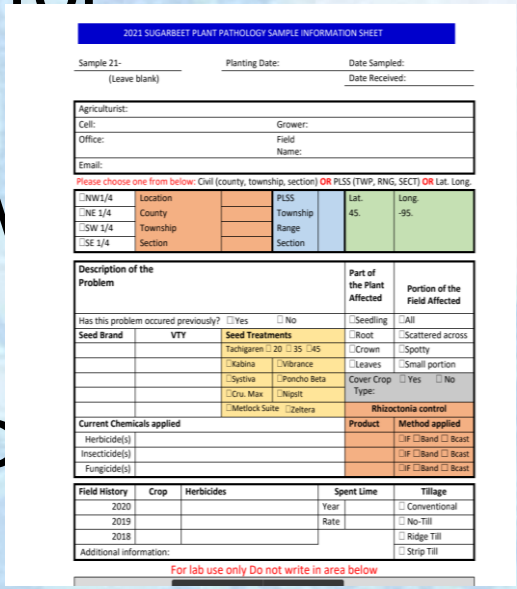




Northwest Research and Outreach Center

- NWROC has a disease diagnosis lab
- Accepts samples to be tested for disease identification
- Sample Info sheet can be dow off website

Crookston, MN
Northwest Research and Outreach Center



2021 SUGARBEET PLANT PATHOLOGY SAMPLE INFORMATION SHEET

Sample 21- (Leave blank) | Planting Date: | Date Sampled: | Date Received:

Agriculturist:
Cell: | Grower:
Office: | Field Name:
Email:

Please choose one from below. Civil (county, township, section) OR PLSS (TWP, RNG, SECT) OR Lat. Long.

☐NW1/4	Location		PLSS		Lat.	Long.
☐NE 1/4	County		Township		45.	-95.
☐SW 1/4	Township		Range			
☐SE 1/4	Section		Section			

Description of the Problem			Part of the Plant Affected	Portion of the Field Affected
Has this problem occured previously? ☐Yes ☐No			☐Seedling	☐All
Seed Brand	VTY	Seed Treatments	☐Root	☐Scattered across
		Tachigaren ☐20 ☐35 ☐45	☐Crown	☐Spotty
		☐Kabina ☐Vibrance	☐Leaves	☐Small portion
		☐Systiva ☐Poncho Beta	Cover Crop Type:	☐Yes ☐No
		☐Cru. Max ☐Nipsit		
		☐Metlock Suite ☐Zeltera	Rhizoctonia control	
Current Chemicals applied			Product	Method applied
Herbicide(s)				☐IF ☐Band ☐Bcast
Insecticide(s)				☐IF ☐Band ☐Bcast
Fungicide(s)				☐IF ☐Band ☐Bcast

Field History	Crop	Herbicides	Spent Lime		Tillage
2020			Year		☐ Conventional
2019			Rate		☐ No-Till
2018					☐ Ridge Till
Additional information:					☐ Strip Till

For lab use only Do not write in area below

Sugar Beet - Rhizoctonia & Aphanomyces Root Rot

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American Crystal Sugar Disease Maps

- Shows disease severity for each township
- Found under the individual disease section in the Gold Standards Tab