American Crystal Sugar Company
AgNotes

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www.crystalsugar.com

2022 Official Coded Variety Performance Trial Data

American Crystal 2022 Official Variety Trial (OVT) data for varieties approved for crop year 2023 has been published and is available on crystalsugar.com at:

https://www.crystalsugar.com/agronomy/crystal-beet-seed/official-coded-trials/

Many growers have already purchased seed for the 2023 sugarbeet crop. Now is a good time to review the OVT data and be sure that the varieties you've selected offer the appropriate characteristics of disease tolerance, yield and sugar quality for placement in each unique field on your farm.

OVT trial data can be downloaded in a PDF document or an Excel file. Both have the same data sorted in 8 different ways. Color coded disease tolerance ratings can help you distinguish between the different degrees of tolerance.

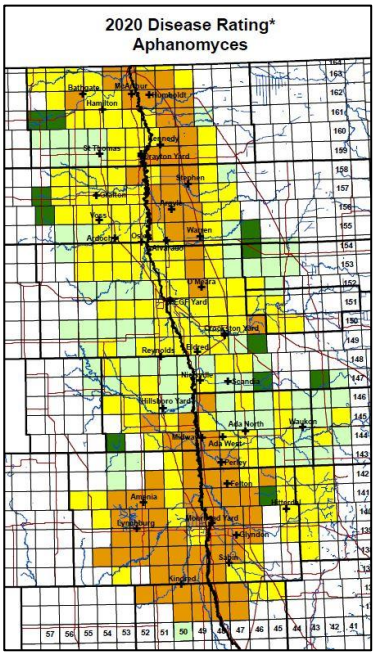
OVT variety data is pre-sorted in the 2022 Variety Selector in the following ways (each on a separate page):

- Seed Company
- Rev/Ton
- Rev/Acre
- Aphanomyces Tolerance Rating
- Rhizoctonia Tolerance Rating
- Fusarium Tolerance Rating
- Cercospora Tolerance Rating
- Emergence Percent

Downloading the Excel version will allow you to create your own sorts to examine the data as well.

Considerations on Variety Placement

- Historical variety performance on your farm.
- Known disease presence in fields to be planted in 2023.
  Township Disease Severity Maps & Recommendations
  Links to general disease presence observations & management recs:
  - Aphanomyces
  - Rhizoctonia
  - Fusarium
- Historical production characteristics by field.
  - Below average sugar and/or above average tons:
    - Consider a higher sugar variety to optimize recoverable sugar/acre.
  - Above average sugar and/or below average tons:
    - Consider a higher yielding variety to optimize recoverable sugar/acre.
- Pre-piling from designated fields, headlands, and splits:
  - Use high sugar varieties to help maximize your Pre-pile Premium
- Field distance from piling site/factory:
  - If long distance, consider higher sugar, moderate tonnage varieties to lower transportation costs.



CR+ Variety Placement Considerations

- Fields/areas not planned for Pre-pile deliveries:
  - Take full advantage of higher Cercospora tolerance further into the growing season.
- Fields bordering last year's beet fields.
- Fields protected from wind (higher humidity), river fields, shelter belts.
- Fields farther away that may be difficult to reach for timely fungicide applications.

Production Considerations in 2023

We look forward with optimism to next year's crop potential and consideration towards general production challenges to prepare for. Each topic heading is a link to its subject material on the Crystal website.

- As always, check with your pesticide supplier to make sure you have access to pesticides needed for your 2023 crop production.

Stand Establishment

- So far, we are going into next spring very dry. Field preparations need to conserve as much moisture as possible by not working ground too far ahead of the planter.
- Cover crops should also be used to protect seedling sugarbeets and limit erosion from strong spring wind events.

Weed Control

- All areas of the Red River Valley need to have a plan to control glyphosate resistant weeds. Particularly waterhemp, kochia, and common ragweed.
  - For waterhemp, this plan should incorporate a layered approach of soil applied herbicides, that includes a PPI/PRE herbicide application along with 2 POST Lay-by herbicide applications.
  - Kochia requires the use of PPI/PRE applied ethofumesate.
  - Common ragweed needs to be controlled early when it's small with Stinger/Stinger HL.

Sugarbeet Root Maggot (SBRM) - Continued High Pressure

- 2022 saw high SBRM populations again. Accordingly, populations are forecast to be high in 2023.
- The best treatment for SBRM control is using:
  - **Counter** insecticide At-Plant followed by POST insecticide applications.
  - Multiple POST applications may be needed for optimal control to reduce egg laying fly populations.
    - **Thimet** granular POST offers great SBRM control.
    - Prepare to use **Mustang Maxx** or **Asana** as POST liquid insecticides.
      - The EPA revoked all tolerances of chlorpyrifos (Lorsban) and cannot be used in sugarbeets.

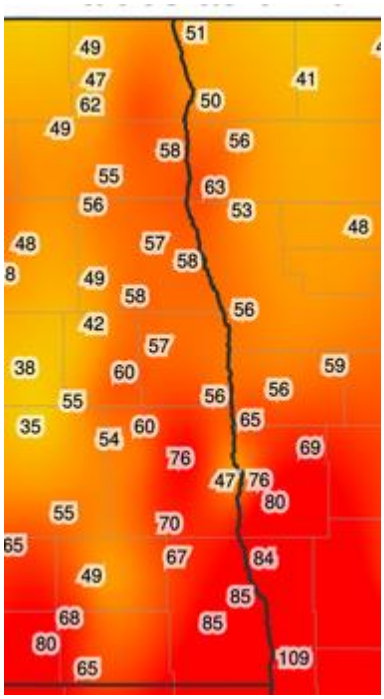
Consult with your Agriculturist with any questions

Cercospora Leafspot (CLS)

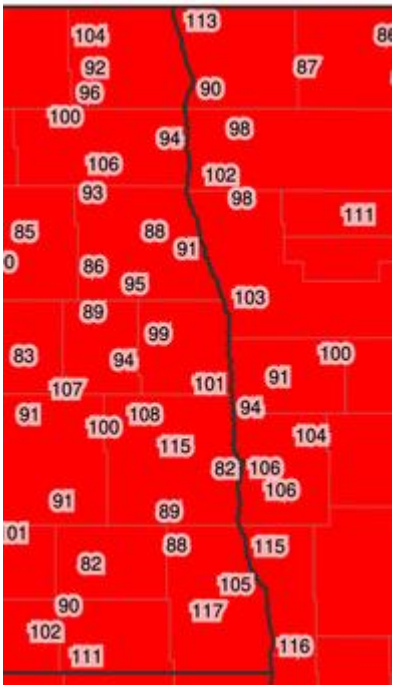
- **Comparing total Accumulated Daily Infection Values (DIV's) from June 15th – Sept 30th in 2021 to 2022:**

  Interestingly 2022 had roughly almost double the amount of DIV's

2021 Accumulated DIV's



2022 Accumulated DIV's



For prompt answers to your questions and comments, call and leave a message and Tom Astrup or one of his staff will respond as soon as possible.

Shareholders:
1-800-633-8941

- Even in a late planted year, the proper timing of initial CLS fungicide applications and subsequent properly timed applications helped to proactively keep Cercospora in-check, maintain healthy leaves, and optimize variety performance.
  - Cercospora could be found in fields but was generally at low levels and did not reach the level of severity witnessed in 2020 & 2021.
- A timely initial fungicide application is needed to delay, pushing back, the on-set of Cercospora infections to reduce its severity potential.
  - General target timeframe for timely initial fungicide application:
    - Southern RRV: Last week of June
    - Middle RRV: First week of July
    - Very Northern RRV: Second week of July
- Tank-mix and rotate fungicide modes of action for resistance management and maintain proper fungicide application intervals.
- Planting varieties with good CLS ratings can make a big difference in infection levels. However, this may not equate to fewer fungicide applications.
- **The Official Variety Trials use the ACSC recommended CLS fungicide program.**
- **CR+ varieties still require timely initial and following fungicide applications to optimize varietal performance.**

  Do so to maintain the CR+ trait's effectiveness against CLS into the future.

2023 Sugarbeet Winter Meeting Schedule

- **Sugarbeet Research and Reporting Session**
  - January 10th @ West Fargo Convention Center - 825 E Beaton Dr, West Fargo, ND
- **Sugarbeet Grower Seminars**
  - Fargo - February 1st @ Fargo Holiday Inn
  - Grand Forks – February 7th @ Alerus Center
  - Grafton – February 9th @ Frosty Fox in Grafton
- **International Sugarbeet Institute** – March 15 & 16th @ Fargodome

2022 Crop Summary

Station	Yield	Sugar %	SLM %	Rec Sugar/Ton	Rec Sugar/Acre
MOORHEAD YARD	27.1	18.75	1.09	353	9,566
HITTERDAL	28.3	18.19	1.05	343	9,707
LYNCHBURG	25.2	19.02	1.15	357	8,996
KINDRED	24.5	20.16	1.08	382	9,359
AMENIA	31.0	18.59	1.12	349	10,819
PERLEY	29.1	19.11	1.05	361	10,505
FELTON	26.5	18.98	1.09	358	9,487
SABIN	25.1	18.69	1.15	351	8,810
GLYNDON	25.7	18.03	1.12	338	8,687
MOORHEAD DISTRICT	**26.8**	**18.75**	**1.10**	**353**	**9,460**
HILLSBORO YARD	26.6	19.50	1.08	368	9,789
WAUKON	26.7	18.71	1.02	354	9,452
ADA WEST	27.3	19.18	1.00	364	9,937
ADA NORTH	28.1	18.61	1.06	351	9,863
MIDWAY	26.6	19.79	1.01	376	10,002
REYNOLDS	25.2	18.71	1.09	352	8,870
HILLSBORO DISTRICT	**26.6**	**19.23**	**1.06**	**363**	**9,656**
CROOKSTON YARD	26.5	19.20	1.15	361	9,567
NIELSVILLE	25.2	20.48	1.05	389	9,803
ELDRED	28.0	19.44	1.10	367	10,276
SCANDIA	26.2	19.37	1.05	366	9,589
WARREN	24.6	18.54	1.07	349	8,585
O'MEARA	23.4	19.10	1.07	361	8,447
CROOKSTON DISTRICT	**27.0**	**19.35**	**1.13**	**364**	**9,828**
EGF YARD	24.7	18.72	1.14	352	8,694
ARDOCH	25.5	17.87	1.15	334	8,517
VOSS	26.5	18.24	1.11	343	9,090
OSLO	25.9	18.28	1.11	343	8,884
ARGYLE	27.1	17.91	1.07	337	9,133
ALVARADO	25.8	18.25	1.06	344	8,875
EGF DISTRICT	**25.1**	**18.40**	**1.11**	**346**	**8,685**
DRAYTON YARD	26.7	17.74	1.13	332	8,864
MCARTHUR	25.7	17.96	1.10	337	8,661
BATHGATE	26.4	17.55	1.08	329	8,686
HAMILTON	28.2	17.92	1.09	337	9,503
GRAFTON	28.9	18.53	1.08	349	10,086
HUMBOLDT	28.8	18.11	1.07	341	9,821
STEPHEN	28.0	17.68	1.12	331	9,268
ST.THOMAS	27.3	17.73	1.09	333	9,091
KENNEDY	28.2	18.25	1.09	343	9,673
DRAYTON DISTRICT	**27.4**	**17.86**	**1.10**	**335**	**9,179**
RED RIVER VALLEY	**26.5**	**18.52**	**1.10**	**348**	**9,222**