



Sugarbeet-growing regions across the U.S. have distinct requirements for cultivation and management that dictate unique seed traits and treatment strategies.

All varieties developed for Minn-Dak Farmers Cooperative growers are designed to maximize productivity without sacrificing pest and disease protection. All varieties have tolerance to Aphanomyces, Rhizoctonia and Fusarium and are bred to also include strong rhizomania tolerance.



Our Diamond Plated® Seed treatment series provides additional protection against seedling diseases and certain problematic insects in sugarbeet production. Our seed treatments are designed to protect the true genetic potential of the varieties.

Ask your ACH Seeds Crystal brand sales representative for more details.

For more than 20 years, ACH Seeds has collaborated with researchers and plant breeders to develop sugarbeet seed traits that offer superior disease and pest tolerance without sacrificing yield performance.

Our varieties combine multiple sources of rhizomania tolerance to maximize yield potential. This multi-source rhizomania trait is available in all Crystal varieties in the Minn-Dak market.

The Power of

CR+ Trait: Disease Protection with Proven Performance

The CR+ trait from KWS delivers Cercospora protection. Plus yield performance. Plus flexibility. Plus ROI.

After three years of use by farmers across North America, Crystal brand hybrids containing the CR+ trait have delivered on the promise of protection and performance. Identified and developed by KWS researchers and plant breeders, growers have benefited from disease tolerance and protection without sacrificing performance.

For growers, this means green sugarbeet leaves until harvest and healthier plants with potentially reduced post-emergent fungicide sprays when compared to conventional Cercospora varieties. Varieties containing the CR+ trait also perform well in both the presence and absence of Cercospora pressure, which means no yield drag in non-disease conditions.

Developing seed varieties for your success.

We take seed variety development very seriously. Putting customers first is also a priority for us.

Our sales, marketing and breeding teams collaborate to develop seed varieties growers require for a productive season. Your success informs everything we do.

Ensuring you keep growing.

Our official varieties spend at least 10 years in development before being made available to growers. Sales, marketing and product management representatives convene three times a year to collaborate on hybrid development for each region of the country. Production plans are assembled and revisited over a 2-year period to ensure grower priorities are being met and hybrids in development are performing as expected. That's how we deliver seeds to meet your needs. From field performance to sugar potential, your productivity is our priority.

This brochure includes seed varieties developed for your area of the country. Visit ACHSeeds.com for more information.

Years 1-3 NEW LINE CREATION



Year 7
HYBRID PRODUCTION

Years 8-10 **OVT TESTING**

Year 10



HAND CROSS The development of a parent

of a parent to achieve offspring with desired genetics to increase productivity.



SELFINGS The first step in seed multiplication.

The production of test hybrids for early-generation decisions.

PARTITIONS



EXPERIMENTAL HYBRIDS:

The production of varieties as potential candidates for official variety trials (OVT).



PRE-BASIC:

BASIC SEED:

A genetically pure increase planted as a seed increase parent seed. Is also known as breeder seed.

This is seed planted as a seed increase to grow parents for commercial varieties.



COMMERCIAL SEED:

Seed is grown and processed to meet customer demand.

OVT testing is conducted to ensure performance meets approval requirements.



Sugarbeet hybrid seed development

10 Years

MDFC Varieties

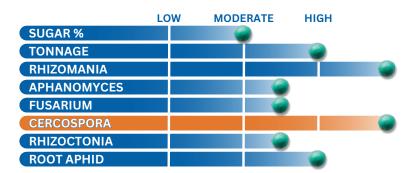
CRYSTAL D973

· Field proven variety with excellent sugar per acre

· Excellent Cercospora tolerance with the CR+ trait

· Strong Aphanomyces, Fusarium and Rhizoctonia tolerance

· Multisource rhizomania tolerance







· Market leading sugar per ton variety

· Excellent Cercospora tolerance with the CR+ trait

· Balanced disease package including good Aphanomyces and Fusarium tolerance

· Multisource rhizomania tolerance



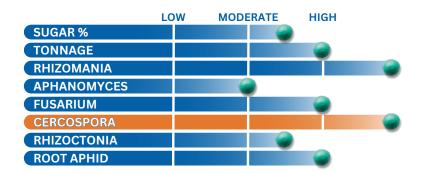
CRYSTAL D011

· Rhizoctonia specialty variety

· Excellent Cercospora tolerance with the CR+ trait

· Strong performing variety with balanced sugar and tonnage

· Multisource rhizomania tolerance





· Great plant health with strong Rhizoctonia



· Excellent Cercospora tolerance with the CR+ trait

· Improved sugar per ton with good sugar per acre

· Multisource rhizomania tolerance

| | LOW | MODERATE | HIGH | |
|-------------|-----|----------|------|--|
| SUGAR % | | | | |
| TONNAGE | | | | |
| RHIZOMANIA | | | | |
| APHANOMYCES | | | | |
| FUSARIUM | | | | |
| CERCOSPORA | | | | |
| RHIZOCTONIA | | | | |
| ROOT APHID | | | | |

MDFC Varieties

CRYSTAL D290

Notes:

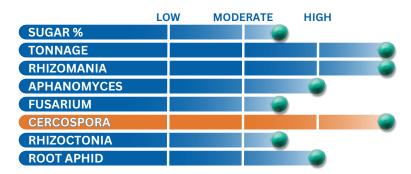
· New Pending Approval

· Balanced variety with excellent sugar per acre



· Good Rhizoctonia and Aphanomyces tolerance

· Multisource rhizomania tolerance









Contact your ACH Seeds Crystal brand sales representative to discuss your seed needs today. | ACHSEEDS.COM



JAKE BOERSMA I CENTRAL REGION MANAGER

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Valued Sugarbeet Grower,

As I write this letter, sugarbeet pre-harvest efforts have started. It's an exciting time of year because we begin to learn what type of crop is in the ground. Overall, the Minn-Dak growing region has a quality crop coming with low incidence of disease and Cercospora leaf spot has been held at bay. The combination of sound spray practices, timeliness of fungicide applications and improved genetics has resulted in healthy green leaves to capitalize on fall sunshine.

We look to expand our CR+ offerings in 2024 by adding **D290** to the mix, which brings a strong root rot package and high sugar per acre. Established varieties such as **D973** and **D011** will again be complemented with **D125** (high sugar) and **D166** to supply our customers with good options to help maximize their return on investment. Please take a closer look at our projected 2024 lineup, and we hope the variety charts help you place our products accordingly.

I would encourage you to contact me with any questions or comments you might have for us as we're always looking and striving for ways to better serve our customers and the sugar industry. As always, thank you for entrusting us with your business and many wishes for a great harvest season.

Our 2023 Winner. Congratulations, West Central Area Schools FFA!

WCA FFA is one of six organizations across the country selected to receive \$10,000 from the 2023 Homegrown Giving program. With the donation, WCA plans to expand their agricultural equipment and supplies to enhance the offerings of their current student-run greenhouse.

The produce grown in the greenhouse will be donated to local Grant County food shelves to provide citizens with nutritious food. With the donation from ACH Seeds, WCA plans to purchase tools and equipment to support food processing, storage and handling. The money will also help WCA expand their school's agriculture program curriculum to include education in food science, focusing on both processing and preservation. WCA plans to combine education, food production and processing to create more sustainable and resilient food systems in Grant County.

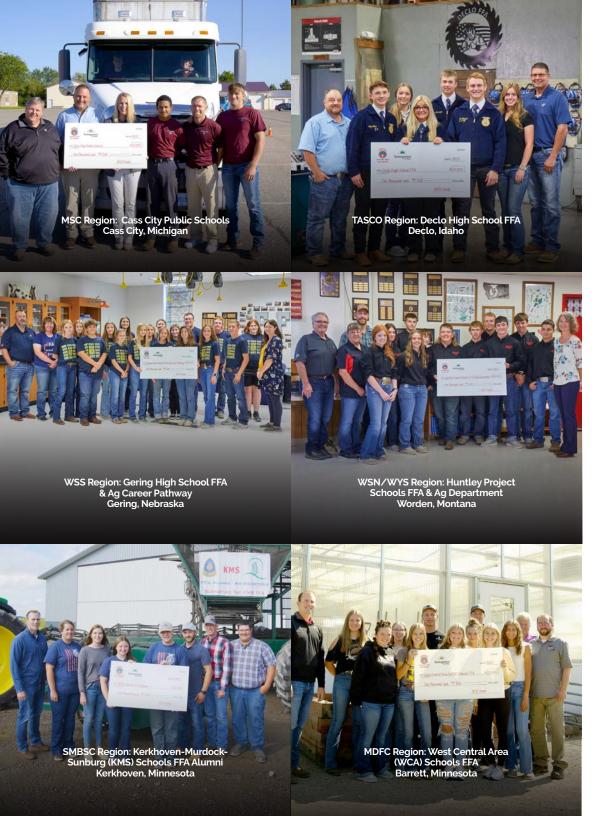




Barrett, Minnesota

- I knew there was a deep root of support that hadn't been tapped before. The Homegrown Giving award is another testament to the support this agricultural community has provided our FFA chapter and ag education program. We are thankful for the opportunity ACH Seeds has provided us."
 - Eric Sawatzke, WCA agriculture education instructor and FFA advisor.
 - We are proud to partner with WCA FFA and support their efforts in the community. Their organization is making real impacts in their community while enhancing the future of agriculture, which is what our Homegrown Giving program is all about."

- Jake Boersma, ACH Seeds Central Region Manager





Congratulations to our 2023 Homegrown Giving Recipients!

VISIT ACHSEEDS.COM TO LEARN MORE.



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