

CORN HYBRID SELECTION FOR LIMITED WATER

Brian Olson, Stephen Hornung, and Mark Reiman
Bayer Crop Science, Gothenburg Water Utilization Learning Center
Gothenburg, Nebraska
Voice: 308-537-4500
Email: Brian.olson@bayer.com

DEKALB® Brand Corn Product Response to Irrigation and Seeding Rate

Trial Overview

- Because corn products have different responses to plant population and water availability, producers should choose the corn products that help maximize their return based on the irrigation availability for each field. Factors to keep in mind are pumping costs versus the overall potential yield.
- Knowing the field production potential and irrigation capabilities can help determine the corn products to plant and the seeding rates for those products. In a fully irrigated environment, in which the amount of water applied meets the evapotranspiration needs of the crop, a higher seeding rate and a longer-season corn product can have a higher yield potential. In a limited irrigation environment, one key is to plant a corn product with high yield potential using lower seeding rates.
- The objective of this study was to determine the yield response of key DEKALB® brand corn products for the region based on seeding rates and irrigation amount.

Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Mingo, KS	Silt loam	Soybean	Strip tillage	5/12/19	10/15/19	250 (FI) 190 (50% of FI)	Variable

- Five DEKALB® brand corn products were planted at 24,000, 32,000, 36,000, 40,000, 44,000, and 50,000 seeds/acre under full irrigation (100% FI). At 50% of FI, the same corn products were planted at 18,000, 28,000, 32,000, 36,000, 40,000, and 48,000 seeds/acre.
- The yield goals for these experiments were 250 bu/acre for the 100% FI and 190 bu/acre for the 50% of FI treatments.
- Each corn product at the selected seeding rate was replicated twice in each irrigation treatment.
- This location was irrigated with a center pivot system with nozzles placed in the crop canopy.
 - 10 inches was applied to the 100% FI treatment
 - 5 inches was applied to the 50% of FI treatment
- 15 inches of rainfall was received at the Mingo, KS site during the growing season.
- This trial was replicated at Bethune, CO but received severe hail damage (100% defoliation at R3) and was not harvested for yield data.

Understanding the Results

Table 1. Average yield (bu/acre) of five DEKALB® brand corn products at varied seeding rates and irrigation levels at Mingo, KS in 2019.

DEKALB® Corn Product	50% of FI			100% FI		
	Seeding Rate (seeds/acre)	Average Yield (bu/acre)	Yield/Thousand Plants (bu/acre)	Seeding Rate (seeds/acre)	Average Yield (bu/acre)	Yield/Thousand Plants (bu/acre)
DKC58-34RIB Brand Blend	18,000	219.6	12.2	24,000	242.5	10.1
DKC58-34RIB Brand Blend	28,000	243.1	8.7	32,000	250.4	7.8
DKC58-34RIB Brand Blend	32,000	223.4	7.0	36,000	242.9	6.7
DKC58-34RIB Brand Blend	36,000	235.0	6.5	40,000	242.3	6.1
DKC58-34RIB Brand Blend	40,000	210.4	5.3	44,000	263.3	6.0
DKC58-34RIB Brand Blend	48,000	235.6	4.9	50,000	220.7	4.4
DKC59-82RIB Brand Blend	18,000	227.0	12.6	24,000	236.9	9.9
DKC59-82RIB Brand Blend	28,000	250.7	9.0	32,000	261.8	8.2
DKC59-82RIB Brand Blend	32,000	248.6	7.8	36,000	251.4	7.0
DKC59-82RIB Brand Blend	36,000	245.8	6.8	40,000	263.4	6.6
DKC59-82RIB Brand Blend	40,000	237.2	5.9	44,000	265.3	6.0
DKC59-82RIB Brand Blend	48,000	236.3	4.9	50,000	252.3	5.0
DKC61-40RIB Brand Blend	18,000	231.8	12.9	24,000	244.9	10.2
DKC61-40RIB Brand Blend	28,000	243.4	8.7	32,000	257.4	8.0
DKC61-40RIB Brand Blend	32,000	246.1	7.7	36,000	272.6	7.6
DKC61-40RIB Brand Blend	36,000	246.7	6.9	40,000	265.3	6.6
DKC61-40RIB Brand Blend	40,000	236.5	5.9	44,000	272.2	6.2
DKC61-40RIB Brand Blend	48,000	256.2	5.3	50,000	249.1	5.0
DKC61-98RIB Brand Blend	18,000	194.5	10.8	24,000	240.9	10.0
DKC61-98RIB Brand Blend	28,000	241.0	8.6	32,000	252.0	7.9
DKC61-98RIB Brand Blend	32,000	251.8	7.9	36,000	244.8	6.8

DKC61-98RIB Brand Blend	36,000	244.4	6.8	40,000	247.8	6.2
DKC61-98RIB Brand Blend	40,000	237.3	5.9	44,000	257.5	5.9
DKC61-98RIB Brand Blend	48,000	221.2	4.6	50,000	251.2	5.0
DKC62-52RIB Brand Blend	18,000	208.4	11.6	24,000	246.5	10.3
DKC62-52RIB Brand Blend	28,000	231.9	8.3	32,000	268.7	8.4
DKC62-52RIB Brand Blend	32,000	244.8	7.7	36,000	256.3	7.1
DKC62-52RIB Brand Blend	36,000	254.7	7.1	40,000	261.3	6.5
DKC62-52RIB Brand Blend	40,000	244.2	6.1	44,000	273.0	6.2
DKC62-52RIB Brand Blend	48,000	238.1	5.0	50,000	218.4	4.4
Average		236.2	7.6	Average	252.4	7.1

- Yield per thousand plants (YPT) was the highest at the lower seeding rates for each irrigation treatment; however, yield was not maximized at these seeding rates. This study shows that keeping the YPT around 7 to 8 bu/thousand plants is more likely to obtain a higher yield for that corn product in a particular-growing environment.
- Averaged across all corn products and seeding rates the extra 5 inches of irrigation applied to the 100% FI treatment yielded an extra 16.2 bu/acre (252.4 bu/acre [100% FI average yield] minus 236.2 bu/acre [50% of FI average yield]).
- Across all products at the 50% of FI rate, the highest yield was achieved at the 36,000 seeds/acre seeding rate (244.8 bu/acre). At the 100% FI rate, the highest yield was observed at the 44,000 seeds/acre seeding rate (265.7 bu/acre).

Key Learnings

- Because the number of farms with limited irrigation has increased due to reductions in pumping capacity or restrictions on the amount of water producers can pump over a certain time frame, it is imperative that Bayer tests corn products under varying irrigation rates to help provide better corn product recommendations by irrigation capacity.

Legal Statements

The information discussed in this report is from a single site, replicated demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields. DEKALB® is a registered trademark of Bayer Group. ©2019 Bayer Group. All rights reserved. 1021_R1

Selecting Channel® Corn Products for High pH Soils

Trial Overview

- Corn products often respond differently to high pH soils with some being susceptible, some semi-tolerant, and others tolerant in how they respond both in terms of yield and visual appearance. Hybrids that are susceptible usually express iron deficiency chlorosis (IDC) with symptoms including yellow leaves, interveinal chlorosis, and stunted growth.
- Key nutrients, including iron, phosphorus, copper, and zinc are tied up in high pH soils.¹ A high soil pH for corn is generally classified as having a soil pH of 7.6 or higher and can be caused from either excess calcium carbonate, excess lime, high soluble salt concentration, and/or high nitrate-nitrogen concentration.² In Western Kansas and Eastern Colorado, excess lime from high calcium carbonate concentrations in the soil parent material is the source of the high pH, which can be found on eroded sidehills and cut areas in fields.
- Better product characterization of response to soil pH allows for better product placement to maximize yield potential.
- The objective of this study was to determine the visual and yield response of corn products to moderate (6.7 to 7.5) and high (7.6+) pH soils.

Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Soil pH Range	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Burlington, CO	Silt loam	Corn	Strip tillage	6.7 to 8.1	10/21/19	230	30K

- For this trial, a total of 75 different commercial and experimental corn products of varying relative maturities (RMs) were each planted in two separate pH blocks in the same field (see Table 3 for the list of all corn products tested in this study). One block has a soil type with a high pH and the other block has a moderate pH:
 - 42 products had RMs ranging from 103- to 107-day and were grouped as 105 RM
 - 33 products had RMs ranging from 108- to 113-day and were grouped as 110 RM
- Eight of these products were Channel® brand blend corn products; only the results of the Channel products are shown in this report.
- A visual color rating of the foliage was taken at the V8 and VT growth stage:
 - very dark green = 2
 - pale-yellow color = 8
- Trial was replicated: 4 replications in the high pH zone and 4 replications in the moderate pH zone at each location.
- Soil pH was determined by grid sampling each trial area at a 1/10th acre density.

Understanding the Results

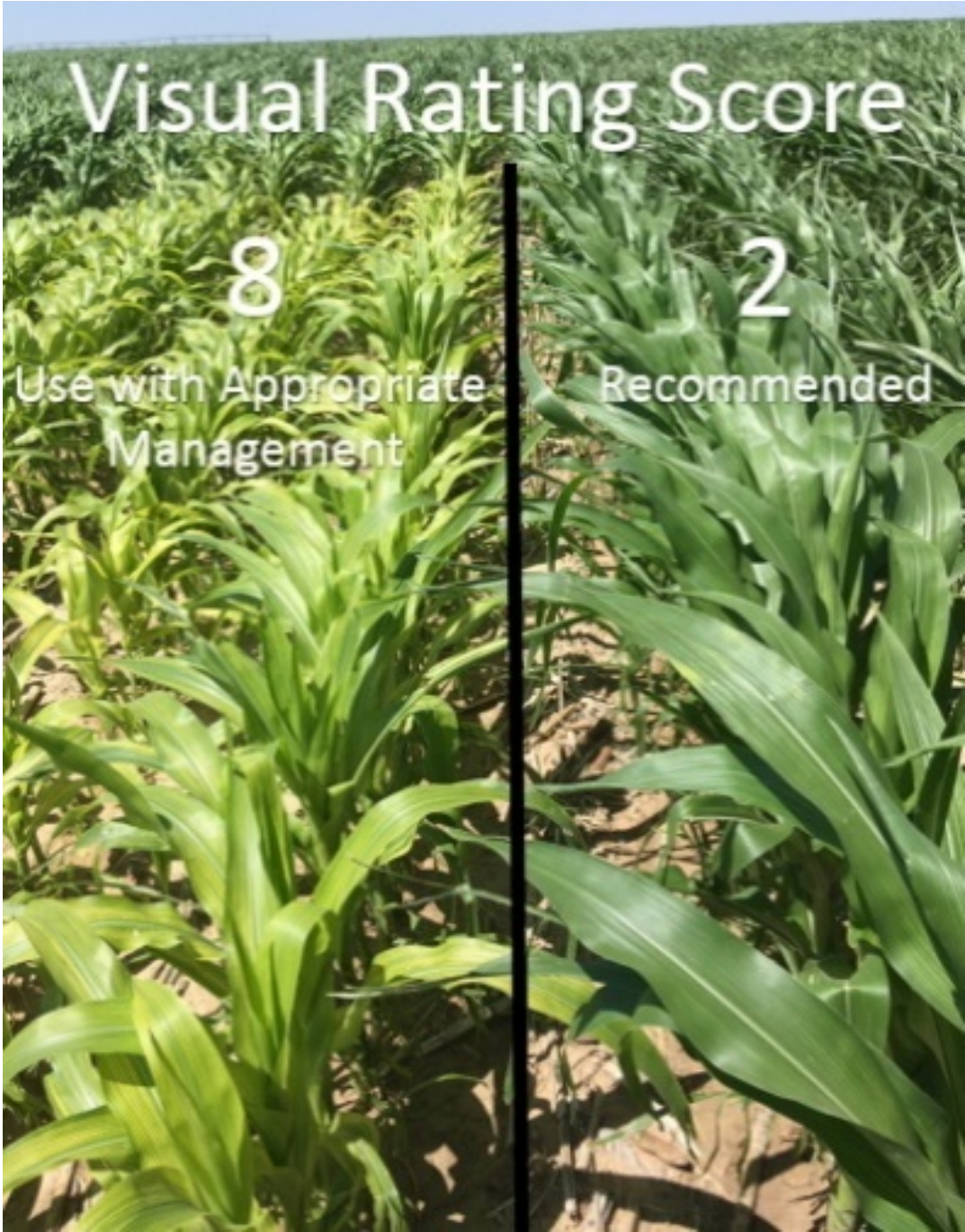


Figure 1. Visual example of an 8 and 2 rating at the V8 growth stage.

Table 1. Corn product recommendations based on appearance ratings at the V8 and VT growth stage for plants grown on high pH soils.			
Channel [®] Corn Product		Visual High pH Rating	
		V8 Growth Stage	VT Growth Stage
204-25STXRIB Brand Blend		5.0	4.7
205-04STXRIB Brand Blend		3.8	3.5
205-63VT2PRIB Brand Blend		4.5	4.5
207-90STXRIB Brand Blend		4.5	4.5
209-15VT2PRIB Brand Blend		4.0	4.5
210-79STXRIB Brand Blend		4.3	4.3
211-44STXRIB Brand Blend		3.3	3.5
212-90STXRIB Brand Blend		5.5	4.0
Average		4.4	4.2
Highly Recommended	Recommended in Most Situations	Caution	Not Recommended

Table 2. Yields of Channel [®] brand blend corn products under high pH and moderate pH soils.		
Channel [®] Brand Blend Corn Product	High pH Block	Moderate pH Block
	Individual Corn Product Average Yield (bu/acre)	Individual Corn Product Average Yield (bu/acre)
105 RM Group		
204-25STX	153	171
205-04STX	169	182
205-63VT2PRIB	182	192
110 RM Group		
207-90STX	153	179
209-15VT2PRIB	182	196
210-79STXRIB	170	189
211-44STX	163	197
212-90STX	166	187

- In this trial year, the lower than expected yields are attributed to cold, wet soils early in the growing season followed by extensive wind and heat during grain fill.
- Across all products tested, the average yield of the 105 RM group was 0.5 bu/acre greater compared to the average yield of the 110 RM group in the high pH block.

- On the neutral pH block, the average yield of the 110 RM group was 8.8 bu/acre greater compared to the average yield of the 105 RM group. In optimal growing conditions, longer RM products generally have greater yield potential.
- Visual estimations during the vegetative stage closely correlated to the yield results.
- Channel® corn products 205-04STXRIB and 211-44STXRIB brand blends had green, plant color at the V8 and VT growth stages and yielded above similar relative maturity products on high pH soils. These products are highly recommended for high pH soils.
- Channel® corn products 205-63VT2PRIB, 209-15VT2PRIB, and 210-79STXRIB brand blends had average plant visual appearance during the growing season but both products yielded above comparable relative maturity hybrids and are highly recommended for high pH soils.
- Channel® corn products 207-90STXRIB and 212-90STXRIB brand blends had less than average visual appearance during the growing season and slightly below yields compared to similar RM hybrids. These products should be used with caution on high pH soils.
- Channel® corn product 204-25STXRIB brand blend had weak visual appearance and below average yields. This product is not recommended for use on high pH soils.

Key Learnings

- The importance of selecting a product able to tolerate high pH soils varies based on soil pH level and the proportion of high pH soil acres in each field.
- High pH soils are typically found in areas with eroded top soil and topography changes, which make it difficult to compare yields between moderate and high pH areas of the field. Producers need to keep this in mind while making yield comparisons on their own farm.
- This trial demonstrates there is a lineup of Channel® brand blend corn products which are adequate for high pH soils.

Table 3. Average yields of all corn products used in this study.

Corn Product	High pH Block			Moderate pH Block		
	Individual Corn Product Average Yield (bu/acre)	High pH Block Average Yield (bu/acre) by RM Group	Yield Difference of Corn Product from the RM Group Average Yield	Individual Corn Product Average Yield (bu/acre)	Moderate pH Block Average Yield (bu/acre) by RM Group	Yield Difference of Corn Product from the RM Group Average Yield
105RM GROUP						
EXP 103 A	171.5	160	11.5	182.4	180.1	2.3
EXP 104 A	103.2	160	-56.8	117.7	180.1	-62.5
204-25STX	153.0	160	-7.0	171.4	180.1	-8.7
EXP 104 C	163.0	160	3.0	191.4	180.1	11.3
EXP 105 A	140.3	160	-19.7	168.4	180.1	-11.7
EXP 105 B	170.4	160	10.4	176.5	180.1	-3.6
EXP 105 C	131.2	160	-28.8	182.0	180.1	1.9
EXP 105 D	147.2	160	-12.8	170.6	180.1	-9.5

EXP 105 E	168.5	160	8.5	190.3	180.1	10.2
EXP 105 F	166.0	160	6.0	190.3	180.1	10.2
EXP 105 G	170.8	160	10.8	195.8	180.1	15.7
EXP 105 H	149.5	160	-10.5	187.6	180.1	7.5
EXP 105 I	170.2	160	10.2	199.1	180.1	19.0
EXP 105 J	154.1	160	-5.9	163.8	180.1	-16.3
EXP 105 K	170.1	160	10.1	191.2	180.1	11.1
EXP 105 L	164.2	160	4.2	195.8	180.1	15.7
EXP 105 M	151.1	160	-8.9	178.9	180.1	-1.3
205-04STX	169.1	160	9.1	182.4	180.1	2.3
205-63VT2PRIB	182.1	160	22.1	192.2	180.1	12.1
EXP 105 P	152.0	160	-8.0	166.9	180.1	-13.2
EXP 106 B	171.0	160	11.0	185.0	180.1	4.9
EXP 106 C	137.4	160	-22.6	165.2	180.1	-14.9
EXP 106 D	162.3	160	2.3	176.4	180.1	-3.7
EXP 106 E	159.9	160	-0.1	163.2	180.1	-16.9
EXP 106 F	164.8	160	4.8	171.6	180.1	-8.5
EXP 106 G	158.8	160	-1.2	185.3	180.1	5.2
EXP 106 H	164.0	160	4.0	189.0	180.1	8.9
EXP 106 I	127.9	160	-32.1	155.2	180.1	-24.9
EXP 106 J	161.3	160	1.3	186.8	180.1	6.7
EXP 106 K	183.8	160	23.8	199.8	180.1	19.7
EXP 106 L	158.3	160	-1.7	174.9	180.1	-5.2
EXP 107 A	133.9	160	-26.1	167.8	180.1	-12.3
EXP 107 B	173.0	160	13.0	194.2	180.1	14.1
EXP 107 C	175.3	160	15.3	188.4	180.1	8.3
EXP 107 D	164.4	160	4.4	187.8	180.1	7.7
EXP 107 E	195.4	160	35.4	178.6	180.1	-1.5
EXP 107 F	161.6	160	1.6	174.5	180.1	-5.6
EXP 107 G	170.4	160	10.4	173.5	180.1	-6.6
EXP 107 H	156.5	160	-3.5	175.4	180.1	-4.7
EXP 107 I	147.9	160	-12.1	177.3	180.1	-2.8
110RM GROUP						
207-90STX	152.5	159.5	-7.0	179.0	188.9	-9.9
EXP 108 A	149.9	159.5	-9.6	195.9	188.9	7.0
EXP 109 A	110.0	159.5	-49.6	157.3	188.9	-31.7
EXP 109 B	152.6	159.5	-6.9	183.3	188.9	-5.6
EXP 109 C	162.5	159.5	3.0	186.3	188.9	-2.6
EXP 109 D	167.2	159.5	7.7	188.7	188.9	-0.3
EXP 109 E	169.8	159.5	10.3	189.8	188.9	0.9
EXP 109 F	161.4	159.5	1.8	184.7	188.9	-4.2
EXP 109 G	161.4	159.5	1.9	185.8	188.9	-3.1

209-15VT2PRIB	181.5	159.5	22.0	195.5	188.9	6.6
EXP 110 A	164.7	159.5	5.2	209.4	188.9	20.5
EXP 110 B	152.4	159.5	-7.1	194.7	188.9	5.8
EXP 110 C	180.3	159.5	20.8	186.1	188.9	-2.9
EXP 110 D	168.7	159.5	9.2	191.6	188.9	2.7
EXP 110 E	160.5	159.5	0.9	175.2	188.9	-13.7
EXP 110 F	181.9	159.5	22.4	203.0	188.9	14.1
EXP 110 G	123.6	159.5	-35.9	187.2	188.9	-1.7
EXP 110 H	176.6	159.5	17.1	195.6	188.9	6.7
EXP 110 I	181.4	159.5	21.9	206.3	188.9	17.4
EXP 110 J	190.5	159.5	31.0	206.4	188.9	17.5
EXP 110 K	173.0	159.5	13.5	203.3	188.9	14.4
EXP 110 L	153.3	159.5	-6.2	192.6	188.9	3.7
EXP 110 M	150.6	159.5	-8.9	177.3	188.9	-11.7
EXP 110 N	125.5	159.5	-34.0	169.2	188.9	-19.8
EXP 110 O	156.1	159.5	-3.4	198.8	188.9	9.8
210-79STXRIB	170.2	159.5	10.7	189.4	188.9	0.5
EXP 110 Q	146.7	159.5	-12.8	182.6	188.9	-6.3
EXP 111 A	169.4	159.5	9.9	174.0	188.9	-14.9
EXP 111 B	158.5	159.5	-1.1	192.8	188.9	3.8
211-44STX	162.7	159.5	3.2	197.4	188.9	8.5
EXP 111 D	142.1	159.5	-17.4	186.7	188.9	-2.3
EXP 111 E	178.7	159.5	19.2	201.4	188.9	12.5
212-90STX	165.7	159.5	6.2	186.6	188.9	-2.3
EXP 113 A	167.3	159.5	7.8	173.1	188.9	-15.8
Note: For each pH block, the average yield of each individual product was compared to the average yield of all the products within the RM group. This allowed us to better identify those products which performed above average on the high pH soil.						

Sources:

¹ National Soil Survey Center. 1998. Soil quality indicators: pH. United States Department of Agriculture Natural Resources Conservation Service.

² Ferguson, R.B. 2006. Nutrient management for agronomic crops in Nebraska. ECo6-155.

LEGAL STATEMENT

The information discussed in this report is from a **single site, replicated** demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto’s Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. B.t. products may not yet be registered in all states. Check with your seed brand representative for the registration status in your state.

IMPORTANT IRM INFORMATION: RIB Complete® corn blend products do not require the planting of a structured refuge **except** in the Cotton-Growing Area where corn earworm is a significant pest. **See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.**

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower’s fields.

Roundup Ready® 2 Technology contains genes that confer tolerance to glyphosate. **Glyphosate** will kill crops that are not tolerant to glyphosate. Herculex® is a registered trademark of Dow AgroSciences LLC. LibertyLink® and the Water Droplet Design® is a trademark of BASF Corporation. Respect the Refuge and Corn Design® and Respect the Refuge® are registered trademarks of National Corn Growers Association. RIB Complete®, Roundup Ready 2 Technology and Design™, Roundup Ready®, SmartStax® and VT Double PRO® are trademarks of Bayer Group. All other trademarks are the property of their respective owners. ©2019 Bayer Group. All rights reserved.
1019_R3

Corn Product Comparison from Different Eras to Water Stress

Trial Overview

- This study highlights the advancements, through breeding and crop technologies, in the ability of corn products to yield in different environments.

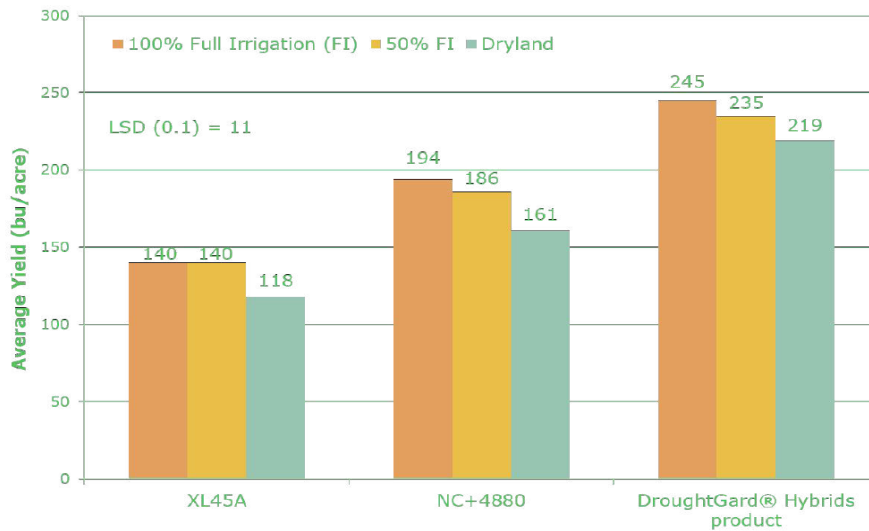
Research Site Details

Location	Soil	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield/Acre	Planting Rate/Acre
Gothenburg, NE	Hord silt loam	Soybean	Strip-tillage	04/26/2016	10/21/2016	260 bu/acre	33,940 seeds/acre

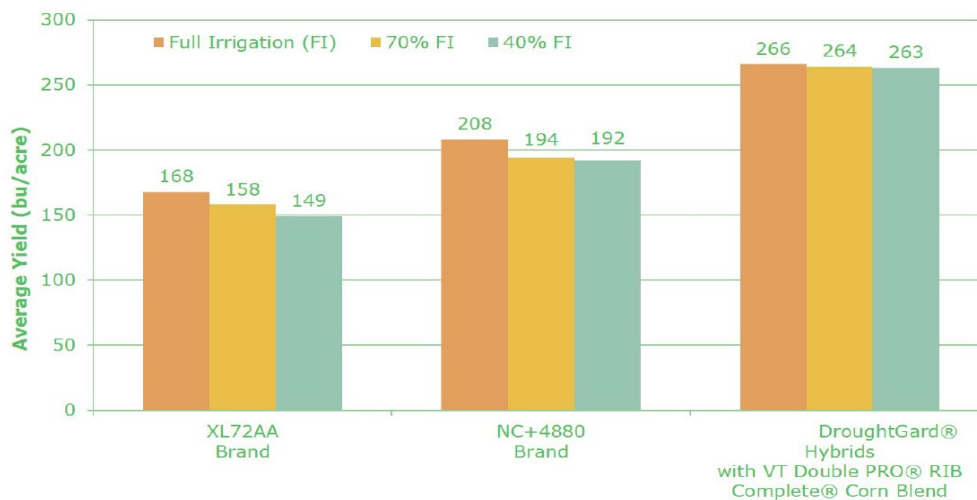
SITE NOTES:

- Three corn products were used in this study:
- A popular corn product from the 1970s, XL45A Brand, 110 relative maturity (RM), small seed, first product sold in an 80,000 seed count bag.
- A popular corn product from the 1990s, NC+ 4880 Brand, 111RM.
- A current product, DroughtGard® Hybrids with VT Double PRO® RIB Complete® Corn Blend product, 112 RM.
- Three irrigation treatments were used: 100% full irrigation (FI) (6 inches applied), 50% FI (3 inches applied), and a dryland control.
- Seasonal rainfall: April 6.7 inches; May 7.7 inches; June 2.65 inches; July 3.61 inches; August 0.69 inches; September 0.61 inches. Total 22 inches.
- Environmental stress during the growing season was low as calculated by the stress units (SSUs) from Smartfield.
- Modern day herbicides were used for weed control, no insecticides or fungicides were applied.
- The study was set up as a randomized split plot design with three replications.

Understanding the Results

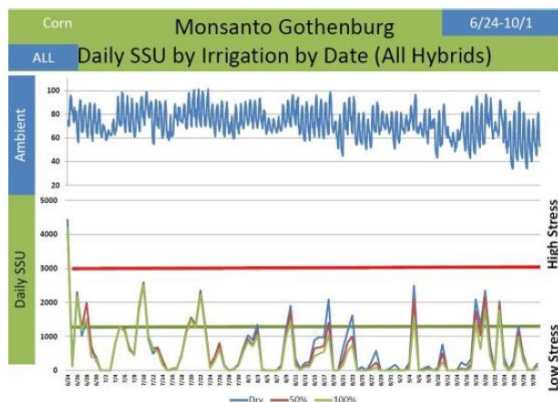


Comparison of Corn Products from Different Eras to Water Stress - 2016



Comparison of Corn Products from Different Eras to Water Stress - 2015

- The DroughtGard® Hybrids with VT Double PRO® RIB Complete® Corn Blend product provided greater yield potential across irrigation environments when compared with the other corn products.
- Comparing products in the dryland versus 50% FI treatments, the DroughtGard® Hybrids with VT Double PRO® RIB Complete® Corn Blend product produced 6% and 9% more grain than NC+4880 Brand and XL45A Brand, respectively.
- Similar results were obtained in 2015.
- The DroughtGard® Hybrids with VT Double PRO® RIB Complete® Corn Blend product had significantly less stalk lodging and barren plants than the other products (data not shown).



Gothenburg Daily SSU by Irrigation by Date



1970s product XL45A Brand at 50% FI



1990s product NC+ 4880 Brand at 50% FI



DroughtGard® Hybrids with VT Double PRO® RIB Complete® Corn Blend product at 50% FI

Key Learnings

- The DroughtGard® Hybrids with VT Double PRO® RIB Complete® Corn Blend product performed well across the different irrigation treatments.
- The value of DroughtGard® Hybrids with VT Double PRO® RIB Complete® Corn Blend products is the ability to perform across a wide range of environments, a consideration for farmers when evaluating corn products for a variable environment.
- Corn breeders and crop technologies help improve drought stress for higher yield potential.

Legal Statement

For additional agronomic information, please contact your local brand representative. Developed in partnership with Technology Development & Agronomy by Monsanto. Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship. B.t. products may not yet be registered in all states. Check with your Monsanto representative for the registration status in your state. IMPORTANT IRM INFORMATION: RIB Complete® corn blend products do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. See the IRM/Grower Guide for additional information. Always read and follow IRM requirements. Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready technology contains genes that confer tolerance to glyphosate, an active ingredient in Roundup® brand agricultural herbicides. Agricultural herbicides containing glyphosate will kill crops that are not tolerant to glyphosate. DroughtGard®, Monsanto and Vine Design®, RIB Complete®, Roundup Ready 2 Technology and Design®, Roundup Ready®, Roundup® and VT Double PRO® are trademarks of Monsanto Technology LLC. ©2016 Monsanto Company. 161102113436 12142016JSC