

2024 National Seed Guide

UNLOCK YOUR FIELDS' POTENTIAL





At Channel, we understand that choosing seed is just one in a series of important decisions you'll make for your farm this year. Because at the end of the day, it's not just products on your mind. It's your family. It's your future. It's about doing what it takes to move the needle forward. And the way we see it, seed brands shouldn't add pressure to your life. We'll work hard to understand your fields and make customized recommendations to help you achieve your goals. No pressure. Because Channel Seedsmen aren't salesmen. They place products to perform. They turn data into insights. And if there's one thing we can all agree on, it's that you're not waiting for the future of farming.

You're defining it now.





Unlock your fields' potential.

You don't only want what's best for your fields — you want what's next. At Channel, we do too. With the **Channel® Field Check Up Series**, your Channel Seedsman walks your fields to deliver data-driven insights and personalized solutions. Using the latest technology, including the Climate FieldView™ platform, Seedsmen evaluate progress, document performance and offer tips to help you maximize yield. This is more than a scouting service — it's a commitment to help you write a new story for your operation.

01

Seedling

Plant forward. Your Seedsman helps provide a strong start using FieldView™ to identify challenges and how you can get ahead of them.

03

Reproductive

Set forth. Using FieldView, your Seedsman monitors overall plant health, evaluates pollination, and monitors kernel development and pod set.



Scan the QR code to learn more about our Channel Field Check Up Series.

02

Vegetative

Your Seedsman partners with you to evaluate nutrient needs as well as insect, weed and disease pressures, documenting progress in FieldView so you can **grow ahead**.

04

Maturity

Your Seedsman performs final yield estimates and helps create a field-by-field harvest schedule. You'll also receive a Custom Crop Report so you can **finish on top**.



Scan the QR code to explore each crucial tool in FieldView.



The Digital Farming Platform That Turns Your Field Data Into Insights

Make Informed Decisions

Quickly create custom region reports and execute test plots.



Gain Valuable Yield Insights

Use your phone, iPad® or tablet to analyze by operation, field or field region, pass, seed, soil type, or treatment on your farm.

Get Detailed Documentation

Log all your machine activity automatically along with application reports that include much of the data necessary for restricted use pesticide documentation, including weather.

Get Knowledgeable Support

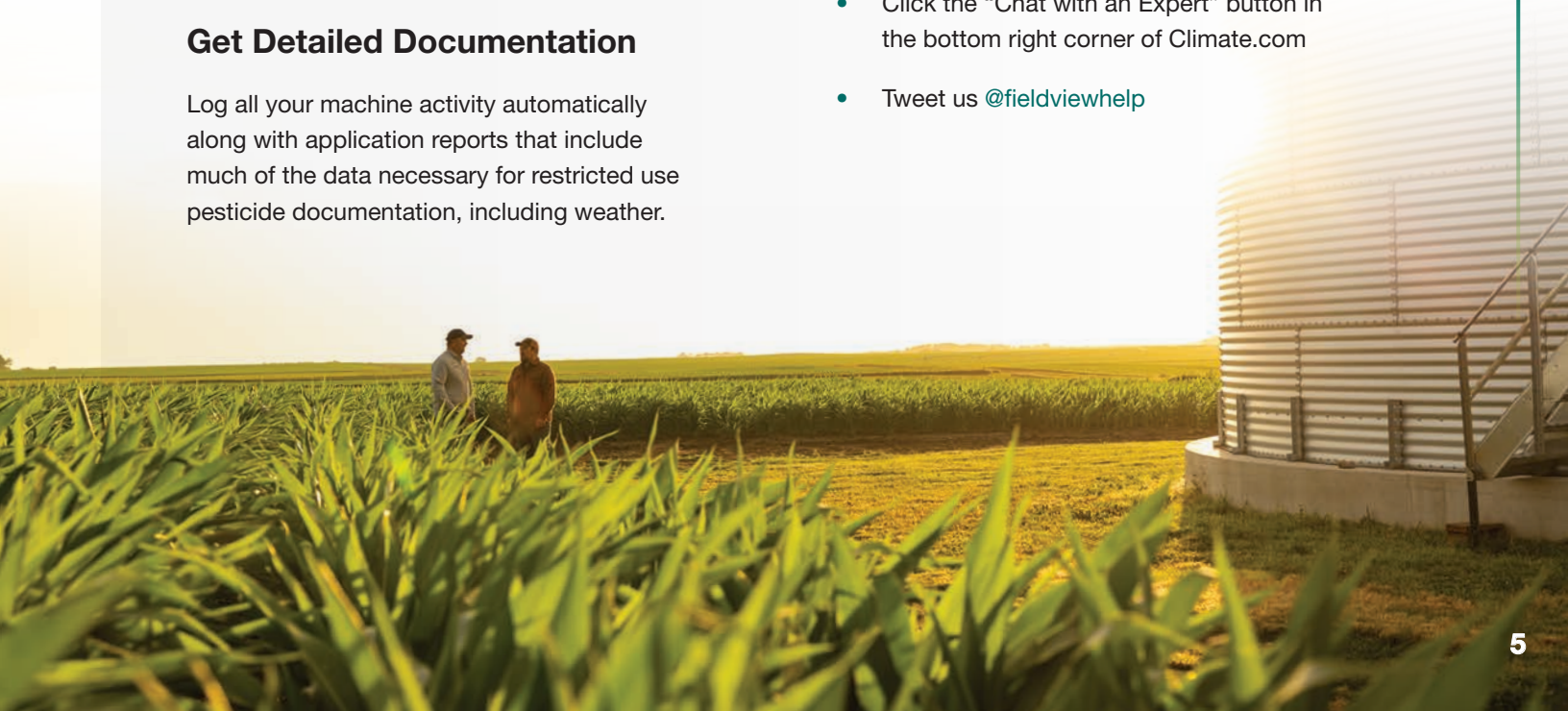
Get support when you need it most.

On the Farm

- Climate activation managers will visit your farm and help you install the FieldView™ Drive and get your operation connected and collecting data.
- Nationwide dealer network.

On Call and Online

- 888.924.7475
- support.climate.com
- Click the “Chat with an Expert” button in the bottom right corner of Climate.com
- Tweet us [@fieldviewhelp](https://twitter.com/fieldviewhelp)





2024

Forage Products



“

I rely very heavily on my Seedsman's expertise on picking products. They're the ones out in those fields, and they see those products over a pretty dense area. They know what products are going to fit on my farm.

”

Michael Bergen • Channel Farmer • Aurora, NE





2024 FORAGE PRODUCTS

Strong nutrition. Sound agronomics.

Fortify performance with quality nutrition backed by sound agronomics. Channel® Fortified Silage products balance fiber digestibility, starch content, yield potential and flexibility to meet the needs of your dairy.



Fortified performance.



01

Fiber Digestibility

Designed for digestibility. Every Fortified Silage product is bred to optimize fiber digestibility. Our commitment to digestibility doesn't stop in the field. From processing to storage, you can count on your Seedsman to keep an eye on digestibility.

02

Starch

It's simple: More starch means more milk. Channel® Fortified Silage products are bred and selected to optimize starch content, so you can fortify performance with the energy your herd needs to thrive.

03

Yield

Bred for performance potential. Whether you're targeting high quality, high tonnage or striking a balance in between, your Seedsman will work with you to understand your operation and offer custom recommendations to achieve your goals.

04

Flexibility

Stand up to hectic harvest schedules. Channel Fortified Silage products offer the stalk strength and standability you need for a more flexible harvest window.



PLAN TO PERFORM

Product selection.

Corn product selection is one of the most important management decisions in silage production. Your Channel Seedsman collaborates with your nutritionist to help you select products that meet the performance goals of your dairy farm. We'll help you plan a portfolio with a flexible harvest window and reduce agronomic risk while maximizing yield and quality. Factors such as herd feed requirements (feed inventory) and harvest timing should be thoroughly considered.

01*

Agronomics

Identify a portfolio of corn with strong agronomic characteristics that are adapted to your farm. Consideration should be given to biotech traits for efficient insect and weed control in addition to drought tolerance and foliar health, such as tolerance to northern corn leaf blight. Corn response to higher populations may be another consideration based on your operation.

02*

Starch

Starch is the single most important contributor to energy content, accounting for 60%-65% of the energy in corn silage. Maturity (moisture at harvest) is critical to optimizing starch yield. The value of starch content and starch availability in corn products designated for silage production is quickly becoming an accepted management practice. Starch percentage is easily determined and varies between products. IVSD-7hr detects differences between silages and monitors changes in starch digestibility due to the fermentation process and storage time.

EXAMPLE: VALUE PER ACRE OF A 1% DIFFERENCE IN STARCH PER TON OF SILAGE

	10 tons/A	15 tons/A	20 tons/A	25 tons/A	30 tons/A	35 tons/A	40 tons/A
\$3/bu	\$15.00	\$22.50	\$30.00	\$37.50	\$45.00	\$52.50	\$60.00
\$4/bu	\$20.00	\$30.00	\$40.00	\$50.00	\$60.00	\$70.00	\$80.00
\$5/bu	\$25.00	\$37.50	\$50.00	\$62.50	\$75.00	\$87.50	\$100.00

Example: At 20 tons/A and \$3/bu, a 2% starch difference would equal a \$60 value per acre ($2 \times \$30 = \60.00). And if one unit of seed plants 2.5 acres, this then equates to a \$150 value per unit of seed ($\$60 \times 2.5 = \150).

To determine total value per unit of seed:

Multiply value per acre (see chart above) by the total percent starch difference, multiplied by the acres planted/unit. This gives you the total value per unit of seed.

$$\text{Value per Acre} \times \text{Total Starch Difference} \times \text{Acres Planted/Unit} = \text{Total Value per Unit of Seed}$$

03*

Yield Potential

Independent research has demonstrated that grain yield is generally an excellent indicator of whole-plant silage yield potential. There can often be a yield difference of 5 to 10 tons per acre between products. This difference can be accurately measured and attributed to genetic differences among corn products used for silage. Grain is highly digestible and can account for up to 50%-75% of the energy in quality corn silage.

*Source: Department of Animal Science, The Pennsylvania State University.


04*

Fiber Digestibility

Corn products chosen for silage should possess low overall fiber levels as measured by neutral detergent fiber (NDF). In addition, these products should demonstrate above-average fiber digestibility as indicated by neutral detergent fiber digestibility (NDFD) and indigestible neutral detergent fiber (uNDF) measurements. Management practices and environmental influences typically have a greater effect on fiber digestibility than germplasm effect.

2024 Featured Corn Silage Products

185-30STXRIB
BRAND BLEND




85

Nice forage yield potential makes this product a solid silage option

- Well adapted west to east in the 85-90 RM zones
- Flowers appropriate for RM, fast drydown for the maturity and very good stay green; avoid high Goss's wilt areas
- Has shown to perform very well in high-yielding environments

192-10STXRIB
BRAND BLEND



92

High yield potential and dual-purpose grain/silage potential

- Adapted west to east in the 90-95 RM zones with good north to south movement
- Good overall disease tolerance package and late-season intactness
- Fast drydown allows for early harvest

193-91STXRIB
BRAND BLEND



93

Dual-purpose grain/silage potential

- Adapted west to east in the 90-95 RM zones
- Excellent eye appeal with very good agronomic package
- Good ear flex; does not require high populations

195-51STXRIB
BRAND BLEND




95

Excellent silage potential with very good fiber digestibility and above-average tonnage potential

- Very good emergence and seedling vigor offer flexibility for early planting
- Agronomically sound product with excellent root strength
- Strong tolerance to anthracnose stalk rot and northern corn leaf blight; consider a fungicide under heavy gray leaf spot pressure

198-99SSPRIB
BRAND BLEND




98

NEW

Silage-specific product with powerful combination of exceptional fiber digestibility and strong tonnage potential

- Tall plant stature and semi-flex ear type
- Has shown very good seedling vigor and demonstrated excellent root strength
- Consider moderate planting densities

201-07SSPRIB
BRAND BLEND



101

Combination of strong fiber digestibility, starch digestibility and tonnage potential provide very good silage performance potential

- Flex ear type has shown to perform well at low to moderate planting densities
- Very good tolerance to northern corn leaf blight, but fungicide application recommended under heavy gray leaf spot and tar spot pressure
- Caution when using growth regulator herbicides

203-01STXRIB
BRAND BLEND




103

Has shown excellent silage quality reflected by above-average starch content, IVSD-7hr, NDFD30hr and milk/ton scores

- Broadly adapted west to east in the 100-105 RM zones
- Excellent stay green and late-season intactness
- Good fit for most yield environments with attractive agronomics to provide flexibility in placement

206-99STXRIB
BRAND BLEND




106

Silage product bred for forage yield and fiber digestibility brings excellent performance potential

- Strong agronomics include good root strength, stalk strength and greensnap tolerance
- Above-average emergence and early growth
- Good overall disease tolerance package for continuous corn on corn

207-27STXRIB
BRAND BLEND




107

Impressive digestibility and starch content partner to provide reliable silage quality potential, complete with a solid disease tolerance package

- Best fit east to west in the 105-110 RM zones
- Medium plant stature with low ear placement; attractive plant type with very good stay green strength
- Plant at medium to medium high populations; stalk strength supports higher density

209-15STXRIB
BRAND BLEND



109

109 RM product with very good fiber digestibility for silage use

- Widely adapted west to east in the 110-115 RM zones; moves south well
- Flowers late but dries down fast
- Proceed with caution using sulfonylurea herbicides

210-98STXRIB

BRAND BLEND



110

Excellent tonnage potential and silage quality

- Broadly adapted west to east in the 110-115 RM zones
- Good choice for corn on corn; excellent disease tolerance package
- Consider moderate planting populations; do not position in areas with high greensnap risk

212-52SSPRIB

BRAND BLEND



112

112 RM product brings solid combination of tonnage and forage quality potential, agronomics, and defensive characteristics for a well-rounded silage offering

- Broad adaptation allows for positioning across yield levels
- Has shown a very good response to high management while showcasing durability under tougher conditions
- A strong disease tolerance package combined with solid emergence allow this product to fit into continuous corn on corn

214-22STXRIB

BRAND BLEND



114

Very good silage tonnage potential partnered with good standability and root strength

- Broadly adapted west to east in the 115 RM zone
- Very good agronomic package and disease tolerance
- Consider medium to medium high planting populations

215-15SSPRIB

BRAND BLEND



115

NEW

Very good silage potential, strong overall disease tolerance and robust agronomic package combine for a well-rounded SmartStax® PRO with RNAi Technology offering

- Very good emergence and seedling vigor offer flexibility for early planting and for positioning in continuous corn on corn
- Semi-determinant ear type has shown to perform well at medium to high planting densities
- Exercise caution using growth regulator herbicides

215-83STXRIB

BRAND BLEND



115

Has shown good yield performance potential with very good drought stress tolerance; dual-purpose grain/silage potential

- Broadly adapted west to east in the 110-115 RM zones
- Very good standability and tolerance to both greensnap and Goss's wilt
- Very good adaptability for most conditions; best potential under nonirrigated corn-on-soybean rotation; good drought tolerance should provide good potential on tougher soils

215-99STXRIB

BRAND BLEND



115

NEW

Silage product showcases impressive tonnage and starch digestibility

- Tall plant stature carries a semi-determinant ear type
- Solid overall disease tolerance package features good tolerance to Goss's wilt and southern rust
- Consider medium to high planting densities

216-82STXRIB

BRAND BLEND



116

Excellent forage yield potential and good starch content in a 116 RM product

- Broadly adapted product with excellent western adaptation including a semi-flex ear type, excellent greensnap tolerance and very good Goss's wilt tolerance
- Good emergence and early vigor make this product a suitable choice for early planting
- Consider a fungicide application under southern rust and gray leaf spot pressure

217-01STXRIB

BRAND BLEND



117

Complete silage package featuring excellent fiber digestibility, starch content and forage yield potential

- Widely adapted west to east in the 110-115 RM zones
- Good response to fertility and management for high-yield targets
- Good ear flex; target low to moderate planting populations; avoid severe stress and wet feet environments

218-55STXRIB

BRAND BLEND



118

118 RM product with excellent western movement features impressive forage yield potential, starch content and starch digestibility

- Above-average greensnap tolerance and strong Goss's wilt tolerance
- Excellent eye appeal throughout the growing season
- Fungicide application recommended under southern rust pressure

220-98STXRIB

BRAND BLEND



120

Excellent silage yield potential with good silage quality

- Widely adapted west to east in the 115-120 RM zones
- Excellent height and canopy structure
- Has performed well under lower plant populations; early harvest recommended if left for grain

CELL WALL DIGESTIBILITY

Cell Wall Digestibility (CWD) is used as a predictor of fiber quality (NDF digestibility) during our breeding process. We have developed a very accurate high-throughput phenotyping platform to assess the stover quality of inbred lines. CWD has been used and proven to enable better product selection by identifying corn products with a high probability of making successful silage products. We do not select against lignin but for lines where the lignin is structured in a way that the cell walls can be digested by microbes. A product with high CWD that delivers high starch content at silage maturity will be highly digestible. The starch will deliver high energy for the animal, and the plant without the ear alone is delivering 40%-50% of the total energy. In addition, high CWD has a positive impact on feed intake because of the increased passage rate through the rumen. Thus, products with high CWD lead to higher milk production from the forage even if the starch content is the same. Through the use of CWD-enabled product selection, Channel is positioned to provide high-quality and high-tonnage products.

	RELATIVE MATURITY	SILAGE YIELD ²	MILK PER ACRE ²	MILK PER TON ²	CWD ¹	% NDF ²	NDFD 30hr ²	uNDF ²⁴⁰	% STARCH ²	IVSD-7hr (4mm) ²	PLANT HEIGHT ³	SEEDLING VIGOR ²	DROUGHT TOLERANCE ²	STAY GREEN ²	GRAY LEAF SPOT ²	NORTHERN CORN LEAF BLIGHT — RACE 1 ²
185-30STXRIB	85	3	3	4	H	4	4	4	4	3	MT	2	5	3	5	4
192-10STXRIB	92	3	3	4	H	5	3	3	4	2	MT	2	2	3	3	-
193-91STXRIB	93	3	3	3	H	3	2	2	3	3	M	2	2	2	5	4
194-49DGV2PRIB	94	1	1	4	L	4	4	4	4	3	M	2	2	3	5	3
195-51STXRIB	95	3	3	3	H	4	2	3	5	4	M	2	3	3	5	4
195-85DGV2PRIB	95	2	2	3	M	4	4	4	4	3	MT	2	2	3	5	5
197-68STXRIB	97	3	2	3	H	4	3	3	4	4	MT	3	3	3	5	5
NEW 198-99SSPRIB	98	1	1	1	H	2	2	1	3	1	T	2	3	-	5	4
199-11STXRIB	99	2	3	3	M	3	2	3	3	4	MT	3	4	4	4	4
NEW 200-23VT2PRIB	100	1	1	1	H	1	2	1	2	1	M	3	3	3	5	5
201-07SSPRIB	101	3	3	3	H	3	3	2	3	2	M	2	3	3	6	3
203-01STXRIB	103	4	3	1	H	1	1	1	2	2	M	2	3	2	5	4
203-83STXRIB	103	2	2	2	H	3	1	1	2	3	M	3	3	2	5	4
206-16SSPRIB	106	3	3	3	H	2	4	3	3	3	MT	3	4	3	3	3
206-99STXRIB	106	3	2	2	H	3	2	3	4	2	M	3	3	2	5	4
207-27STXRIB	107	3	2	1	M	2	2	1	2	2	M	4	3	2	4	3
209-15STXRIB	109	3	3	3	L	3	2	2	3	3	MT	4	2	5	5	3
210-98STXRIB	110	3	3	3	M	5	3	4	5	4	MT	3	2	2	4	3
210-99STXRIB	110	3	2	2	H	2	4	3	3	2	MT	2	2	4	5	4
212-52SSPRIB	112	3	3	3	H	2	3	2	3	3	MT	3	3	2	4	3
213-93STXRIB	113	2	3	3	L	3	4	4	3	4	MT	4	2	4	5	4
214-22STXRIB	114	2	2	3	H	2	3	3	3	4	M	2	2	3	4	3
NEW 215-15SSPRIB	115	3	3	2	H	2	2	2	2	4	MT	2	3	3	4	3
215-83STXRIB	115	2	2	3	H	5	2	3	4	2	MT	1	4	2	5	4
NEW 215-99STXRIB	115	1	2	3	M	4	4	4	4	3	T	2	3	-	5	4
216-82STXRIB	116	2	3	6	M	4	6	6	3	4	T	2	3	2	5	4
217-01STXRIB	117	3	3	2	H	2	2	2	3	2	MT	2	3	3	5	4
217-76STXRIB	117	3	3	4	M	4	3	4	4	4	M	2	4	2	5	3
218-55STXRIB	118	3	4	4	M	5	4	5	3	3	MT	2	3	2	5	4
219-77STXRIB	119	3	3	3	H	5	4	4	5	3	MT	4	4	3	4	3
220-98STXRIB	120	3	4	6	H	6	4	5	4	3	T	4	3	1	5	3
220-98VT2PRIB	120	3	4	6	H	6	4	5	4	3	T	4	3	1	5	3

Key

Traits

- STX = SMARTSTAX® CORN
- SSPRIB = SMARTSTAX® PRO RIB COMPLETE® CORN BLEND
- STXRIB = SMARTSTAX® RIB COMPLETE® CORN BLEND
- DGV2PRIB = DROUGHTGARD® HYBRIDS WITH VT DOUBLE PRO® RIB COMPLETE® CORN BLEND
- VT2PRIB = VT DOUBLE PRO® RIB COMPLETE® CORN BLEND
- TRERIB = TRECEPTA® RIB COMPLETE® CORN BLEND

¹ CWD

- H = HIGH
- M = MEDIUM
- L = LOW

² Rating System

- 1 = EXCELLENT, 9 = POOR,
- = AGRONOMIC DATA IS INSUFFICIENT TO MAKE RATINGS AT THIS TIME

³ Plant Height

- S = SHORT, MS = MEDIUM-SHORT, M = MEDIUM, MT = MEDIUM-TALL, T = TALL

Note: Field and weather conditions may vary from area to area. The ratings in the charts are to be used as guidelines only. The limitations of warranty and liability on each bag of seed are part of the terms of sale thereof. **Source:** Dairyland Laboratories, using Milk 2006 model.



Harvest and Feed Management

Your Channel Seedsman is with you every step of the way, helping you maximize the opportunity for forage quality and production efficiency with best practices for harvest and feed management.

01*

Pre-Harvest Prep

Identify a portfolio of corn with strong agronomic characteristics that are adapted to your farm. Consideration should be given to biotech traits for efficient insect and weed control and to agronomic characteristics like drought tolerance and disease tolerances, such as tolerance to northern corn leaf blight. Corn response to higher populations may be another consideration based on your operation.

02*

Assess Moisture Content

Corn silage is ready for harvest when the whole-plant moisture reaches 55%-68% depending on the storage structure.

SUGGESTED CORN SILAGE MOISTURE CONTENT LEVELS BASED ON SILO STRUCTURE

Bunker/pile	63% to 70%
Stave/bags	63% to 68%
Oxygen-free 50% to 60%	50% to 60%

Source: From Harvest to Feed: Understanding Silage Management 2004.

03*

Determine Chop Length

For optimal fermentation, corn silage should be chopped at a length appropriate to your storage structure. Chop length is also contingent on the rest of the ingredients in total mixed ration (TMR). The Penn State Particle Separator can be used to evaluate particle length:

1. Empty a 3-pint sample into the separator
2. Shake the separator 40 times with enough strength to move the sample across the screens
3. Midway through, check the top screen for clumping and break up if present
4. Weigh the content remaining in each individual screen
5. Divide the total weight by the tray weights to determine the distribution

RECOMMENDED CORN SILAGE PARTICLE SIZE DISTRIBUTION

Screen	Particle Size (inches)	Corn Silage % (processed and unprocessed)
Upper sieve	>0.75	3-8
Middle sieve	0.31-0.75	45-65
Lower sieve	0.07-0.31	30-40
Bottom pan	<0.07	<5

Source: From Harvest to Feed: Understanding Silage Management 2004.

04*

Processing

Processing can optimize forage quality and enhance storage ability. For conventional corn silage, roller clearance should be set at 1 to 3 millimeters, following the manufacturer's recommendations. Ninety to 95 percent of kernels should be crushed or cracked, and cob pieces should be no bigger than 1/8 of an inch.

05*

Storage

Proper storage can optimize forage quality. Storage facilities should be filled quickly to achieve optimal silage density. Crop maturity, moisture content, particle length, silo type and filling method, distribution, and compaction should all be considered. In vertical silos, bulk density should be close to 20 pounds per cubic foot (lb/ft³).

06*

Optimal Packing Processes

Horizontal silos and piles should be filled with continuous packing to achieve a bulk density <45 lbs/cu. ft. (as fed). Matching delivery rate to packing weight, thin layers and increased tire air pressure can aid the process. Safety is a top priority, so be sure to consider edges, sidewalls, reach of feedout equipment and slope. The run to rise ratio of the ramp should be 3:1 (minimum) with a 6:1 ratio on the top. Seal rapidly and tightly as exposure to air early in the fermentation process delays the drop in pH and prolongs the time needed to help achieve stable silage.

*Source: Joe Lawrence, Dairy Forage Systems Management, Cornell University College of Agriculture and Life Sciences.

FERMENTATION PROFILE

Corn silage	pH 3.5 to 4.5
Lactic acid	70% of total acid produced (3%-8% on a DM basis)
Acetic	1% to 4% DM
Propionic	<0.50%
Butyric	0%


Additives can aid in fermentation. Microbial inoculants have been shown to aid fermentation under certain conditions. Consult your local expert for that recommendation.

Monitor Quality With Routine Forage Testing

Routine testing to analyze the nutritional quality of your corn silage can help you better understand feed efficiency. Corn silage analyses from Dairy One Forage Lab over the last 17 years are shown below.

CORN SILAGE ANALYSIS: HOW DOES YOUR OPERATION COMPARE?

Nutrient	No. of Samples	Average	Range	Standard Deviation	Your Sample 1	Your Sample 2
Dry matter, %	273,697	33.69	24.42-42.97	9.27		
Crude protein, %	269,727	8.27	7.21-9.32	1.06		
NDF, %	272,529	43.63	37.70-49.57	5.93		
NDFD, 30-hr. (% NDF)	62,373	52.46	46.37-58.56	6.10		
Starch, %	231,752	31.8	24.34-39.28	7.47		
Starch dig, 7-hr. (% starch)	34,803	70.38	45.12-95.63	25.26		



Nutrition and Feed Management

The support you get from your Channel Seedsman doesn't end after harvest. Your Seedsman can help you monitor the quality of your silage and improve feed efficiency so you can get the most value from your total mixed ration.

01*

Feed and Herd Management

Researchers have established benchmarks for dry matter intake efficiencies. These benchmarks can be met with good management and appropriate product selection. This includes providing good forage quality, maintaining adequate inventory to keep rations consistent, cow comfort, and high-quality grains and byproducts. Ultimately, the best information is within the dairy, knowing where the herd has been and where it is trying to get to. This requires good record keeping and monitoring. Use the worksheet below to see how your herd compares to national averages.

HERD METRICS: HOW DOES YOUR HERD COMPARE?			
Metric	Recommended Benchmark Range	Your Sample 1	Your Sample 2
Forage NDF intake as a % of body weight	≥0.9%		
uNDF240 intake as a % of body weight*	0.3-0.4		
Forage as a % of diet	≥60%		
Homegrown feeds as a % of diet	≥60%		
Ration P as a % of requirement	<110%		
Diet crude protein	<16.5%		
Milk urea nitrogen (MUN)	8-12 mg/dl		
Cows dead or culled less than 60 DIM/year	<8%		
Lbs. components per cow per day	≥6 lbs.		

Source: Larry Chase, Dave Balbian
*Miner Institute, added in 2022

02*

Processing

With proper processing, you can optimize the amount of starch available to the cow for performance and production. There are two tests available that can help determine how well the ration is working:

- Fecal starch: Ideal is <3% and acceptable is <5% on a dry matter basis
- Corn silage processing score: Ideal is >70% of starch passing a 4.75 mm screen

03*

Total Mixed Ration (TMR) Analysis

When production or components are not what is expected, analyzing the TMR and comparing it to the formulated ration can identify problems in mixing or feedout. In addition to the nutrient levels, particle size can also determine if sorting is a problem.

RECOMMENDED TMR PARTICLE SIZE DISTRIBUTION

Screen	Particle Size (inches)	TMR %
Upper sieve	>0.75	2-8
Middle sieve	0.31-0.75	30-50
Lower sieve	0.07-0.31	30-50
Bottom sieve	<0.07	<20

*Source: Department of Animal Science, The Pennsylvania State University.



Controlling Feed Costs

Your financial performance depends on a number of variables. You can count on your Channel Seedsman to help you control feed costs so you can get the most from your corn silage investment.

Cost of Production Considerations

From feed to labor, a variety of factors influence your cost of production. Factors to consider include:

Annual milk pounds shipped

- **Annual cow flow**
- **Matching revenues to cost**
Such as sizing hired labor and overhead for the amount of income generated
- **Balance of the dairy enterprise**
Including land base, maintaining herd size for facility and percent of home-raised feeds

Break-even cost of production

- Where are the majority of costs?
- Are you maximizing home-raised feeds — quantity and quality — while controlling costs?
- Are asset investments — including land and building equipment — within reason for production level?

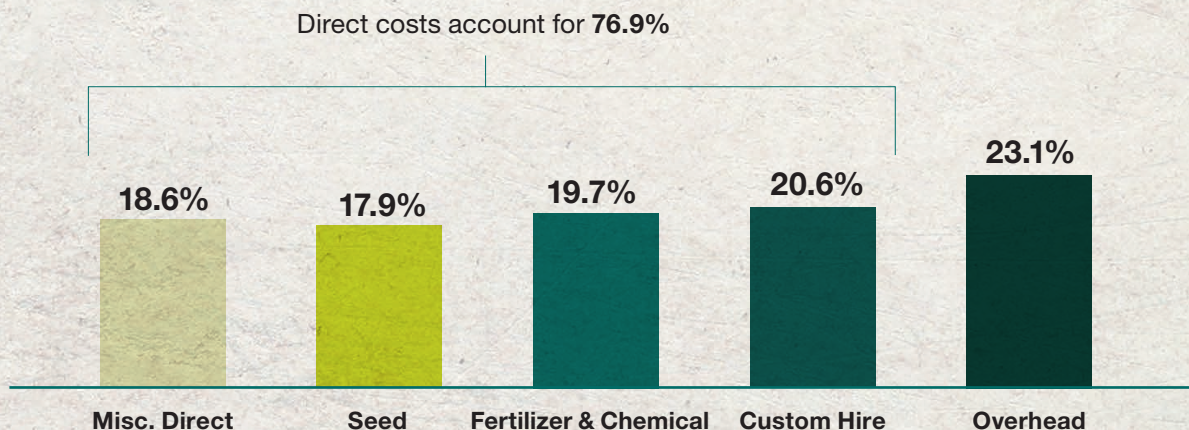
Relationship of feed cost to break-even costs

- Increasing home-raised quantity and quality

Role of inventory management

- Higher tonnage to limit forage changes

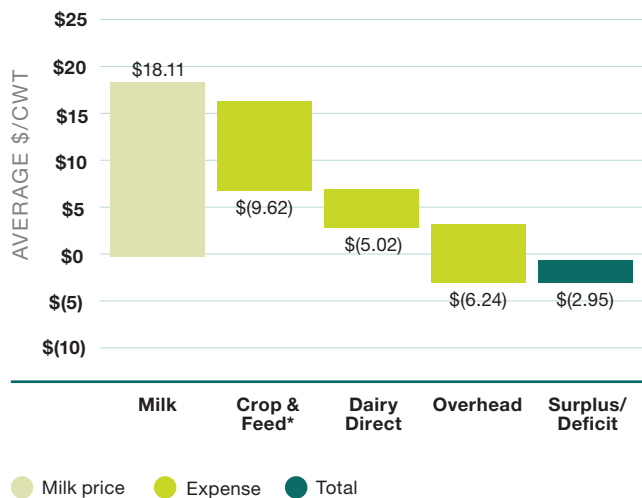
PERCENT OF AVERAGE 2018-2020 CORN SILAGE COSTS: \$31.97/T¹



¹Ishler, V., R. Goodling, and T. Beck, 2021. 65 Pennsylvania Dairy Enterprises participating in Penn State Extension's FINBIN Project. FINBIN (2021). Center for Farm Financial Management: University of Minnesota. Retrieved from <http://finbin.umn.edu> (originally created January 27, 2022).

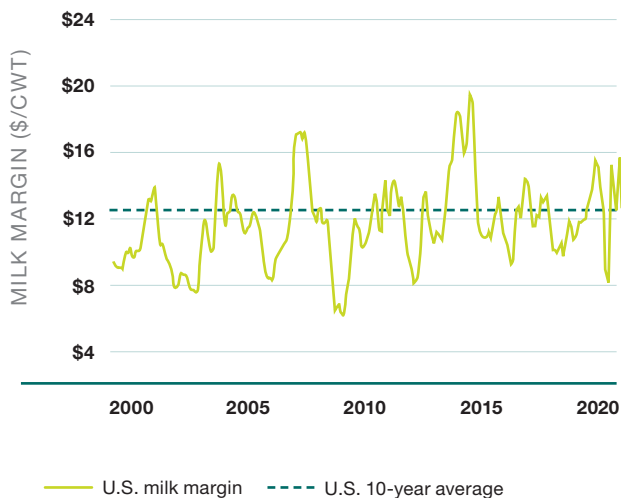
2018-2020 DAIRY ENTERPRISE ANALYSIS¹

(64-FARM AVERAGE)



U.S. MILK MARGIN²

(21-YEAR U.S. MILK MARGIN)



CALCULATE YOUR MILK MARGIN AND INCOME OVER FEED COST (IOFC)

		PA 5-Yr. Avg.	NY 5-Yr. Avg.	Your Herd Sample 1	Your Herd Sample 2
A.	Gross Milk Price ³ (\$/cwt)	\$18.40	\$18.10		
B.	Milk Production ^{3,4} (lbs/milk cow/day)	65.9	76.3		
C.	Milk Cow Feed Cost ^{3,5} (\$/cow/day)	\$5.29	\$5.13		
D.	Feed Cost ⁶ (\$/cwt) A-D	\$8.02	\$6.72		
E.	Milk Margin ⁶ (\$/cwt) A-D	\$10.37	\$11.37		
F.	IOFC ⁶ (\$/cow/day) (B*[A÷100])-C	\$6.84	\$8.68		

¹ Ishler, V., R. Goodling, and T. Beck, 2021. 65 Pennsylvania Dairy Enterprises participating in Penn State Extension's FINBIN Project. FINBIN (2020). Center for Farm Financial Management: University of Minnesota. Retrieved from <http://finbin.umn.edu> (originally created January 27, 2022).

² Goodling, R., T. Beck and V. Ishler. Know your numbers. Funding provided by USDA-RMA. Accessed 2/4/2022.

³ Five-year average of monthly prices and production, 2017-2021.

⁴ Estimated from NASS monthly milk cows (all) and milk production assuming an average 87% in milk from DRMS Dairy Metrics (USDA, 2021; DRMS, 2020).

⁵ Based on corn, alfalfa hay and soybean meal equivalents to produce 75 lbs of milk (Bailey & Ishler, 2007).

⁶ Calculated from the five-year averages for milk price, milk production and feed cost.

* U.S. feed cost based on U.S. alfalfa hay, U.S. corn grain, and average of Decatur, Illinois, Rail and Truck Soybean Meal, High Protein prices, National Feedstuffs (USDA Ag Marketing Services, 2021). For the current dairy outlook, visit www.extension.psu.edu/dairy and search for "Dairy Outlook."

2024 Featured Grain Sorghum Products

5B29
BRAND

Early

Excellent sugarcane aphid tolerance in an early hybrid

- Familiar 5B27-type plant
- Excellent pre-flower stress tolerance
- Well adapted to short-season areas and for late plant and double crop applications

5C42
BRAND

Early

Very good sugarcane aphid tolerance

- Unique new early maturity genetics with excellent pre- and post-flower stress tolerance
- Outstanding yield potential for early maturity hybrid, even under stressful environments
- Excellent disease resistance package with very good tolerance to charcoal rot, head smut and fusarium head blight

5B70
BRAND

Medium-Early

NEW

Stable performance across higher-stressed growing conditions to favorable dryland environments

- Excellent field appearance and low frequency of height mutations
- Semi-open panicle architecture
- Very good pre-flowering stress tolerance

5B90
BRAND

Medium-Early

Stable yield potential even under stressed conditions

- Adapted for shorter growing season areas of the West
- Good for most planting dates, row widths and double crop
- Good head exertion and threshability make harvesting easier

5C76
BRAND

Medium-Early

Cream-colored grain with tan plant pigmentation offers the potential for food-grade markets

- Very good resistance to both root and stalk lodging

5R45
BRAND

Medium-Early

Excellent sugarcane aphid tolerance

- Excellent pre- and post-flower stress tolerance
- Exceptional disease resistance package with resistance to charcoal rot, head smut and fusarium head blight

6B02
BRAND

Medium-Early

Broadly adapted hybrid with sugarcane aphid tolerance

- Broadly adapted across most growing regions, especially in higher-stressed environments
- Very good yield potential
- Combines a very good pre- and post-flower stress tolerance package in one product

6B55
BRAND

Medium-Early

Short stature for the maturity

- Excellent standability
- Very good yield potential across both irrigated and dryland environments
- Exceptional disease resistance package with resistance to charcoal rot, head smut and fusarium head blight

6B60
BRAND

Medium-Early

Medium-early maturity with broad-acre adaptation

- Very good pre- and post-flowering stress tolerance
- Outstanding top-end yield potential
- Excellent stay green and standability

6R65
BRAND

Medium-Early

NEW

Excellent yield potential for maturity

- Excellent field appearance and exceptional grain color
- Performs well in both moderately stressed dryland growing conditions to higher-yielding environments

6B95

BRAND

Medium

Top-end yield potential

- A medium maturity hybrid that is adapted to favorable dryland and irrigated acres

7R10

BRAND

Medium

NEW

Excellent performance in high-yield environments

- Outstanding field appearance and grain color
- Very good head exertion for easy harvest
- Excellent root strength

7B65

BRAND

Medium

Excellent sugarcane aphid tolerance

- Very good yield potential for maturity
- Excellent threshability



	MATURITY GROUP	DAYS TO FLOWER	GRAIN COLOR	YIELD TO MATURITY	NONIRRIGATED	IRRIGATED	SEEDS PER POUND (000)	SEEDLING VIGOR	DRILL CULTURE	TOTAL PLANT HEIGHT (IN.)	ROOT LODGING	PRE-FLOWER STRESS TOLERANCE	STABILITY	THRESHABILITY	HEAD EXERTION	HEAD TYPE	HEIGHT UNIFORMITY	DRYDOWN	TEST WEIGHT	POST-FREEZE STALK QUALITY	HEAD SMUT RESISTANCE	FUSARIUM	SUGARCANE APHID TOLERANCE	
	5B29	EARLY	57	B	2	1	4	14.5-16.5	2	2	35-45	2	1	2	4	3	SO	2	2	5	1	-	7	2
	5C42	EARLY	59	C	1	2	3	14.8-16.8	3	2	42-52	2	1	2	3	2	I	2	2	3	3	-	3	3
NEW	5B70	MEDIUM-EARLY	61	B	2	2	2	12.5-14.5	-	3	44-54	2	2	3	3	2	I	3	3	3	3	3	5	2
	5B90	MEDIUM-EARLY	61	B	1	1	2	13-15	2	2	43-53	2	2	3	2	2	SC	3	3	3	3	5	4	7
	5C76	MEDIUM-EARLY	61	C	2	3	2	16-18	3	3	44-54	2	2	3	3	4	SC	3	2	4	2	-	4	7
	5R45	MEDIUM-EARLY	61	R	1	1	3	14-16	3	1	41-51	2	2	1	3	3	SO	1	2	2	1	1	3	2
	6B02	MEDIUM-EARLY	61	B	2	2	3	13-15	3	3	45-55	3	2	4	3	2	SO	2	3	2	4	2	6	2
	6B55	MEDIUM-EARLY	64	B	2	1	2	13.8-15.8	2	1	39-49	1	3	1	1	4	SC	1	2	2	1	1	2	7
	6B60	MEDIUM-EARLY	65	B	1	2	1	14.5-16.5	2	4	48-58	1	3	4	3	2	SC	2	3	3	2	3	2	7
NEW	6R65	MEDIUM-EARLY	65	R	2	2	1	13.8-15.8	-	3	43-53	2	3	4	1	3	SC	2	3	2	3	4	2	2
	6B95	MEDIUM	67	B	1	2	1	12.5-14.5	2	4	48-58	1	3	2	4	3	SC	2	3	3	2	3	2	7
NEW	7R10	MEDIUM	67	R	2	2	1	14.4-16.4	-	4	48-58	2	4	4	2	2	SC	3	3	3	3	4	2	2
	7B65	MEDIUM	69	B	2	3	2	12-14	2	2	39-49	2	4	3	2	4	SC	2	3	2	2	5	2	2

Notes

Key

Rating Scale

- 1-2 = EXCELLENT
- 3-4 = VERY GOOD
- 5-6 = GOOD
- 7-8 = FAIR
- 9 = POOR
- = CURRENT DATA NOT AVAILABLE

Grain Color

- B = BRONZE
- R = RED
- C = CREAM

Head Type

- SO = SEMI-OPEN
- I = INTERMEDIATE
- SC = SEMI-CLOSED

Days to Half-Bloom

DAYS ARE APPROXIMATE. INDIVIDUAL MATURITIES MAY VARY DUE TO SORGHUM GROWTH CHARACTERISTICS, PLANTING DATES, ELEVATION AND OTHER ENVIRONMENTAL CONDITIONS.

Notes

PRODUCTS PLACED TO PERFORM

PLACED TO PERFORM

2024 Featured Forage Sorghum and Sorghum Sudangrass Products

BMR45S

BRAND

Medium

Excellent forage with higher digestibility and lower lignin

- Recommended for hay, haylage, green chop and grazing
- Responds well to summer forage management
- Early vigor and fast regrowth enhance multiple cuttings
- BMR sterile sorgo/sudangrass

SWEETLEAF II

BRAND

Medium

A versatile, dependable and highly palatable summer forage

- Best use for hay, haylage, green chop and grazing
- Moderate planting rates with smaller seed size and tillering
- Fast early growth makes it ready for grazing in six weeks
- Sorgo/sudangrass

NUTRI-CANE II

BRAND

Medium

Extra sweetness with high sugar content in stalks and leaves

- Ideal for grazing, hay, haylage, bundle feed and fall pasture
- Works well in most soils under irrigation or dryland conditions
- Fast emergence and growth with an early maturity
- Sorgo x sorgo forage sorghum (sterile)

NUTRI-CHOICE II

BRAND

Medium-Full

Top-end yield potential in a high-quality, high-tonnage silage

- Adapted over a wide area primarily for silage
- Recommended in 30-inch rows and wider
- Excellent standability makes harvesting easier



**CHANNEL[®]
SORGHUM BRANDS**

	MATURITY GROUP	YIELD TO MATURITY	UNDER IRRIGATION	SILAGE	HAY	GREEN CHOP	PASTURE	STANDABILITY	REGROWTH	PLANT HEIGHT	MALE STERILITY
BMR45S	MEDIUM	2	2	-	2	1	1	-	2	7-9	S
SWEETLEAF II	MEDIUM	1	1	-	1	1	1	-	1	-	S
NUTRI-CANE II	MEDIUM	2	2	4	3	-	3	2	4	6-8	S
NUTRI-CHOICE II	MEDIUM-FULL	1	1	1	-	-	1	2	-	6-8	F

Notes

Key

Rating Scale
 1-2 = EXCELLENT
 3-4 = VERY GOOD
 5-6 = GOOD
 7-8 = FAIR
 9 = POOR
 - = CURRENT DATA NOT AVAILABLE

Sterility
 S = STERILE, F = FERTILE, P = PARTIAL
 PRODUCTS MARKED WITH (S) ARE 98% OR HIGHER STERILITY.
 SOME GRAIN DEVELOPMENT CAN OCCUR IN STERILE PRODUCTS WHEN OTHER GRAIN SORGHUM, SORGHUM SUDANGRASS, FORAGE SORGHUM OR "WEEDY" TYPE SORGHUM ARE IN THE AREA TO SERVE AS A POLLEN SOURCE.

Stay Clean - If a farmer experiences less than commercially acceptable performance on labeled weeds within 21 days after the PRE/At Planting application while following all program requirements, Bayer will pay up to \$26/acre or up to \$18/acre pending the herbicide program used when Warrant® or Warrant® Ultra is not included for broadleaf weeds per season per grower, to assist in a follow-up application on the affected acres (only if respray occurs to manage an additional flush of weeds). Stay Clean - If a farmer experiences less than commercially acceptable performance on labeled weeds within 30 days after the post-emergence application while following all program requirements, Bayer will pay up to \$26/acre per season per grower (up to \$18/ acre for broadleaf weeds and grasses pending herbicide program used or up to \$18/A for broadleaf weeds and grasses when a glufosinate herbicide is substituted for a labeled PPO-Inhibiting herbicide to assist in a follow-up application on the affected acres (only if respray occurs to manage an additional flush of weeds). The final decision whether the program on a field is less than commercially acceptable performance shall be at the sole discretion of Bayer.

Bayer is a member of Excellence Through Stewardship® (ETS). Bayer products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Bayer's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Commercialized products have 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.

XtendiMax® herbicide with VaporGrip® Technology is part of the Roundup Ready® Xtend Crop System, is a restricted use pesticide and must be used with VaporGrip® Xtra Agent (or an equivalent volatility reduction adjuvant). For approved tank-mix products (including VRAs and DRAs), nozzles and other important label information visit XtendiMaxApplicationRequirements.com. **VT4PRO™ with RNAi Technology** corn products are expected to be commercially available for the 2024 growing season.

Applicators must check XtendiMaxApplicationRequirements.com no more than 7 days before application of this product for additional labeling, including state restrictions. Where applicable, users must comply with additional requirements found on this website.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. It is a violation of federal and state law to use any pesticide product other than in accordance with its labeling. NOT ALL formulations of dicamba or glyphosate are approved for in-crop use with Roundup Ready 2 Xtend® soybeans. NOT ALL formulations of dicamba, glyphosate or glufosinate are approved for in-crop use with products with XtendFlex® Technology. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USES AND APPROVED FOR SUCH USE IN THE STATE OF APPLICATION. Contact the U.S. EPA and your state pesticide regulatory agency with any questions about the approval status of dicamba herbicide products for in-crop use with products with XtendFlex® Technology.

B.t. products may not yet be registered in all states. Check with your seed brand representative for the registration status in your state.

The **RRXtend Spray App** provides forecasts for locations within the contiguous United States. Do not use this app for forecasts outside the contiguous United States. Forecasts are for planning purposes only and are not a substitute for checking actual weather conditions at your location at the time of application and comply with the product label and other legal requirements.

IMPORTANT IRM INFORMATION: Certain products are sold as RIB Complete® corn blend products, and do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. Products sold without refuge in the bag (non-RIB Complete) require the planting of a structured refuge. **See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.**

Roundup Ready® Technology contains genes that confer tolerance to glyphosate. **Roundup Ready® 2 Technology** contains genes that confer tolerance to glyphosate. **Roundup Ready 2 Xtend® soybeans contain genes that confer tolerance to glyphosate and dicamba. Products with XtendFlex® Technology contains genes that confer tolerance to glyphosate, glufosinate and dicamba. Glyphosate** will kill crops that are not tolerant to glyphosate. Dicamba will kill crops that are not tolerant to dicamba. **Glufosinate** will kill crops that are not tolerant to glufosinate. Contact your seed brand dealer or refer to the Bayer Technology Use Guide for recommended weed control programs.

Contact your Bayer retailer, refer to the Bayer Technology Use Guide, or call the technical support line at 1-844-RRXTEND for recommended Roundup Ready® Xtend Crop System weed control programs.

Insect control technology provided by **Vip3A** is utilized under license from Syngenta Crop Protection AG. XtendiMax® and TriVolt™ are restricted use pesticides. Not all products are registered for use in all states and may be subject to use restrictions. The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local dealer or representative for the product registration status in your state. Channel® and the Arrow Design®, Nutri-Cane® and Seedsmanship At Work® are registered trademarks of Channel Bio, LLC. Herculex® is a registered trademark of Dow AgroSciences LLC. Agrisure Viptera® is a registered trademark of a Syngenta group company. Respect the Refuge and Corn Design® and Respect the Refuge® are registered trademarks of National Corn Growers Association. Acceleron®, Delaro®, DroughtGard®, Nutri-Chomp™, RIB Complete®, Roundup Ready 2 Technology and Design®, Roundup Ready 2 Xtend®, Roundup Ready 2 Yield®, Roundup Ready®, SmartStax®, Trecepta®, TriVolt™, VaporGrip®, Votivo®, VT Double PRO®, VT Triple PRO®, VT4PRO™, XtendFlex® and XtendiMax® are trademarks of Bayer Group. All other trademarks are the property of their respective owners. For additional product information call toll-free 1-866-99-BAYER (1-866-992-2937) or visit our website at www.BayerCropScience.us. Bayer CropScience LP, 800 North Lindbergh Boulevard, St. Louis, MO 63167. ©2023 Bayer Group. All rights reserved.

