



SILAGE

GUIDE

CLASSIFICATION: PUBLIC

2022



C O N T E N T S

AGRONOMIC INFORMATION

- 2 Choosing Your Silage Hybrid
- 4 Approaches to Characterizing Hybrid Quality

NK SILAGE

- 7 Elite NK Silage Portfolio
- 10 NK Silage Hybrids
- 12 Tools to Manage Silage Yield & Quality Components
- 14 Harvest Adjustments

ENOGEN SILAGE BENEFITS

- 16 Enogen Silage Energize Your Operation
- 18 Enogen Silage Portfolio
- 20 Enogen Silage Hybrids



SILAGE THAT WORKS FOR YOUR SUCCESS

Your success starts and ends with NK® and Enogen® hybrids for silage.

From standout digestibility, high tonnage potential and the nutritional quality you demand, we are here to help you realize your herd's true potential. Exhaustive research and development is paired with products that put seed for silage in your hands faster.

You get stronger genetics, revolutionary technologies and an always-on approach to fuel your farm, every day.

**FIELD  FORGED
SERIES™**

The Field Forged Series™ brings together our highest performers to drive your profit potential.

Look for the Field Forged icon on the product pages to see which products are a part of the Field Forged Series.



CHOOSING YOUR SILAGE HYBRID

Relative Maturity (RM)

Planting hybrids up to 10 days longer than an adapted full season grain hybrid can offer potential yield advantages and typically still reach harvest before fall frost risk in most areas. If fields could possibly be used for grain harvest, it may not be possible to increase RM as much. RM selection also needs to take into consideration planting date spreads and capability to harvest fields in a given time.

Root Strength

Hybrid root strength is important to ensure plants are standing well to chop at an efficient speed.

Disease Tolerance

Many silage acres will often be in continuous corn acres, resulting in higher risk of potential disease presence. Hybrid selection should take tolerance to diseases such as Gray Leaf Spot, Northern Corn Leaf Blight and other regionalized diseases such as Tar Spot into consideration. In addition, foliar fungicides applications can also help reduce disease risk in fields.

Test Weight

Test weight is a measure of corn grain bulk density that is sometimes associated with kernel texture. Test weight tends to increase as grain becomes drier. Test weight is loosely related to kernel hardness, which is also known to influence livestock feed to gain ratio in feeder cattle; however, as silage is harvested at a higher moisture content it is not as great of a predictor for silage quality.



Insect Trait Selection

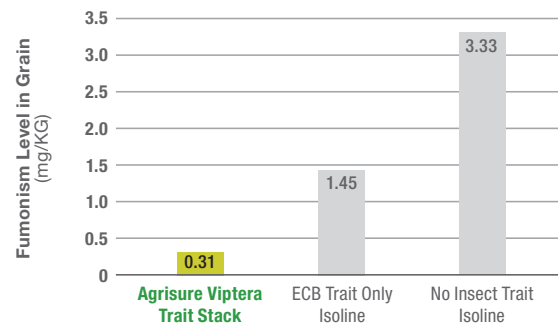
Due to ground limitations and feed needs, silage acres often lack crop rotation. Consecutively planting multiple years of corn greatly increases the risk of insect populations and potential damage from insects. Trait selection should consider potential risk of damage from both above- and below-ground pests as well as disease that can supervene insect damage.

- **Corn rootworm** risk increases with each consecutive year of corn rotations. **Agrisure Duracade**® treated hybrids and/or **Force**® **Brand Insecticide** may help mitigate risk.
- **Ear-feeding insects** such as western bean cutworm and corn earworm can reduce grain and starch in feed rations. The Vip3A protein, offered in **Agrisure Viptera**® treated hybrids, is currently the only protein registered in traits for western bean cutworm protection.
- **Mycotoxins** can occur for a variety of reasons but are often associated with pathogen infection of grain following insect feeding damage. Ear protection with insect traits can indirectly help reduce potential risk of silage mycotoxin contamination.

 **Agrisure Duracade**®

 **Agrisure Viptera**®

MYCOTOXIN REDUCTION WITH AGRISURE VIPTERA TRAIT*



Staygreen

Hybrids with good late season health or “staygreen” are known to better maintain green leaf area for a longer period of time. Staygreen can help widen harvest windows and ensure proper plant moisture to minimize poor silage pit packing and spoilage or mold damage associated with it. Utilizing staygreen for expanding the harvest window should not be heavily relied on as some hybrids will rapidly lose kernel moisture while leaves remain healthy and create a starch-protein matrix that is harder to digest. Kernel processors can help improve starch digestibility once grain moisture starts to drop.

Force, Force Evo, Force CS, Force 3G and Force 6.5G are Restricted Use Pesticides.

*Adapted from Bowers and Munkvold, 2014. Toxins, 6:2804-2825.
Average of 3 years and across the combination of individual insect damage.

APPROACHES TO CHARACTERIZING HYBRID QUALITY

Fiber Digestibility

Due to the relatively large amount of silage being in the form of stover, understanding fiber digestibility is very important where corn silage is the largest portion of feed rations.

The relative fiber digestibility of a hybrid is largely dependent on how much lignin is present in silage. Lignin is the undigestible fiber that has no energy value to animals and helps compose the total fiber content of forage, expressed as neutral detergent fiber (NDF). Corn silage with a low NDF is desirable. Neutral detergent fiber digestibility (NDFd) measures the amount of NDF that can be digested, and larger values are more desirable. Hybrids vary significantly in quality due to fiber content and digestibility.



Starch Digestibility

Increased starch digestibility is known to improve energy availability for dairy cows, thereby improving milk production and/or feed efficiency (Firkins et al., 2001; Ferraretto et al., 2013). Besides hybrid differences, multiple management practices such as harvest timing, kernel processing and length of time in storage, can greatly affect starch digestibility. Short-stature hybrids or raising chopping height can quickly reduce stover to grain ratio resulting in higher starch content as well.

Whole-Plant Digestibility

Total digestible nutrients (TDN) describes the energy content of feed as the sum of the digestibility of different nutrients. TDN is often based off calculations using acid detergent fiber (ADF) which is a low-cost and rapid turnaround method to predict energy content. Significant variations in fiber digestibility often cause inaccuracies in ADF values and TDN values tend to underpredict forage feeding values.



NK CORN HYBRID DESCRIPTION KEY

Hybrid Series: All hybrids within this series were developed from the same base genetics.

NK indicates NK corn.

This two-digit number is the same as the last two digits of relative maturity.

The next two digits have no specific meaning.

Trait versions available in this hybrid series.

Trait stack name

Indicates product is part of the Field Forged Series.

Indicates new series for 2022.

RM: Specific relative maturity for this hybrid series.

NK1661

- NEW NK1661-5222A E-Z REFUGE Brand
- NEW NK1661-3120A E-Z REFUGE Brand

NEW

RM 116

Excellent yield potential across the entire Corn Belt with Agrisure Artesian technology

- Strong disease package and plant health provide crop rotation flexibility
- Dependable stalks and roots allow for population flexibility across all environments
- Performs best on the medium- to fine-soil texture types

RATING SCALE: 9 7 5 3 1 (Best)

EMERGENCE	<div style="width: 100%; height: 10px; background-color: #2e8b57;"></div>
ROOT STRENGTH	<div style="width: 90%; height: 10px; background-color: #2e8b57;"></div>
STALK STRENGTH	<div style="width: 85%; height: 10px; background-color: #2e8b57;"></div>
STAYGREEN	<div style="width: 80%; height: 10px; background-color: #2e8b57;"></div>
DRYDOWN	<div style="width: 60%; height: 10px; background-color: #2e8b57;"></div>
DROUGHT	<div style="width: 50%; height: 10px; background-color: #2e8b57;"></div>

Insect protection, herbicide tolerance and other traits.

Map: Primary (and secondary, where applicable) areas of adaptation for this hybrid series. Areas are suggested; performance may vary.

WHAT'S IN A TRAIT STACK NAME

The technology series is indicated by the first number.

The letter A indicates the hybrid is a water-optimized Agrisure Artesian hybrid.

The E-Z Refuge descriptor indicates that the hybrid is an integrated, single-bag refuge product.

3220A E-Z Refuge Brand

Broad Lepidopteran
Corn Borer
Corn Rootworm

The numerical identifiers represent the number of insect control modes of action. Insect categories are in alphabetical order.

ELITE NK SILAGE PORTFOLIO

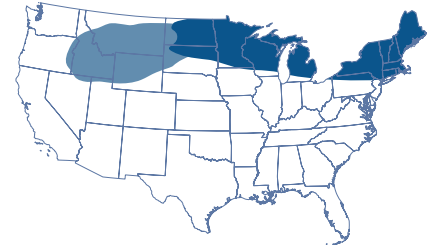
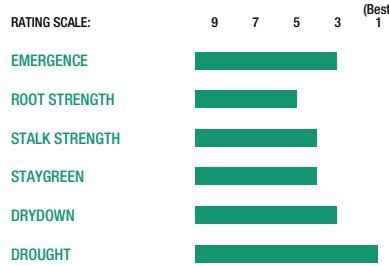
NK9175 • NEW NK9175-5222A E-Z REFUGE Brand



RM 91

Superior grain yield potential, forage yields and high NDF digestibility make this widely adapted hybrid a top dual-purpose corn for dairy producers

- Very high grain content and high NDF digestibility produce silage with high-energy density
- Strong performance at above average populations
- Outstanding drought and cool tolerance in the Northern Corn Belt; adapts well to all tillage systems



Agrisure Duracade

Agrisure Viptera

Agrisure Artesian

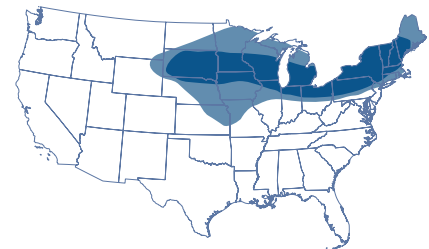
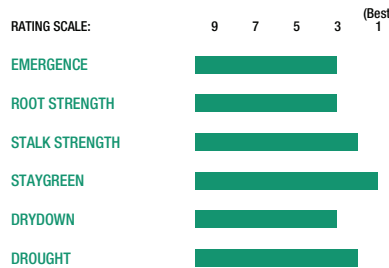
NK0243 • NK0243-5122 E-Z REFUGE Brand
• NK0243-3120 E-Z REFUGE Brand



RM 102

Adaptability to a broad range of soils

- Excellent roots, stalks and late season plant health with excellent staygreen
- Robust plant with wide leaves and a big canopy which responds to higher fertility
- Medium plant with a large flex ear and vitreous starch
- Excellent dual-purpose silage potential and high starch content



AgrisureDuracade



DON'T MISS US ON SOCIAL

@NKSeeds

@NKSeeds

@NKSeeds_US

Follow NK Seeds on your favorite social platforms for the latest product updates, season highlights and more. And while you're there, share your own experiences with NK this season. We would love to hear from you!



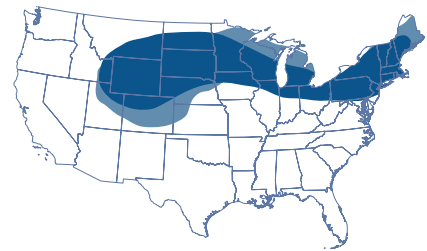
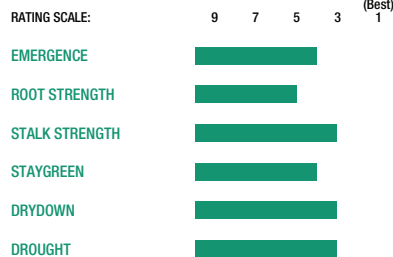
NK0440 • NK0440-3122 E-Z REFUGE Brand



RM 104

Tall, excellent dual-purpose hybrid offers very high yield potential of quality silage with superior drought tolerance

- Semi-flex ear type to handle diverse environments
- High yield potential as a high-moisture or dual-purpose silage hybrid
- Soft kernel texture for increased rumen efficiency and high forage starch potential



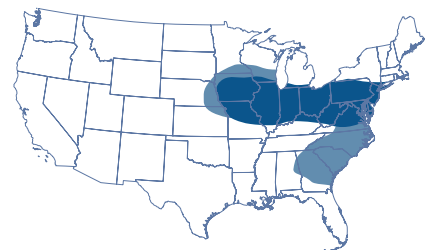
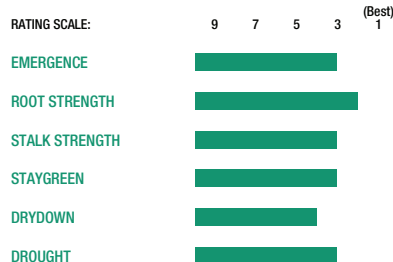
NK1026 • NEW NK1026-5332 E-Z REFUGE Brand • NK1026-3330 E-Z REFUGE Brand



RM 110

Excellent dual-purpose hybrid offers high grain yield potential, forage yields and whole plant digestibility

- Strong northern and eastern movement across higher organic matter soils at variable populations
- Excellent staygreen and disease tolerance for continuous corn acre environments



Agrisure Duracade

Agrisure Viptera

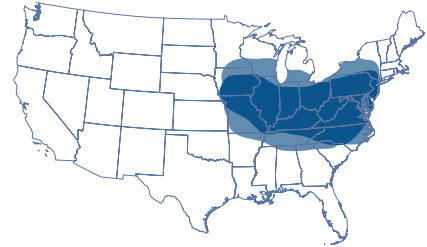
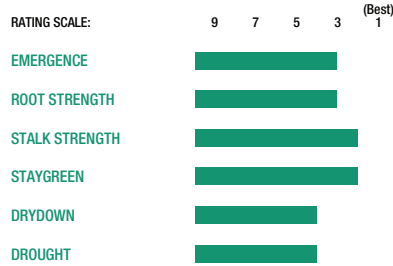
NK1239 • NK1239-5122 E-Z REFUGE Brand



RM 112

Improved plant integrity with better roots and stalks for this maturity

- Strong ability to perform as a dual-purpose silage hybrid at higher management levels in rotated or continuous corn acres across the Central and Eastern Corn Belt
- Tall, leafy, extremely vigorous hybrid for cooler soils and all tillage environments
- High levels of forage starch and silage tonnage combined with strong NDF digestibility for strong, dual-purpose silage



AgrisureDuracade®

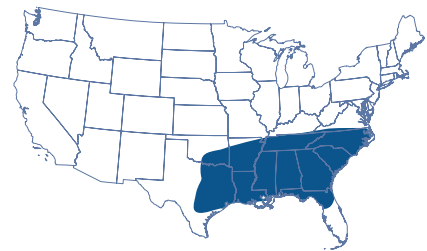
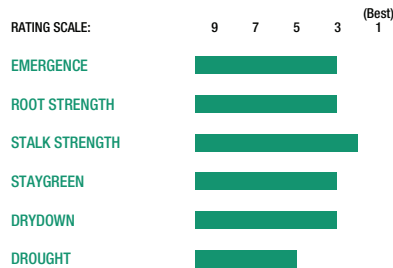
NK1677 • NK1677-3110 Brand



RM 116

High yield potential, dual-purpose silage hybrid that responds to higher management levels across many environments

- Strong stalks and roots for improved plant integrity as a silage hybrid
- Above average levels of forage starch and high yield potential as a dual-purpose grain or silage hybrid
- Tall plant with excellent staygreen ratings which would contribute to high silage yield potential for beef or dairy



AgrisureViptera®



NK SILAGE HYBRIDS¹

PRODUCT	MATURITY	AGRONOMIC CHARACTERISTICS						DISEASE TOLERANCE		AGRONOMIC RESEARCH RATINGS ²												
		Emergence	Root Strength	Drought	Staygreen	Plant Height	Ear Height	Gray Leaf Spot	Goss's Wilt	Yield (Tons/A)	CP (% of DM)	NDF 48 hr (%)	NDFd 48 hr (%)	Starch (% of DM)	Fat (% of DM)	TDN (% of DM)	NEL (Mcal/lb)	Milk (lbs/Ton)	Milk (lbs/A) ³	Beef (lbs/Ton)	Beef (lbs/A)	
NK7837	78	3	4	2	2	4	3	-	4	G	G	B	B	B	-	B	B	B	B	B	B	G
NK8005	80	3	3	1	1	5	4	-	4	G	G	G	G	B	-	G	-	G	G	G	G	G
NK8204	82	3	2	4	4	4	4	-	4	F	F	F	G	F	F	G	F	G	F	G	F	
NK8519	85	3	4	2	3	3	4	-	4	B	G	F	G	F	G	B	-	B	B	B	B	
NK8618	86	3	3	1	3	3	5	-	4	G	F	F	G	G	B	F	F	F	G	F	G	
NK8881	88	3	3	1	4	3	5	-	3	G	G	G	G	B	-	G	-	G	F	G	F	
NK8920	89	2	3	3	2	3	4	-	4	G	G	P	G	F	G	G	F	G	F	G	F	
NEW NK9023	90	2	4	2	3	2	2	-	5	F	G	G	F	G	G	G	G	F	F	G	F	
NK9175	91	3	5	1	4	3	4	-	4	B	F	B	G	B	G	G	B	B	B	B	B	
NK9227	92	2	4	1	3	2	2	-	4	B	B	F	G	G	G	G	G	G	B	G	B	
NK9468	94	3	3	1	3	3	2	-	3	F	B	B	G	B	B	B	B	G	F	B	F	
NK9535	95	3	3	2	2	3	4	4	3	G	F	B	F	B	B	G	G	G	B	G	B	
NK9653	96	2	3	2	3	2	2	3	4	B	G	G	G	F	G	G	G	G	B	G	B	
NK9738	97	2	4	3	3	3	2	4	4	G	G	G	F	G	B	G	G	G	G	G	G	
NK9930	99	3	3	3	4	4	4	3	5	G	B	P	G	F	B	F	G	F	F	F	F	
NK9991	99	3	2	3	2	3	3	2	5	F	G	G	F	G	P	G	G	G	F	G	F	
NK0243	102	3	3	2	1	5	5	3	3	G	G	B	G	G	B	B	B	B	G	B	G	
NEW NK0314	103	3	3	4	3	4	3	5	3	G	G	F	F	P	F	G	G	G	F	F	F	
NK0330	103	4	4	3	5	3	3	4	4	G	G	G	G	B	B	G	G	F	G	G	G	
NK0388	103	3	4	2	3	2	3	4	2	G	F	G	G	B	F	G	G	G	G	G	B	
NK0440	104	4	5	3	4	2	2	4	3	B	F	G	G	G	G	G	G	G	B	G	B	
NK0472	104	2	2	4	3	4	4	4	3	G	G	P	G	F	B	F	F	F	F	F	F	
NK0624	106	3	3	2	4	4	5	5	4	F	G	G	B	G	B	G	G	G	F	G	F	
NK0760	107	3	3	2	4	5	5	3	4	B	G	G	G	G	F	G	G	G	B	B	B	
NK0821	108	2	3	1	5	4	5	4	3	G	G	P	F	F	G	G	F	F	F	F	F	
NEW NK0877	108	3	2	2	4	5	5	5	4	G	G	G	G	G	G	-	G	G	G	G	G	
NK0886	108	3	3	3	5	5	5	3	4	G	B	G	G	B	B	F	G	F	F	F	F	
NK0944	109	4	5	1	4	3	4	5	4	B	G	G	B	G	B	B	B	B	B	B	B	
NK0962	109	4	4	1	5	5	3	5	4	G	G	G	B	G	G	G	G	G	G	B	G	
NK0968	109	3	3	3	4	3	4	3	4	B	B	G	F	G	G	G	G	G	G	G	B	
NK1026	110	3	2	3	3	3	2	2	3	G	G	F	F	G	G	G	G	G	F	F	G	
NK1082	110	2	5	1	5	5	6	4	3	G	G	B	G	B	B	G	B	G	G	G	G	
NK1188	111	3	3	2	4	4	6	4	6	G	G	G	G	G	F	G	G	G	G	G	G	
NK1205	112	3	3	4	5	4	5	4	4	B	G	P	G	F	G	G	G	G	G	G	G	
NK1239	112	3	3	4	2	2	4	3	3	B	F	P	F	F	G	G	G	G	B	F	B	
NK1354	113	2	2	3	3	4	4	4	3	G	F	G	B	G	P	G	G	G	F	G	F	

= Field Forged Series

RATING SCALE
 1 = Best
 9 = Worst
 - = Not Available

ADAPTATION AND RESPONSES
 = Best
 = Good
 = Fair
 = Poor
 - = Not Available

DROUGHT
 Agrisure Artesian
 water-optimized hybrid

PRODUCT	MATURITY	AGRONOMIC CHARACTERISTICS						DISEASE TOLERANCE		AGRONOMIC RESEARCH RATINGS ²											
		Emergence	Root Strength	Drought	Staygreen	Plant Height	Ear Height	Gray Leaf Spot	Goss's Wilt	Yield (Tons/A)	CP (% of DM)	NDF 48 hr (%)	NDFd 48 hr (%)	Starch (% of DM)	Fat (% of DM)	TDN (% of DM)	NEL (Mcal/lb)	Milk (lbs/Ton)	Milk (lbs/A) ³	Beef (lbs/Ton)	Beef (lbs/A)
NK Hybrid Series	Relative Maturity (RM)																				
NK1364	113	3	5	3	5	4	5	6	4	G	G	F	G	G	G	B	G	B	G	B	F
NK1444	114	4	5	2	3	4	3	6	2	B	F	B	G	B	B	G	B	G	B	G	B
NK1452	114	3	2	3	4	3	2	5	4	G	F	B	G	B	B	B	B	B	B	B	B
NK1460	114	3	2	2	3	3	2	4	4	G	G	B	G	B	F	G	G	G	F	G	G
NK1523	115	4	2	2	4	3	5	4	4	G	G	F	G	G	P	G	G	G	F	G	G
NK1573	115	3	3	4	2	4	5	3	4	B	G	G	G	B	B	G	G	G	G	G	G
NK1677	116	3	3	5	3	2	3	3	2	G	G	F	G	F	-	G	-	G	B	G	G
NK1694	116	4	5	2	3	4	4	5	3	G	F	G	G	G	G	G	B	G	G	B	G
NK1748	117	3	2	3	2	4	3	3	3	G	G	B	G	B	-	G	G	G	B	G	B
NK1808	118	4	4	3	2	3	3	3	4	B	B	F	G	F	F	G	G	G	B	G	B
NK1822	118	4	4	4	5	2	3	6	5	F	G	B	B	B	G	G	G	G	G	G	G
NK1860	118	3	3	3	3	1	2	6	3	B	G	G	G	G	F	G	G	G	B	G	B

Yield: Calculated on a per-acre basis and adjusted to standard moisture.

Crude Protein (CP): Indicates the percent content of feed component relative to other hybrids.

Neutral Detergent Fiber (NDF): Measure of the indigestible and slowly digestible components of the silage.

Neutral Detergent Fiber Digestibility 48 Hour (NDFd 48 hr): Estimates the ruminant digestibility of the NDF fraction.

Starch: Indicates the percent of feed component that is starch.

Fat: Indicates the percent of feed component that is fat.

Total Digestible Nutrients (TDN): Sum of the digestibility of different nutrients.

Net Energy for Lactation (NEL): Feed effect on net energy for lactating cows based on acid detergent fiber (ADF).

Milk/Ton: An estimate of forage quality driven by starch content, starch digestibility and NDF.

Milk/A: Combines the estimate of forage quality (Milk/Ton) and yield (Tons/A) into a single term.³

Beef/Ton: A proprietary estimate of forage quality, driven by TDN.

Beef/A: Combines the estimate of forage quality (Beef/Ton) and yield (Tons/A) into a single term.

¹ Hybrid characteristics such as staygreen and drought stress tolerance are also important to consider when selecting hybrids for silage. Digestibility ratings are based on NIR and in-vitro digestibility analysis. Milk performance estimates are generated from University of Wisconsin equations. Comparisons should only be made among hybrids within a maturity group. Although actual silage yield and quality analysis of a hybrid will vary with environment, the relative ranking of a hybrid will be similar. These ratings are a relative performance guide. Conduct a laboratory test to determine actual silage quality when balancing a feed ration.

² These ratings should not be used to estimate actual production per animal, but instead they should be used to determine relative overall silage quality and yield of each hybrid.

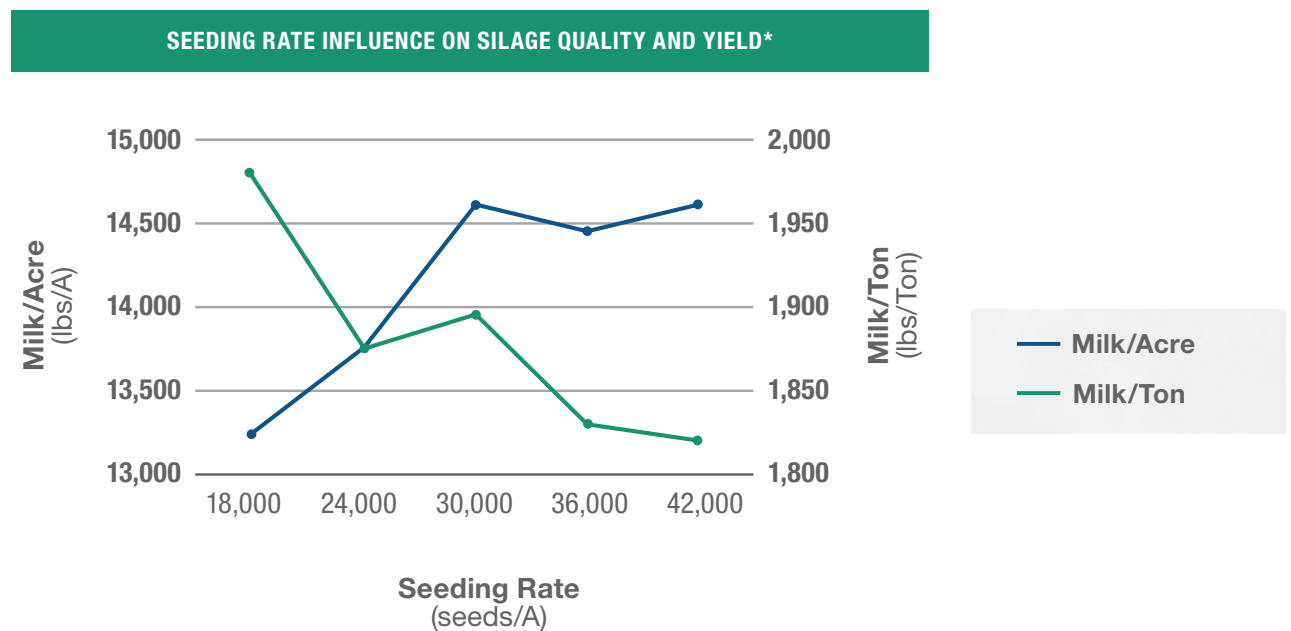
³ Milk/A: Combining yield and quality into a single term, <https://fyi.uwex.edu/forage/files/2016/11/Milk-2016-Combining-Yield-and-Quality-into-a-Single-Term-2.pdf>.

TOOLS TO MANAGE SILAGE YIELD & QUALITY COMPONENTS

Corn silage provides a source of high-energy forage for dairy cows and can also provide a low-cost ration for fattening cattle. Depending upon your goal, a variety of different approaches to management can be used to adjust specific quality (starch and fiber digestibility) and potential yield outputs when growing silage.

Seeding Rate

Seeding rates are routinely adjusted for corn produced for grain to optimize yield potential. Increasing grain yield with higher seeding rates also increases overall silage tonnage up to a point, but simultaneously reduces quality. The increased plant biomass from additional plants tends to dilute starch contributed from grain, resulting in higher fiber levels. As a result, milk per acre of silage can be increased with higher seeding rates, but milk per ton will inversely decrease. Increasing seeding rates from 2,000 to 4,000 over normal corn grain seeding rates will typically maximize both yield potential and quality.



Planting Date

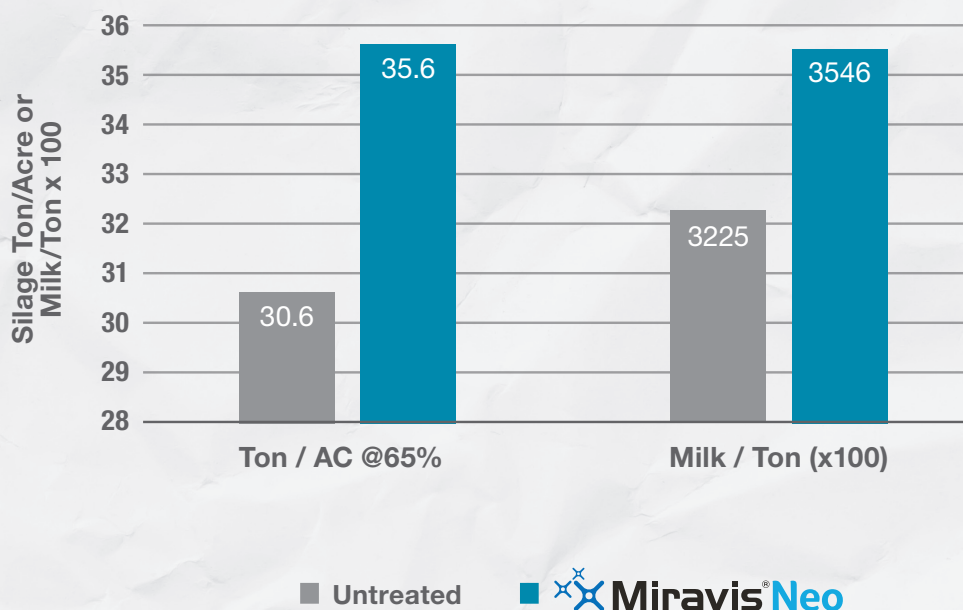
Corn for silage responds to delayed planting similarly to delayed planting for grain. There is minimal impact on yield potential until delayed into late May or June. It is common to see tonnage loss of one ton per week if planting after the last week in May; however reasonable yield potential can still be achieved with June plantings. Energy levels are likely to reduce in later planted silage as a result of lower starch levels from reduced grain fill.

Foliar Fungicide Application

Managing disease in silage corn can be just as important as when managing corn for grain. Previous research has illustrated how fungicides can improve both silage yield potential and quality before harvest and during the ensiling process.

- **Pre-Harvest Benefits:** Fungicide applications can prevent fungal diseases in the field, which can preserve leaf area to improve tonnage and possibly reduce the number of fungal pathogens ensiled within corn.
 - **Fungal Diseases** have also been known to cause a plant defense mechanism in which cell walls increase lignin content after being infected by pathogens, resulting in lower silage quality. Fungicide applications have shown the ability to minimize this lignin increase and improve silage quality with NDF reductions and increased NDFd and starch content.
- **Ensiling Benefits:** Research has shown increased levels of lactic acid during the silage ensiling process when corn received foliar fungicides. Lactic acid is important for lowering pH levels to preserve silage for feeding later. Reducing fungal pathogens with foliar fungicides likely increased the lactic acid content and the fermentative quality of corn silage.

RESPONSE TO R1 APPLICATION OF MIRAVIS NEO FUNGICIDE
3 YEAR AVERAGE (2018-2020)

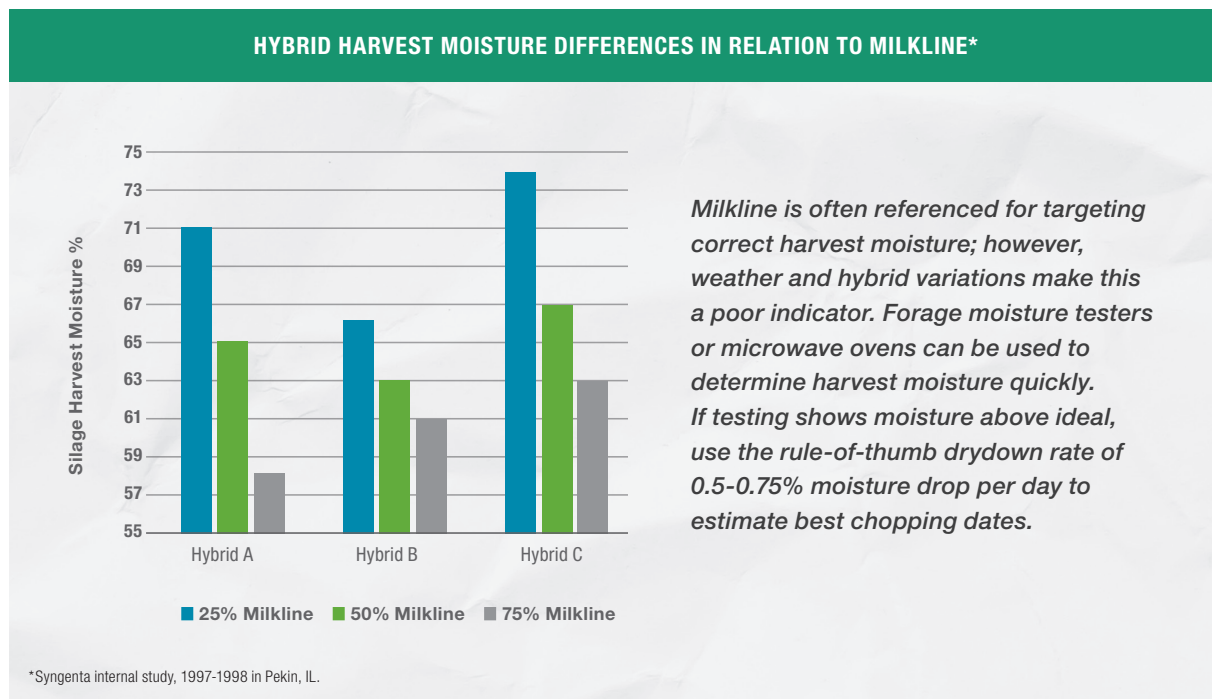


HARVEST ADJUSTMENTS TO MANAGE SILAGE YIELD AND QUALITY

Harvest Timing and Moisture Content

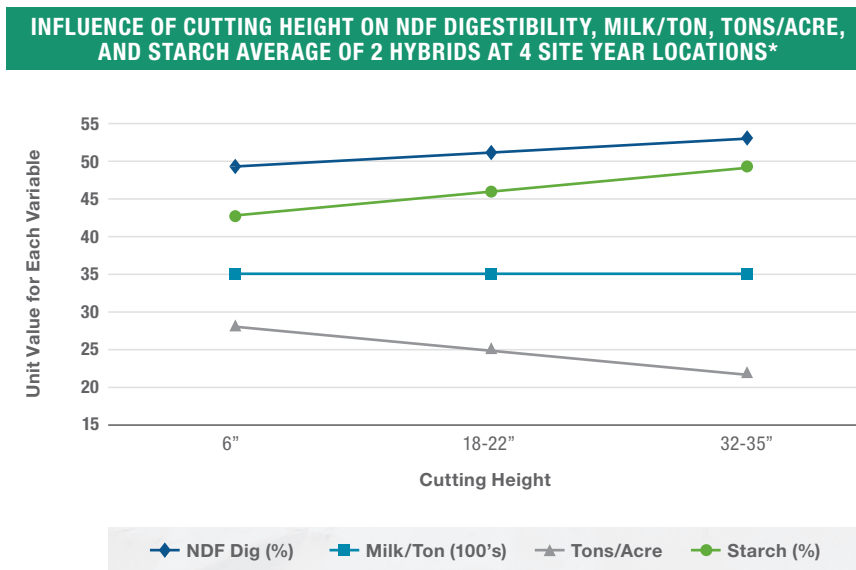
One of the most important management factors is aligning harvest timing to maximize nutrient value and deliver silage moistures that best fit storage type. Ensiling at moisture higher than target will ferment poorly and lose nutrients, whereas too dry of silage will pack poorly causing mold and spoilage. Recommended moisture contents are:

- 65-70% for horizontal silos
- 55-60% for limited-oxygen silos
- 63-68% for conventional tower silos
- 65% for silo bags



Cutting Height

While 6-8" heights are most common, cutting heights range from 2-3" in some areas and up to 8-10" in other regions. These heights are used for a variety of reasons such as changing quality or simply to avoid equipment damage from stones. Increasing cutting height is a management practice that can increase energy content and NDFd by reducing total stover while maintaining grain content.



Previous studies have shown adjusting 6" cutting heights to 18" can increase starch and NDFd levels by 2-3 percentage points. Tonnage reductions are the tradeoff for increasing quality. Increasing cutting height may be appealing if hay or haylage in storage is known to have lower fiber digestibility or if there are more acres dedicated to silage than needed.

Chop Length

Longer cut lengths make it more difficult to achieve a good pack, allowing more space for air between forage particles during the ensiling process and effecting the fermentation process. However, shortening cut length will reduce physical fiber and its effectiveness.

Finer chop will improve packing in all silo types but is especially important in upright silos where there is less opportunity to adjust pack methods. Recommendation for theoretical cut length of unprocessed silage ranges from 3/8" to 3/4" in length and 3/4" for silage processed with 1-2 mm roller clearance.

Kernel Processor

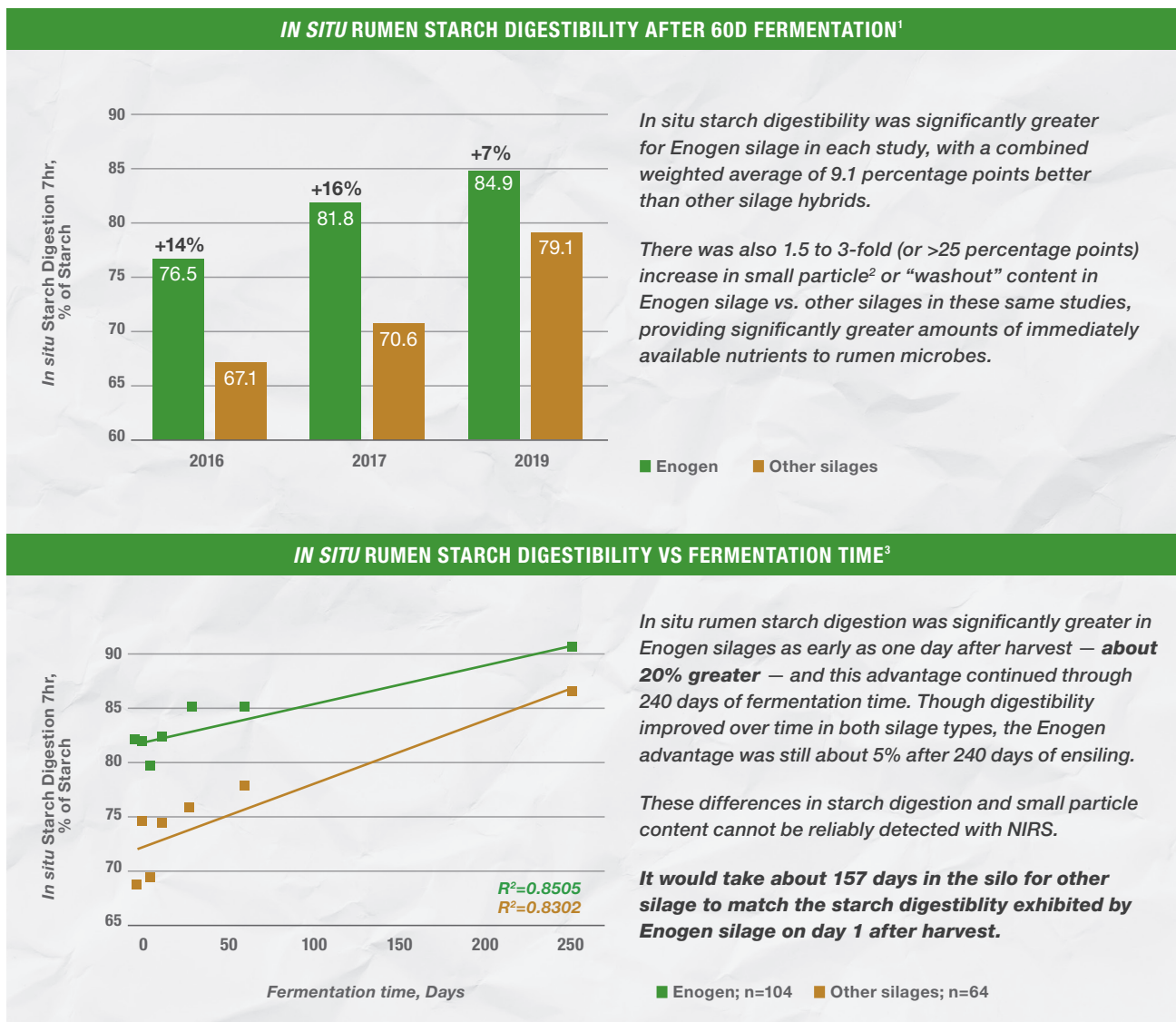
As kernels begin to mature, a starch-protein matrix forms that makes it harder to digest. Kernel processors installed on choppers smash kernels to increase starch digestibility. The value of processing kernels may not be observed with corn in early milkline stages, but typically provides nutritional advantages if harvesting at half or later milkline stages.

ENOGEN SILAGE

ENERGIZE YOUR OPERATION

Enogen corn hybrids contain a robust, efficient amylase enzyme that converts starch to useable sugars faster and more effectively than other corn. **When Enogen corn silage is fed in beef or dairy operations, it provides more available energy per pound of feed than other corn silage and also provides some real benefits during the ensiling process.**

Starch in corn provides critical energy for dairy cows or beef cattle to grow and produce, but cattle do not digest and process starch from corn efficiently. The amylase enzyme in Enogen hybrids increases starch digestibility, increasing feed efficiency. That means decreased feed costs and increased profit potential for your livestock operation.





Enogen Benefits in Silage Production and Storage:

- **High-yielding, elite genetics** that require no additional management unlike some other specialty silage hybrids⁴
- **No adverse effects on yield potential** – Enogen versions of NK hybrids will yield as well as or better than their non-Enogen counterparts
- Enogen's amylase enzyme begins converting starch to sugar as soon as it's chopped to **increase the energy available to your cattle**³
- **Greater feed flexibility**
 - Feed earlier with the confidence of greater starch digestibility in as little as one day
 - Store with confidence knowing your Enogen silage maintains its digestibility advantage longer and may be less prone to spoilage and loss⁵

Enogen Silage Benefits in Livestock Production:

- Increased available energy means **increased feed efficiency of about 5%**, according to recent feeding trials at leading universities⁶
- **No adverse effects on ruminal digestion or pH**, and no increase in incidence of acidosis or bloat⁷
- **Simple incorporation into rations** – replace your current silage with Enogen silage to increase feed efficiency
- **Helps to optimize DMI** with production, lowering feed costs and increasing the efficiency of your operation



Improve feed efficiency by about 5% with Enogen hybrids when fed as either grain or silage.⁷

¹ Syngenta contract research: 2016 Sample Survey: n = 165 Enogen, 160 GH/NK non-Enogen, and 105 competitor hybrid samples; 2017 Replicated Plots: 5 locations with 2-5 Enogen/isoline pairs and 1-3 BMR hybrids/location, 4 replicates/hybrid; and 2019 Multi-location Project: time series with non-Enogen hybrids (8 locations), Enogen hybrids (10 locations). All samples fermented about 60 days in vacuum-sealed mini-silos before analysis by Rock River Laboratories, Inc. using rumen cannulated cows.

² Particles <50 microns in size

³ 2019 Multi-location Project samples, as described above, average of day 1,3,7,14,30,60,and 240 fermentation time

⁴ Enogen is subject to specific yet simple stewardship requirements.

⁵ Kansas State University Research Study, 2017.

⁶ University of Nebraska-Lincoln Research Studies, 2013-2017; Kansas State University Research Study, 2017; Pennsylvania State University Research Study, 2019

⁷ Kansas State University Research Studies 2017-2018, Pennsylvania State University Research Study 2019, Ohio State University Research Study 2020, University of Nebraska – Lincoln Research Studies 2016-2018.

ENOGEN SILAGE PORTFOLIO

E092W5 • NEW E092W5-5122A E-Z REFUGE Brand

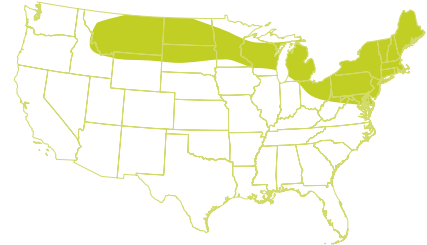
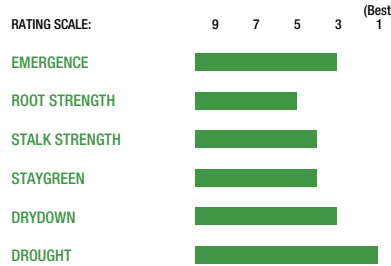


NEW

RM 92

Superior grain yield potential, forage yields and high NDF digestion make this widely adapted hybrid a top dual-purpose corn for dairy producers

- Very high grain content and high NDFd produce silage with high energy density
- Strong performance at above-average populations
- Outstanding drought and cool tolerance in the Northern Corn Belt and adapts well to all tillage systems



Agrisure Duracade

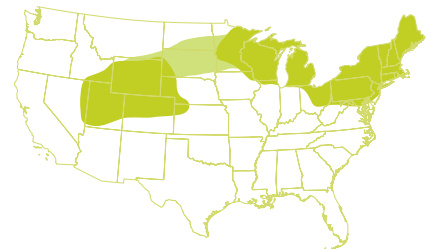
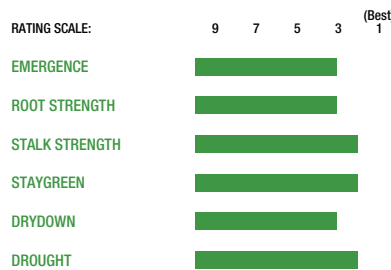
Agrisure Artesian

E095D3 • E095D3-5122 E-Z REFUGE Brand

RM 95

Strong adaptability across all soils

- Strong adaptability across all soils
- Excellent high-end yield potential for silage along with outstanding drought tolerance
- Tall robust plant with high levels of forage starch
- Excellent disease tolerance to move east and north of zone



AgrisureDuracade

E107C1 • NEW E107C1-5122 E-Z REFUGE Brand

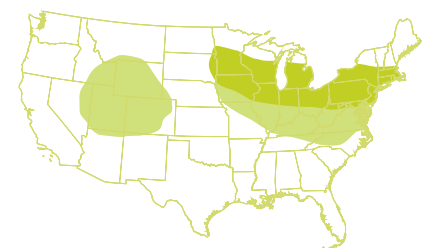
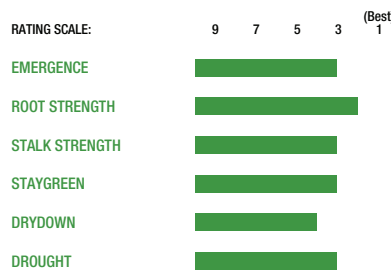


NEW

RM 107

Dual-purpose hybrid with outstanding grain yield potential and high forage yield potential combined with very good NDF digestion

- Few hybrids in this maturity can match this combination of yield potential and quality
- Strong northern and eastern movement across all soils as a dual-purpose silage hybrid
- Excellent roots and stalks combined with Agrisure Duracade® 5122 E-Z Refuge® for continuous corn acres in any dairy or beef operation



AgrisureDuracade

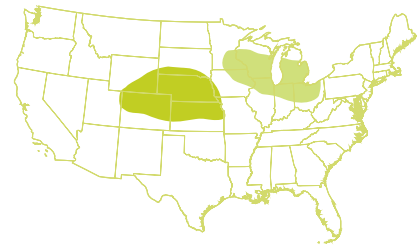
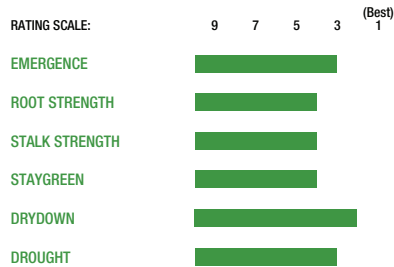
E110F4 • NEW E110F4-5122 E-Z REFUGE Brand

NEW

RM 110

Tall, high yield potential, dual-purpose silage hybrid with excellent drought tolerance combined with strong emergence to work across many tillage systems

- Moderate populations across variable soils to maximize performance in lower water holding environments
- Strong performance in central, northern and western environments
- Works well for dairy or beef operations with high NDF digestibility and strong silage yield potential



AgrisureDuracade®

E112S5 • NEW E112S5-5122 E-Z REFUGE Brand

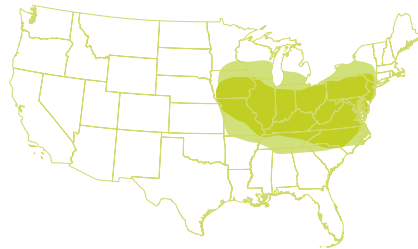
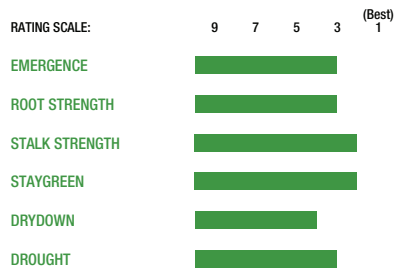


NEW

RM 112

Improved plant integrity with better roots and stalks for this maturity

- Strong ability to perform as a dual-purpose silage hybrid at higher management levels in continuous corn acres across the Central and Eastern Corn Belt
- Tall, leafy, extremely vigorous hybrid for cooler soils and all tillage environments
- High levels of forage starch and silage tonnage combined with strong NDF digestibility to be a strong dual-purpose silage candidate



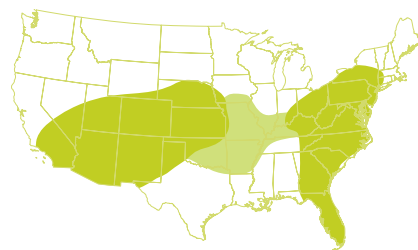
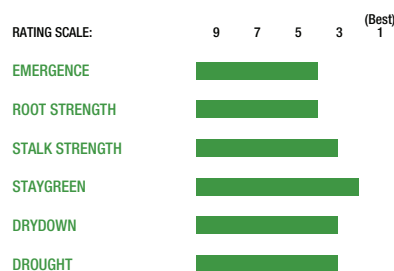
AgrisureDuracade®

E118D8 • E118D8-3000GT Brand

RM 118

High grain content and high forage starch produce silage with high energy density

- Tall, high yield potential hybrid with excellent dual-purpose grain or silage characteristics
- Broad adaptability across all soils to maximize silage performance
- Tall plant type with excellent roots and staygreen



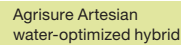
ENOGEN SILAGE HYBRIDS¹

Enogen Hybrid Series	PRODUCT	MATURITY	AGRONOMIC CHARACTERISTICS						DISEASE TOLERANCE		AGRONOMIC RESEARCH RATINGS ²	
			Relative Maturity (RM)	Emergence	Root Strength	Stalk Strength	Drought	Staygreen	Plant Height	Ear Height		Gray Leaf Spot
Field Forged Series	E080Q1	80	3	2	3	1	1	5	4	-	4	G
	E086J9	86	3	3	2	1	3	3	5	-	4	G
	E092T4	92	3	5	4	3	3	2	2	5	6	G
NEW	E092W5	91	3	5	4	1	4	3	4	-	4	B
	E095D3	95	3	3	2	2	2	3	4	4	3	G
Field Forged Series	E099N3	100	3	3	3	3	4	4	4	3	5	G
	E101P5	101	2	4	2	1	2	2	3	4	3	G
	E105T1	105	2	5	2	2	2	2	3	4	3	G
	E106Q6	106	3	3	3	2	4	4	5	5	4	F
NEW	E107C1	107	3	2	3	3	3	1	4	3	5	B
	E108M2	108	3	3	3	3	5	5	5	3	4	G
	E109R3	109	3	5	2	2	2	2	3	3	5	B
	E109Y2	109	3	4	4	1	5	5	3	5	4	G
NEW	E110F4	110	3	4	4	3	4	4	3	4	3	B
	E111C6	111	4	3	4	1	2	3	3	4	3	B
NEW	E111V7	111	3	2	3	2	4	4	6	4	6	G
NEW	E112S5	112	3	3	2	3	2	2	4	3	3	B
	E113N8	113	3	5	4	3	5	4	5	6	4	G
	E113Q6	113	3	5	3	2	3	4	4	2	2	B
	E113Z5	113	2	2	4	3	3	4	4	4	3	G
	E114H6	114	4	4	5	1	3	3	3	3	3	G
	E116K4	116	4	5	3	2	3	4	4	5	3	G
	E118D8	118	4	4	3	3	2	2	3	3	4	B

 = Field Forged Series

RATING SCALE
 1 = Best
 9 = Worst
 - = Not Available

ADAPTATION AND RESPONSES
 = Best
 = Good
 = Fair
 = Poor
 - = Not Available

DROUGHT
 Agrisure Artesian water-optimized hybrid

Agromony ratings are based on statistically analyzed results of studies conducted by Syngenta and are relative to other hybrids within the same maturity group.

¹ Hybrid characteristics such as staygreen and drought stress tolerance are also important to consider when selecting hybrids for silage. Digestibility ratings are based on NIR and in-vitro digestibility analysis. Milk performance estimates are generated from University of Wisconsin equations. Comparisons should only be made among hybrids within a maturity group. Although actual silage yield and quality analysis of a hybrid will vary with environment, the relative ranking of a hybrid will be similar. These ratings are a relative performance guide. Conduct a laboratory test to determine actual silage quality when balancing a feed ration.

² These ratings should not be used to estimate actual production per animal, but instead they should be used to determine relative overall silage quality and yield of each hybrid.

AGRONOMIC MANAGEMENT AND PLACEMENT TRAITS

	SEEDING RATE (x1,000k)					ADAPTATION TO SOIL TYPES/YIELD ENVIRONMENTS						
	120 Bu	160 Bu	200 Bu	240 Bu	280 Bu	Continuous Corn	Drought Prone	High pH	Highly Productive	Variable	Poorly Drained	Nitrogen Response
	26.0	29.5	30.5	32.0	33.0	G	B	G	G	B	G	G
	26.0	33.0	37.5	41.0	44.0	G	B	F	B	B	B	B
	26.0	30.5	28.0	29.5	31.5	G	G	G	B	G	B	B
	26.0	33.0	36.0	37.0	38.5	F	B	P	B	B	G	G
	26.0	31.0	34.0	36.5	39.5	G	B	G	B	B	B	G
	26.0	33.0	37.0	40.0	43.0	G	F	B	B	G	G	F
	22.5	28.5	34.5	40.5	44.0	G	B	G	B	B	G	B
	23.0	27.0	30.0	34.0	38.5	G	B	G	B	B	B	B
	26.0	33.0	35.5	38.0	40.0	B	B	F	B	B	G	F
	26.0	32.0	33.5	35.5	37.5	G	G	P	F	G	G	G
	22.0	28.0	32.0	35.0	37.0	G	G	G	B	B	F	F
	19.0	24.0	31.0	41.0	44.0	G	B	F	B	B	B	G
	23.0	27.0	29.5	34.0	38.0	F	B	P	B	B	G	G
	26.0	32.0	32.0	32.5	33.0	F	F	G	G	G	G	G
	19.0	23.0	27.5	34.0	39.5	G	B	G	G	F	P	-
	19.5	24.5	29.0	33.5	38.0	G	G	G	G	G	G	G
	26.0	30.0	33.0	36.0	39.5	B	F	F	B	B	B	F
	26.0	29.5	30.0	31.0	31.5	B	G	G	B	G	F	P
	26.0	32.0	33.5	35.0	36.5	B	B	B	B	B	F	-
	22.0	28.0	32.0	35.0	37.0	G	G	G	B	B	B	F
	26.0	29.0	31.0	33.5	36.0	G	B	F	B	B	F	F
	26.0	33.0	34.5	31.5	31.5	G	B	P	B	B	F	G
	26.0	32.5	34.5	36.0	38.0	B	G	G	B	G	G	G



All photos are either the property of Syngenta or are used with permission.

Product performance assumes disease presence.

© 2021 Syngenta. Important: Always read and follow label instructions. Some products may not be registered for sale or use in all states or counties. Please check with your local extension service to ensure registration status. AAtrex 4L, AAtrex Nine-0, Acuron, Agri-Flex, Agri-Mek 0.15EC, Agri-Mek SC, Avicta 500FS, Avicta Complete Beans 500, Avicta Complete Corn 250, Avicta Duo Corn, Avicta Duo 250 Corn, Avicta Duo COT202, Avicta Duo Cotton, Besiege, Bicep II Magnum, Bicep II Magnum FC, Bicep Lite II Magnum, Callisto Xtra, Cyclone SL 2.0, Denim, Endigo ZC, Endigo ZCX, Epi-Mek 0.15EC, Expert, Force, Force 3G, Force CS, Force 6.5G, Force Evo, Gramoxone SL, Gramoxone SL 2.0, Gramoxone SL 3.0, Karate with Zeon Technology, Lamcap, Lamcap II, Lamdec, Lexar, Lexar EZ, Lumax, Lumax EZ, Medal II ATZ, Minecto Pro, Proclaim, Tavium Plus VaporGrip Technology, Voliam Xpress and Warrior II with Zeon Technology are Restricted Use Pesticides.

Some seed treatment offers are separately registered products applied to the seed as a combined slurry. Always read individual product labels and treater instructions before combining and applying component products. Orondis Gold may be sold as a formulated premix or as a combination of separately registered products: Orondis Gold 200 and Orondis Gold B.

Important: Always read and follow label and bag tag instructions; only those labeled as tolerant to glufosinate may be sprayed with glufosinate ammonium-based herbicides. LibertyLink®, Liberty® and the Water Droplet logo are registered trademarks of BASF. HERCULEX® and the HERCULEX Shield are trademarks of Dow AgroSciences LLC. HERCULEX Insect Protection technology by Dow AgroSciences. Under federal and local laws, only dicamba-containing herbicides registered for use on dicamba-tolerant varieties may be applied. See product labels for details and tank mix partners. NK® soybean varieties are protected under granted or pending U.S. variety patents and other intellectual property rights, regardless of the trait(s) within the seed. The Enlist E3® soybean, LibertyLink®, LibertyLink® GT27®, Roundup Ready 2 Xtend®, Roundup Ready 2 Yield® and XtendFlex® soybean traits may be protected under numerous United States patents. It is unlawful to save soybeans containing these traits for planting or transfer to others for use as a planting seed. Only dicamba formulations that employ VaporGrip® Technology are approved for use with Roundup Ready 2 Xtend® and XtendFlex® soybeans. Only 2,4-D choline formulations with Colex-D® Technology are approved for use with Enlist E3® soybeans. The trademarks or service marks displayed or otherwise used herein are the property of a Syngenta Group Company. ENLIST E3® soybean technology is jointly developed with Dow AgroSciences LLC and MS Technologies LLC. The ENLIST trait and ENLIST Weed Control System are technologies owned and developed by Dow AgroSciences LLC. ENLIST® and ENLIST E3® are trademarks of Dow AgroSciences LLC. GT27® is a trademark of MS Technologies and BASF. Roundup Ready 2 Xtend®, Roundup Ready 2 Yield®, XtendFlex®, VaporGrip® and YieldGard VT PRO® are registered trademarks used under license from the Bayer Group.

All other trademarks are the property of their respective owners. More information about Agrisure Duracade® is available at <http://www.biotradestatus.com/>. SLC 13746A 08/2021



[NKSEEDS.COM](https://www.nkseeds.com)

