



## Welcome to Byron Seeds

At Byron Seeds, feeding livestock is our business. The selections we make in all seed for livestock feed are based on animal performance, as well as top shelf agronomics. We work worldwide with multiple companies in selecting and researching what seed will contribute to better livestock performance.

For example, our KingFisher and Red Tail corn hybrids were chosen from a wide genetic base for the best agronomics and digestibility. Due to this broad selection and attention to genetics that produce corn with outstanding potential to boost livestock performance, we now have a corn lineup like no other. We have consistent high-quality silage corn, whether it's an early-, medium-, or late-maturing variety.

Ever since 1995, Byron Seeds has been rooted in bringing the best alfalfa in the world to your farm.

And alfalfa continues to dominate our focus. Our unique focus on alfalfa results in a depth of alfalfa lineup and management knowledge second to none. Our popular KingFisher SynergyX alfalfa blends combine premium alfalfas with various root systems to increase yield, reduce risk, and extend stand life across your field.

#### Byron Seeds is also a leader in forage grasses:

- Selecting the best improved grasses
- Developing grass-based systems
- Teaching grass management
- Promoting soil health with grass

Grass is highly digestible forage with excellent yield potential when fertilized and managed properly. In this guide, we offer you the best grasses in the world that we could find for hay and pasture.

**Byron Seeds has BMR forage.** We realize the value that BMR silage corn and BMR summer annuals can bring to livestock rations. Excellent fiber digestibility is our focus and our BMR products excel in this trait. We are committed to continue offering BMR corn, forage sorghum, and sorghum-sudans for years to come.

Cordially,

Samuel S. Fisher

Samuel Fisher Founder and CEO



## How to Use the Resource Guide

#### **Growing Zones**

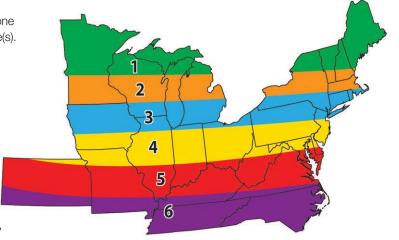
Below the name of each variety listed in this resource guide is a zone recommendation. The variety does best in the recommended zone(s). The map on this page shows the location of each zone.

There may be a management recommendation as well. The listed variety will do well in the management zone(s) if good farming management practices are implemented.

**Zones:** These zones are the recommended location(s) for the variety listed.

**Management:** An acceptable variety in this zone with good farm management, soils, and fertility.

**Maturity Zones pictured:** Minnesota, Wisconsin, Michigan, Iowa, Kansas, Missouri, Illinois, Indiana, Ohio, Kentucky, North Dakota, South Dakota and Tennessee.



#### **Replant Policy**

Byron Seeds will replace the seed of our Premium Products that failed to germinate and emerge, as determined by a Byron representative. Premium Products that qualify for the Replant



Policy are as follows: KingFisher products, Premium perennial grasses and summer annuals. Byron Seeds also offers a 50% replant on any competitor's premium products.

#### **EXCEPTIONS**

Corn that is planted prior to or after the state's insurable dates is not covered under this Replant Policy. Seed that is frost seeded or interseeded into existing stands is excluded as are non-KingFisher annuals, cover crops and turf grass.

#### **GOOD FARMING PRACTICES**

Byron Seeds will not replace seed if planting was not done under good farming practices. Good farming practices include, but are not limited to, proper seed bed preparation, good weed control at planting, proper seed depth and recommended seed-to-soil contact. To qualify for a replant, a site inspection and approval by a qualified Byron representative may be required.

#### **TERMS**

Replant requests must be received within 6 months of the planting date. Freight charges apply. Other terms and conditions may apply.

#### **Organic Seed**

Byron Seeds is a supporter of the organic farming movement. We believe that there is a need for good, healthy forage for our livestock, and good, healthy food for our families. It seems that others agree with us because there is an ever-increasing demand for a source of unmodified food and forage.

### **Table of Contents**

KingFisher Corn	6-17
Red Tail Corn	18-29
Alfalfa	30-35
Clovers	36-38
Cool-Season Grasses	39-51
Building A Better Pasture and Hay	
Fertility Program	43
Grazing	52-54
KingFisher Energy Edge Soybeans	55
Sorghums	56-60
Summer Annuals	61-64
Byron Seeds Dealers	65-67





## **Need BMR corn and elite Alfalfa?**

Byron Seeds is committed to supplying your needs for BMR corn and premium alfalfas. Forage is our passion. For 30 years, forage for livestock has been our focus and we'll continue to invest energy and resources into our KingFisher silage corn and our SynergyX alfalfas for years to come.

High energy forages are the heart of Byron Seeds, and we're continuing to build our KingFisher silage corn program so farmers can continue to grow the highly digestible silage corn their livestock deserves. We select and bring forward hybrids across all maturity ranges that excel in fiber and starch digestibility as well as field agronomics, so every farmer can get excellent energy per acre for increased livestock performance.

Our SynergyX alfalfas are consistent in high yields and fiber digestibility. The premium varieties in our SynergyX alfalfa combinations work in synergy with their strengths to produce yield and longevity above what each variety could go by itself.

The varying root systems of SynergyX alfalfas consistently feed the plants for better resilience in extreme weather patterns. SynergyX alfalfas fill a greater portion of the soil profile with roots, producing more root exudates for better soil health. This translates into better yield and persistence for the stand.

At Byron Seeds, forage is who we are and what we do. As leaders in forage, we can fill the needs for silage corn and alfalfa on farms today. We will guide producers in profitable forage systems that can help their operations be successful.

## Early-Order Opportunities with Byron Seeds, LLC

- Early ordering is a great way to ensure you'll receive the seed you want.
- Early ordering also allows you a chance to receive big discounts on your seed. Your savings will match up your payment date with the discount levels at right. All seeds listed in this catalog are eligible for discounts providing they are for the next seeding year.
- Your payment must be received at Byron Seeds before the end of the month of your chosen discount levels.

If financing or credit cards are used to pay for your order, the discounts shown below are reduced by 2% in any month.

#### **Discount Levels**

- September......8%■ December......5%■ October......7%■ January......4%
- November......6%

The discount will be deducted from your paid order!

#### **BYRON SEEDS FINANCING**

Byron Seeds offers competitive financing plans through First Mid Ag or John Deere Financial. Our plans offer:

- -Competitive interest rates
- -No processing fees
- -May be used for early orders (Sept-Jan)

Contact your local Byron Seeds dealer for more details and to apply for Byron Seeds Financing.





## KingFisher Corn Focused on FiberGest and SofStarch: What and Why? by Jim Paulson

Saving money on feed cost is the single biggest factor in a profitable livestock operation. For ruminants, forage that contributes a large portion of digestible energy from fiber and starch will make a big impact on lowering feed costs. For this reason, KingFisher selects corn hybrids high in fiber digestibility (FiberGest) and starch digestibility (SofStarch).

When we first set out to develop our KingFisher corn hybrids, we knew from past experience that there were differences in corn hybrids in both kernel hardness and starch availability, as well as differences in the digestibility of the forage portion. We wanted to set a new standard in the seed industry. This led to selecting only the better than average to make the KingFisher lineup and to receive the Fibergest and Sofstarch designation; thereby assuring our customers to have the best corn forage.

How do we decide if a corn hybrid meets the standards? We rely on multiple years and multiple locations to provide a wide sample of growing conditions. Next, we look for consistent performance agronomically as well as forage analysis. With the FiberGest and SofStarch designations, we focus on key indicators on a feed and forage test. Key indicators such as high NDFD30, close to 60% of NDF (for non-BMR hybrids), and under 10% uNDF240 on a dry matter basis. Another number we are looking at is the Kd rate. Kd stands for the rate of digestion(d) per hour in the rumen. We look for a Kd number >7% of the NDF/hour. A higher number means that more is digested per hour, which means there is a greater supply of energy per hour and that there will be more room created in the rumen. Also, most likely a lower uNDF240 which allows for greater dry matter intake.

For SofStarch, we focus more on the 7- hour starch digestion test. We expect starch to digest faster than forage NDF, so that is why we use seven hours as the time point. We can improve both the rate and extent of starch digestion with processing or grinding; but even then, there are still differences in hybrids. For 7-hour starch digestion, the normal range is about 65% to 80%. We aim for starch digestion in the upper half of that range. To achieve that, starch will be digesting over 20% of the remaining starch in the grain. Efficient starch digestion enhances the microbial digestion of NDF as well.

Another important point to remember is the moisture of the grain at harvest has a large effect on starch digestibility and fiber digestion. This is why we stress the importance of proper harvest moistures. Moisture at harvest is a good indicator of plant maturity. Digestion of starch and fiber decreases with increasing maturity.

KingFisher silage corn delivers consistent performance throughout the complete lineup, so every producer can maximize digestible energy for his livestock. Our FiberGest and SofStarch ratings continue to guide farmers to high quality corn silage.







**KF 27C10** 

CONVENTIONAL

77 Day RM

This impressive short season hybrid is a medium-tall robust corn with very good stalk and root strength and very good Tar Spot tolerance.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Red cob with 16-18 kernel rows
- Excellent dry down
- Very good response to fungicide application

Seedling Vigor	Very Good
Plant Height	Medium-Ta
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Red
Stalk Strength	Very Good
Root Strength	Van. Caad
1100t Strength	very Good

Dry Down ...... Excellent
Test Weight...... Good
Gray Leaf Spot
Tolerance..... Good
Northern Leaf
Blight Tolerance.... Very Good
Goss's Wilt
Tolerance..... Very Good

**KF 34C30** 

**CONVENTIONAL / ORGANIC** 

84 Day RM

Impressive performance across high and low yield environments for silage and dry grain. Above average disease ratings. Great stay green for very good dry down in late season. Great test weight with great starch digestibility.

FiberGest Excellent SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Excellent

- Recommended Population 27-32K
- Dual-purpose silage and grain
- Not for use on continuous corn acres
- High yields across varied soils
- Very good roots
- Very good response to fungicide application

Seedling Vigor Very Good
Plant Height Medium-Tall
Ear Height Medium
Ear Flex Very Good
Cob Color Light Red
Stalk Strength Very Good
Root Strength Very Good
Stay Green Very Good

Dry Down	Very	Good
Test Weight	Very	Good
Gray Leaf Spot		
Tolerance	Very	Good
Northern Leaf		
Blight Tolerance	Very	Good
Goss's Wilt		
Tolerance	Very	Good

## **KF 35C10**

CONVENTIONAL

85 Day RM

Big plant, high yielding, very good stay green, dual-purpose hybrid, excellent corn-on-corn option.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 30-34K
- Dual-purpose silage and grain
- Great for continuous corn rotation
- Excellent in medium soils
- Very good stay green for wide harvest window
- Workhorse suited for most rotations

Seedling Vigor Very Good	Dry Down Very Good
Plant Height Medium-Tall	Test Weight Very Good
Ear Height Medium-High	Gray Leaf Spot
Ear Flex Very Good	Tolerance Very Good
Cob Color Pink	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stav Green Verv Good	Tolerance Good

**KF 37C60** 

**CONVENTIONAL / ORGANIC** 

87 Day RM

Attractive hybrid with strong yield and agronomics. A medium plant with medium ear placement.

FiberGest Very Good

SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Good

- Recommended Population 30-34K
- Excellent late season intactness and stay green
- Flex cob with 14-16 kernel rows
- Very good test weight
- Very good leaf and stalk disease ratings

Seedling Vigor	Very Good
Plant Height	Medium
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Red
Stalk Strength	Very Good
Root Strength	Very Good
Stay Green	Excellent

Dry Down	Very Good
Test Weight	Very Good
Gray Leaf Spot	
Tolerance	Very Good
Northern Leaf	
Blight Tolerance	Very Good
Goss's Wilt	
Tolerance	Excellent

Rating scale: POOR | FAIR | GOOD | VERY GOOD | EXCELLENT

Tolerance...... Very Good

Blight Tolerance ..... Very Good

Tolerance ..... Good

Northern Leaf

Goss's Wilt

**KF 38C80 CONVENTIONAL** 88 Dav RM A dual-purpose hybrid with semi-flex ears and excellent seedling vigor. Consistent yield and widely adapted across northern regions and soil types. Excellent stalk and very good root strength. **Digestible FiberGest** SofStarch Fiber per Acre per Ton Excellent Excellent Excellent Excellent ■ Recommended Population 28-34K ■ Red cob with 16 kernel rows ■ Medium-tall plant with medium ear placement ■ Excellent on all soil types Excellent stay green for wide harvest window ■ Widely adapted across northern regions Dry Down ...... Very Good Seedling Vigor ..... Excellent Test Weight ..... Very Good Plant Height..... Medium-Tall Gray Leaf Spot Ear Height..... Medium Ear Flex ..... Very Good Tolerance..... Very Good

Cob Color ..... Red

Stalk Strength ..... Excellent

Stay Green ..... Excellent

Stay Green..... Very Good

Root Strength..... Very Good

Northern Leaf

Goss's Wilt

Blight Tolerance ..... Excellent

Tolerance ..... Excellent

Tolerance...... Very Good

**KF 42C20 CONVENTIONAL / ORGANIC** 92 Day RM High yield with flex ears and impressive grain quality, outstanding silage hybrid for quantity and quality. Milk **Digestible FiberGest** SofStarch per Ton Fiber per Acre Excellent Excellent Verv Good Excellent ■ Recommended Population 26-30K ■ Dual-purpose silage and grain ■ High yielding grain potential ■ Good agronomics ■ Best performance when kept in maturity zone Seedling Vigor ...... Excellent Dry Down ..... Very Good Plant Height..... Medium-Tall Test Weight ..... Very Good Ear Height..... Medium-High Gray Leaf Spot

Ear Flex ..... Excellent

Stalk Strength ...... Very Good

Root Strength..... Very Good

Stay Green..... Very Good

Cob Color ..... Pink

**KF 43C40** CONVENTIONAL 93 Day RM Very high yielding grain potential, showy canopy closes quickly, dual purpose grain or silage plant, flex ears, great corn-on-corn option. Digestible Milk **FiberGest** SofStarch per Ton Fiber per Acre Very Good Very Good Very Good Very Good ■ Recommended Population 28-32K ■ Dual-purpose silage and grain Quick canopy closer ■ Great heat and drought tolerance First rate agronomic and disease package Seedling Vigor ...... Very Good Dry Down ..... Very Good Plant Height..... Medium-Tall Test Weight ..... Very Good Ear Height..... Medium Gray Leaf Spot Ear Flex ..... Excellent Tolerance...... Very Good Cob Color ..... Pink Northern Leaf Stalk Strength ...... Very Good Blight Tolerance ..... Excellent Root Strength..... Very Good Goss's Wilt

**KF 44C20 CONVENTIONAL / ORGANIC** 94 Day RM Attractive hybrid with strong agronomics. Girthy, flex-style ears bring top yield potential. Digestible Milk **FiberGest** SofStarch Fiber per Acre per Ton Very Good Very Good Very Good Very Good ■ Recommended Population 27-32K ■ Medium-tall plant with medium ear placement ■ Flex cob with 16-18 kernel rows ■ Very good test weight ■ Very good leaf and stalk disease ratings Seedling Vigor ...... Very Good Dry Down ...... Very Good Plant Height..... Medium-Tall Test Weight ..... Very Good Ear Height..... Medium **Gray Leaf Spot** Ear Flex ..... Very Good Tolerance ...... Very Good Cob Color ..... Red Northern Leaf Stalk Strength ...... Very Good Blight Tolerance ..... Very Good Root Strength..... Very Good Goss's Wilt Stay Green..... Excellent Tolerance...... Very Good

**KF 45C30** 

CONVENTIONAL

95 Day RM

A medium-tall hybrid with semi-erect leaves that produces long flexed ears with 16-18 kernels around. Very good stay green and excellent tolerance to Goss's Wilt and Gray Leaf Spot. Great for continuous corn acres.

FiberGest Excellent SofStarch Excellent Milk per Ton Excellent Digestible Fiber per Acre Excellent

- Recommended Population 27-34K
- Good late-season plant intactness for dry grain option
- Adapted to wide range of soils and management practices
- In top management and good soils, populations should be increased for top yield
- Top performance across a wide range of environments

Seedling Vigor	Very Good
Plant Height	Medium-Ta
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Red
Stalk Strength	Very Good
Root Strength	Very Good
Stay Green	Very Good

**KF 49C60** 

CONVENTIONAL

99 Day RM

Medium placed flex ears, showy healthy plant, strong adaptation west to east.

FiberGest Excellent SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 26-30K
- Dual purpose silage and grain
- Keep off wet/heavier soils
- Excellent eye appeal
- Quick emergence gives early flowering/pollination for consistent grain fill and yield

Seedling Vigor	Very Good
Plant Height	Medium-Ta
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Light Red
Stalk Strength	Very Good
Root Strength	Very Good
Stay Green	Good

Dry Down Very Good
Test Weight Very Good
Gray Leaf Spot
Tolerance Very Good
Northern Leaf
Blight Tolerance Very Good
Goss's Wilt
Tolerance Very Good

## **KF 51C50**

CONVENTIONAL

101 Day RM

Medium-tall robust plant with great silage appeal and a wide range of adaptability in multiple regions. The pedigree behind this hybrid brings time-tested consistency with new era yield for silage and grain.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Excellent

- Recommended Population 30-34K
- Keep populations on higher end for top yield in better soils
- Very good dual purpose for silage and grain
- Strong performance between Interstate 90 and Interstate 70
- Can move south as an early hybrid
- Use caution applying Capreno, Sharpen, Status, or Corvus herbicides while hybrid is under environmental stress as grain yields may be reduced

Very Good
Very Good
Very Good
e Very Good
Very Good

**KF 51C80** 

CONVENTIONAL / ORGANIC

**101 Day RM** 

Tall, robust, versatile hybrid with excellent stalk strength and very good root ratings. Stay green is excellent.

FiberGest Very Good

SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Tall plant with medium ear placement
- Flex pink cob with 18-20 kernel rows
- Excellent tar spot tolerance
- Very good leaf and stalk disease ratings

Seedling Vigor	Very Good
Plant Height	Tall
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Pink
Stalk Strength	Excellent
Root Strength	Very Good
Stay Green	Excellent

Dry Down	Very	Good
Test Weight	Very	Good
Gray Leaf Spot		
Tolerance	Very	Good
Northern Leaf		
Blight Tolerance	Very	Good
Goss's Wilt		
Tolerance	Very	Good

**KF 52C20 CONVENTIONAL** 102 Day RM High yielding potential, very good stay green, very heat and stress tolerant, dual-purpose grain or silage hybrid, big plant, white cob with medium placed flex ears. **Digestible** Milk SofStarch **FiberGest** Fiber per Acre per Ton Excellent Excellent Excellent Excellent ■ Recommended Population 26-30K ■ Dual purpose silage and grain Strong agronomics and stay green Excellent heat and stress tolerance ■ Excellent milk per ton/acre Seedling Vigor ...... Very Good Dry Down ...... Very Good Plant Height..... Tall Test Weight ..... Very Good Ear Height..... Medium **Gray Leaf Spot** Ear Flex ..... Excellent Tolerance..... Very Good Cob Color ..... White Northern Leaf Stalk Strength ...... Very Good Blight Tolerance ..... Very Good Root Strength..... Excellent Goss's Wilt Stay Green..... Very Good Tolerance..... Very Good

**KF 52C40** 

**CONVENTIONAL** 

102 Dav RM

A white cob hybrid with good performance across yield environments. This hybrid brings excellent emergence and seedling vigor with very good late season intactness.

**FiberGest** Very Good SofStarch Very Good

Milk per Ton Very Good

Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Excellent emergence and seedling vigor
- Widely adapted across soils within population
- Top end grain yield under good management

Seedling Vigor ..... Excellent Plant Height..... Medium-Tall Ear Height..... Medium Ear Flex ..... Very Good Cob Color ..... White Stalk Strength ...... Very Good Root Strength..... Very Good Stay Green..... Very Good

Dry Down ..... Excellent Test Weight ..... Very Good **Gray Leaf Spot** Tolerance ...... Very Good Northern Leaf Blight Tolerance ..... Very Good Goss's Wilt

Tolerance...... Very Good

## **KF 54C50**

**ORGANIC** 

104 Day RM

A medium-tall plant with medium ear placement, impressive fall intactness and appearance, performs best in good management.

**FiberGest** Very Good SofStarch Very Good

Milk per Ton Very Good

Digestible Fiber per Acre Excellent

- Recommended Population 28-32K
- Excellent dual-purpose hybrid
- Pink cob: 16-18 kernel rows
- Excellent agronomics
- Responds well to good nitrogen management

Seedling Vigor Excellent	Dry Down Very Good
Plant Height Medium-Tall	Test Weight Very Good
Ear Height Medium	Gray Leaf Spot
Ear Flex Very Good	Tolerance Very Good
Cob Color Pink	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stay Green Very Good	Tolerance Very Good

**KF 54C90** 

**CONVENTIONAL / ORGANIC** 

104 Day RM

Medium-tall healthy plant with excellent flex. Widely adapted across all environments.

**FiberGest** Very Good

SofStarch Very Good

Milk per Ton Very Good

Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Excellent stalk strength and stay green
- Versatile hybrid that lends itself more to fed-grain
- Excellent test weight
- Excellent leaf and stalk disease ratings
- Very good tar spot tolerance

Seedling Vigor ...... Very Good Plant Height..... Medium-Tall Ear Height..... Medium Ear Flex ..... Very Good Cob Color ..... Red Stalk Strength ..... Excellent Root Strength..... Very Good Stay Green..... Excellent

Dry Down ..... Excellent Test Weight ..... Excellent **Gray Leaf Spot** Tolerance ..... Excellent Northern Leaf

Blight Tolerance ..... Excellent Goss's Wilt

Tolerance Excellent

**KF 55C50** 

CONVENTIONAL

105 Day RM

This tall, robust hybrid brings high silage tonnages under moderate population and good management. This hybrid moves south of its zone very well.

FiberGest Very Good SofStarch Excellent Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Good kernel depth with a pink cob
- Excellent emergence and very good seedling vigor
- Very good disease ratings but will benefit from a fungicide application

Seedling Vigor V	ery Good	Dry Down	Excellent
Plant Height Ta	all	Test Weight	Very Good
Ear Height	/ledium-High	Gray Leaf Spot	
Ear Flex V	ery Good	Tolerance	Very Good
Cob Color P	Pink	Northern Leaf	
Stalk Strength V	ery Good	Blight Tolerance	Very Good
Root Strength V	ery Good	Goss's Wilt	
Stay Green E	excellent	Tolerance	Very Good

## **KF 56C30**

**ORGANIC** 

106 Day RM

Excellent emergence, very good seedling vigor, very good disease package, stress and drought tolerant, semiflex ears.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 30-34K
- Good dual-purpose hybrid but leans more toward grain
- Solid agronomics
- Excellent emergence and very good seedling vigor
- Selected for wide range of management practices
- Great drought tolerance

Seedling Vigor	Very Good
Plant Height	Medium-Tall
Ear Height	Medium-Hig
Ear Flex	Very Good
Cob Color	Pink
Stalk Strength	Excellent
Root Strength	Excellent
Stay Green	Very Good

#### **KF 57C80**

CONVENTIONAL

107 Day RM

A robust plant with excellent silage and grain ratings, dark green canopy-type leaves on a robust stalk, consistent yields in silage and grain.

FiberGest Excellent

SofStarch Excellent Milk per Ton Excellent Digestible Fiber per Acre Excellent

- Recommended Population 30-36K
- Slower grain dry down due to plant health within maturity range
- Wide regional adaption
- Excellent roots and late season standability
- Excellent eye appeal
- Excellent response to fungicide application

Seedling VigorPlant HeightEar HeightCob ColorStalk StrengthRoot Strength	Tall Medium Excellent Red Very Good	Di Te Gi Te Ne Bi Ge
Stay Green		G To
Ear Height Ear Flex Cob Color Stalk Strength Root Strength	Medium Excellent Red Very Good Excellent	G T N B

**KF 57C90** 

CONVENTIONAL

107 Day RM

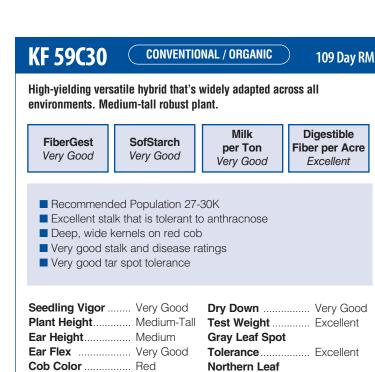
A big, robust hybrid with very good fiber and starch digestibility. Consistent hybrid with excellent late season intactness and plant health.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 29-32K
- Fast emergence with early growth
- Best performance in zone and north
- Excellent tolerance to Tar Spot
- Excellent response to fungicide application

Seedling Vigor	Very Good
Plant Height	Tall
Ear Height	Medium-Hig
Ear Flex	Very Good
Cob Color	Light Red
Stalk Strength	Excellent
Root Strength	Excellent
Stay Green	Excellent

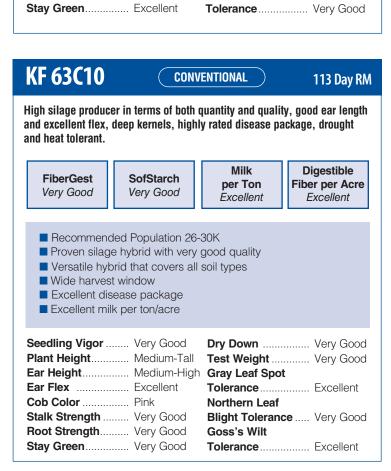
Rating scale: POOR | FAIR | GOOD | VERY GOOD | EXCELLENT | 1-2 | 3-4 | 5-6 | 7-8 | 9-10



Stalk Strength ...... Excellent

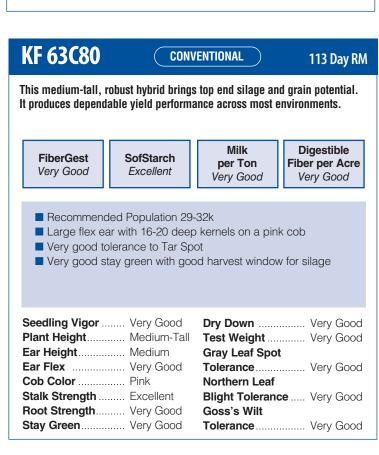
Root Strength..... Very Good

#### **KF 61C90** CONVENTIONAL 111 Day RM Medium-tall plant with good flex and widely adapted across all environments. Versatile hybrid with very good feed quality. **Digestible** Milk **FiberGest** SofStarch per Ton Fiber per Acre Very Good Very Good Very Good Excellent ■ Recommended Population 27-32K ■ Very good stalk and root with excellent stay green ■ Good kernel depth with a red cob ■ Very good leaf and stalk disease ratings ■ Very good tar spot tolerance Seedling Vigor ...... Very Good Dry Down ..... Excellent Plant Height..... Medium-Tall Test Weight ..... Excellent Ear Height..... Medium Gray Leaf Spot Ear Flex ..... Very Good Tolerance..... Excellent Cob Color ..... Red Northern Leaf Stalk Strength ...... Very Good Blight Tolerance ..... Very Good Root Strength..... Very Good Goss's Wilt Stay Green..... Excellent Tolerance..... Excellent



Blight Tolerance ..... Excellent

Goss's Wilt



**KF 64C40** 

**CONVENTIONAL / ORGANIC** 

114 Day RM

Medium-tall plant, medium-high ear placement, wide dense leaves with good canopy, excellent agronomics over multiple years of testing.

**FiberGest** Very Good SofStarch Very Good

Milk per Ton Very Good

Digestible Fiber per Acre Very Good

- Recommended Population 28-32K
- Good for silage or grain (semi-flex ears)
- Red cob; 16-18 kernel rows
- Very good stalk and root
- Very good leaf and stalk disease ratings

Seedling Vigor	Excellent
Plant Height	Medium-Tall
Ear Height	Medium-Hig
Ear Flex	Very Good
Cob Color	Red
Stalk Strength	Very Good
Root Strength	Very Good
Stay Green	Excellent

Dry Down ..... Very Good Test Weight ..... Very Good h Gray Leaf Spot Tolerance...... Very Good

Northern Leaf

Blight Tolerance ..... Very Good

Goss's Wilt

Tolerance..... Very Good

**KF 65C00** 

CONVENTIONAL

**115 Day RM** 

Consistent, medium-tall, robust, mid- to full-season corn with very good silage appeal, at home between I-80 and I-70 and in the I-24 corridors in the Midwest and throughout the eastern states.

**FiberGest** Very Good SofStarch Very Good

Milk per Ton Very Good

Digestible Fiber per Acre Very Good

- Recommended Population 30-36K
- Keep populations on higher side for best yields
- Does very well in productive to average soil conditions
- Excellent emergence in cold/no-till soils
- Very good stay green for longer harvest window
- Moves north very well as a full season hybrid; not recommended for deep South

Seedling Vigor	Excellent
Plant Height	Medium-Tall
Ear Height	Medium-High
Ear Flex	Very Good
Cob Color	Pink
Stalk Strength	Very Good
Root Strength	Very Good
Stay Green	Very Good

Dry Down ...... Very Good Test Weight ..... Very Good Gray Leaf Spot Tolerance ...... Very Good Northern Leaf Blight Tolerance ..... Very Good

Goss's Wilt

Tolerance...... Very Good

## **KF 65C90**

CONVENTIONAL

115 Day RM

A true-flex hybrid with large girthy ears, excellent track record for performance through the years.

**FiberGest** Excellent

SofStarch **Excellent** 

Milk per Ton Very Good

Digestible Fiber per Acre Excellent

- Recommended Population 26-30K
- Super yields as silage or grain
- Very good hand husker
- Very good drought tolerance
- Very good stalk and leaf disease ratings

Seedling Vigor	Very Good
Plant Height	Tall
Ear Height	Medium
Ear Flex	Excellent
Cob Color	Light Red
Stalk Strength	Very Good
Root Strength	Excellent
Stay Green	Very Good

Dry Down ..... Very Good Test Weight ..... Very Good **Gray Leaf Spot** Tolerance ...... Very Good Northern Leaf Blight Tolerance ..... Very Good Goss's Wilt Tolerance ...... Very Good

## **KF 67C20**

**CONVENTIONAL** 

117 Day RM

Consistent high yields, excellent agronomics, very good disease ratings, broadly adapted regions.

**FiberGest** Very Good

SofStarch Very Good

Milk per Ton Verv Good

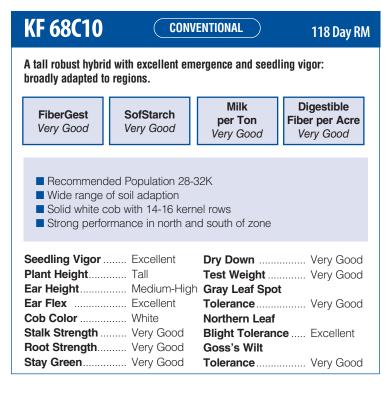
Digestible Fiber per Acre Excellent

- Recommended Population 28-34K
- Very good dual-purpose hybrid
- Broadly adapted with outstanding agronomics
- Consistent high yields across the Midwest and South
- Very good disease ratings

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Good

Dry Down ..... Very Good Test Weight ..... Very Good h Gray Leaf Spot Tolerance...... Very Good Northern Leaf Blight Tolerance ..... Very Good Goss's Wilt Tolerance...... Very Good

GOOD | Rating scale: POOR | FAIR VERY GOOD **EXCELLENT** 



Byron Seeds is offering several

Energy Edge corn blends featuring KF 57H50

with other conventional and BMR corn.

Energy Edge blends bring a higher level of fat
and protein to your feed which may reduce the

amount of expensive inputs in your diets.



## 107-110 Day Specialty Hybrids

## **KF 57H50**

**ENERGY EDGE** 

107 Dav RM

An improved ultra high-oil hybrid that can be used as a sidekick or stand alone with improved yield and standability. A medium-tall hybrid with broad, thick leaves that produces long flexed ears with 16-18 kernels around. Exhibits very good stay green and has very good disease tolerance.

FiberGest Very Good SofStarch Excellent Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Dual-purpose hybrid for silage or grain
- In top management and good soils, increase populations for top yield
- Adapted to wide range of soils and management practices
- Recommended use is in our Energy Edge blends

Seedling Vigor Very Good	Dry Down Very Good
Plant Height Medium-Tall	Test Weight Very Good
Ear Height Medium	Gray Leaf Spot
Ear Flex Very Good	Tolerance Very Good
Cob Color Pink	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stay Green Very Good	Tolerance Very Good

## **KF 60S60**

**MALE STERILE** 

110 Day RM

Male sterile hybrid ideal for farms in niche markets that do not want grain in the diet. Appropriate for silage or grazing. The corn crop will be very high in sugar as grain is not formed. The plant will also take on a red color as sugar increases over time.

Note: Isolation from standard corn is recommended.

FiberGest Excellent SofStarch Very Good Milk per Ton Excellent Digestible Fiber per Acre Very Good

- Recommended Population 30-40K
- Appropriate for silage or grazing
- Versatile hybrid that covers all soil types
- Wide harvest window
- Very good disease package

Seedling Vigor Very Good	
Plant Height Tall	
Ear Height Medium	
Ear Flex Very Good	
Cob Color Pink	
Stalk Strength Very Good	
Root Strength Very Good	
Stay Green Very Good	

Goss's Wilt

Tolerance..... Very Good



# **Elite BMR Genetics for Your Farm**

KingFisher BMR corn hybrids combine high digestibility and elite agronomics:

- Increased stalk diameter and density, leading to improved digestibility, higher sugars, and slower dry down.
- Amazing standability and flexibility; holds yields even in tough environments.
- Superb plant health for excellent drought and disease tolerance.
- Consistent pollination for higher starch content and larger ears.

KF 59B70 is a BM3 SofStarch BMR hybrid that excels in standability, ear size, floury starch and overall plant health. With World Forage Superbowl champion quality and breakthrough agronomics, KingFisher BMR hybrids are the future of BMR corn silage. KingFisher plans to offer BMR hybrids for years to come.

Contact your local Byron Seeds Certified Forage Specialist to develop a BMR silage plan today!



**KF 59B70** 

BMR- SILAGE ONLY

109-115 Day RM

Brown mid-rib for improved digestibility and increased milk production, this non-GMO hybrid is daylight sensitive moving into northern regions of the corn belt will cause it to extend maturity

**FiberGest** Excellent

SofStarch Excellent

Milk per Ton Excellent

Digestible Fiber per Acre Very Good

- Recommended Population 26-29K
- High grain-to-stover ratio
- Excellent SofStarch for a BMR corn
- Widely adapted to many soil types
- Excellent standability with proper plant populations

Seedling Vigor Very Good	Dry Down N/A
Plant Height Tall	Test Weight N/A
Ear Height Medium	Gray Leaf Spot
Ear Flex Excellent	Tolerance Very Good
Cob Color Red	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stay Green Excellent	Tolerance Very Good

**KF 66B80** 

**BMR- SILAGE ONLY** 

115-117 Day RM

Brown mid-rib for improved digestibility and increased milk production, this extra-leafy hybrid is medium-tall with high ear placement. This hybrid features extreme stalk expansion at low populations.

**FiberGest** Excellent

SofStarch Excellent

Milk per Ton Excellent

Digestible Fiber per Acre Excellent

- Recommended Population 26-29K
- High grain-to-stover ratio
- Widely adapted to many soil types
- Extra-leafy hybrid
- Excellent standability with proper plant populations

Seedling Vigor Very Good	Dry Down N/A
Plant Height Medium-Tall	Test Weight N/A
Ear Height High	Gray Leaf Spot
Ear Flex Very Good	Tolerance Very Good
Cob Color Red	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stay Green Excellent	Tolerance Very Good



			Hybrid			Nutrition				Positioning				
			riybriu	Conventional			Nutr	tion		Less Heavy				
Hybrid	Relative Maturity	GDUs 50% Silking	GDUs to Black Layer	(CV), Organic (O), Energy Edge (EE), BMR	Red Tail Hybrid (if any)	FiberGest	SofStarch	Milk per Ton	Digestible Fiber Per Acre	Productive Soil	Productive/ Stress Prone Soil	Soils with Poor Drainage	Continuous Corn	Drought Tolerance
KF 27C10	77	1132	2100	CV	27T11	7	8	7	7	8	8	8	7	8
KF 34C30	84	1145	2145	CV, OR		9	8	8	9	9	9	9	7	8
KF 35C10	85	1180	2150	CV	35T12	7	7	8	8	8	7	8	8	8
KF 37C60	87	1150	2230	CV, OR		7	7	8	6	9	8	8	8	8
KF 38C80	88	1220	2260	CV	38T86, 38T89	9	9	9	9	9	9	9	9	8
KF 42C20	92	1200	2280	CV, OR		9	9	8	9	9	8	8	7	9
KF 43C40	93	1210	2300	CV	43T48	8	8	8	8	9	7	9	8	8
KF 44C20	94	1235	2320	CV, OR		8	8	8	8	9	8	8	7	8
KF 45C30	95	1235	2370	CV		9	9	9	9	9	9	8	8	9
KF 49C60	99	1250	2307	CV		9	8	8	8	8	7	8	7	8
KF 51C50	101	1220	2300	CV		8	8	8	9	9	8	9	8	9
KF 51C80	101	1200	2290	CV, OR	51T86	8	8	8	8	9	9	8	8	8
KF 52C20	102	1298	2418	CV		9	9	9	9	9	8	8	7	8
KF 52C40	102	1305	2445	CV	52T46	8	8	8	8	9	8	7	7	8
KF 54C50	104	1270	2600	0R		8	8	8	9	9	7	8	8	7
KF 54C90	104	1250	2550	CV, OR	54T96	8	8	8	8	9	8	8	8	9
KF 55C50	105	1310	2450	CV	55T56	8	9	8	7	9	7	7	7	7
KF 56C30	106	1300	2420	0R		8	7	8	8	8	8	8	8	8
KF 57H50	107	1300	2450	EE		8	9	8	8	9	8	8	8	8
KF 57C80	107	1310	2460	CV	57T81	9	9	9	9	9	9	7	6	8
KF 57C90	107	1310	2400	CV		8	8	8	8	8	8	8	8	8
KF 59B70	109	N/A	N/A	BMR		9	9	9	8	9	7	8	8	8
KF 59C30	109	1310	2690	CV, OR		8	8	8	9	9	8	8	8	8
KF 60S60	110	N/A	N/A	CV		9	N/A	9	8	9	8	8	8	8
KF 61C90	111	1380	2400	CV	61T96, 61T99	8	7	8	9	9	8	8	8	8
KF 63C10	113	1320	2790	CV		8	8	9	9	9	8	8	8	8
KF 63C80	113	1340	2610	CV	63T86	8	9	8	8	9	8	8	8	8
KF 64C40	114	1360	2855	CV, OR		8	8	8	8	9	9	8	8	9
KF 65C00	115	1435	2630	CV	65T06	8	8	8	8	9	8	8	8	9
KF 65C90	115	1355	2790	CV		9	9	8	9	8	8	8	7	8
KF 66B80	115	N/A	N/A	BMR		9	9	9	9	9	8	8	8	8
KF 67C20	117	1480	2700	CV		8	7	8	9	9	9	8	8	8
KF68C10	118	1370	2910	CV	68T88, 68T89	8	8	8	8	8	8	8	8	9

Rating scale: POOR | FAIR | GOOD | VERY GOOD | EXCELLENT 1-2 | 3-4 | 5-6 | 7-8 | 9-10

					Characteris	tics					Disease					
Ear Flex	Seedling Vigor	Plant Height	Ear Height	Cob Color	Stalk Strength	Root Strength	Stay Green	Dry Down	Test Weight	Hand Husking	Fungicide Response	Tar Spot	Gray Leaf Spot Tolerance	Northern Leaf Blight Tolerance	Goss's Wilt Tolerance	Common Rust Tolerance
7	8	MedTall	Medium	Red	8	7	8	9	5	8	8	7	6	8	7	7
8	8	MedTall	Medium	Light Red	7	8	8	8	8	8	8	5	7	7	7	7
7	8	MedTall	MedHigh	Pink	8	8	7	7	7	8	8	7	8	7	5	7
8	8	Medium	Medium	Red	8	8	9	8	8	7	9	7	7	7	9	8
7	9	MedTall	Medium	Red	9	8	9	8	7	N/A	9	7	8	9	9	8
9	9	MedTall	MedHigh	Pink	7	7	7	7	8	7	8	4	7	7	5	7
9	8	MedTall	Medium	Pink	8	8	8	7	7	8	8	7	8	9	7	8
8	8	MedTall	Medium	Red	8	7	9	8	8	8	8	5	8	7	7	8
8	8	MedTall	Medium	Red	8	8	8	8	8	7	7	6	9	7	9	8
7	8	MedTall	Medium	Light Red	7	7	7	7	7	7	8	5	8	7	7	7
8	9	MedTall	MedHigh	Light Red	8	9	9	8	7	7	8	7	8	8	7	8
8	8	Tall	Medium	Pink	9	8	9	7	8	8	9	9	8	8	7	7
9	8	Tall	Medium	White	8	9	8	7	7	9	9	5	8	8	7	8
8	9	MedTall	Medium	White	7	8	8	9	7	8	9	7	7	7	8	8
8	9	MedTall	Medium	Pink	8	8	7	8	8	8	9	5	7	7	8	7
8	8	MedTall	Medium	Red	9	8	9	9	9	7	9	8	9	9	9	7
8	8	Tall	MedHigh	Pink	8	8	8	9	8	7	9	6	7	7	7	8
7	8	MedTall	MedHigh	Pink	9	9	8	7	7	8	8	7	8	7	7	8
8	8	MedTall	Medium	Pink	8	8	8	8	8	N/A	9	5	8	7	7	8
9	9	Tall	Medium	Red	8	9	9	8	8	7	9	7	8	8	6	8
8	8	Tall	MedHigh	Light Red	9	9	9	7	8	7	9	8	6	8	8	7
9	8	Tall	Medium	Red	8	8	9	N/A	N/A	N/A	9	5	8	8	6	8
7	8	MedTall	Medium	Red	9	8	9	7	9	8	9	7	9	9	7	7
N/A	8	Tall	Medium	Pink	8	7	8	N/A	N/A	N/A	N/A	7	8	8	8	8
7	8	MedTall	Medium	Red	8	8	9	9	9	N/A	9	8	9	8	9	7
9	8	MedTall	MedHigh	Pink	8	8	7	7	7	8	7	5	9	7	9	7
8	8	MedTall	Medium	Pink	9	7	8	7	8	8	8	7	8	8	8	8
8	9	MedTall	MedHigh	Red	8	7	9	7	7	7	7	7	8	8	8	8
7	9	MedTall	MedHigh	Pink	8	8	8	7	7	7	9	5	8	8	9	9
9	8	Tall	Medium	Light Red	7	9	8	7	7	9	9	6	8	8	8	8
8	7	MedTall	High	Red	8	8	9	N/A	N/A	N/A	9	5	7	8	6	8
9	8	Tall	MedHigh	Light Red	8	7	8	7	8	7	8	7	8	8	7	8
9	9	Tall	MedHigh	White	8	7	7	7	8	8	9	7	8	9	8	7



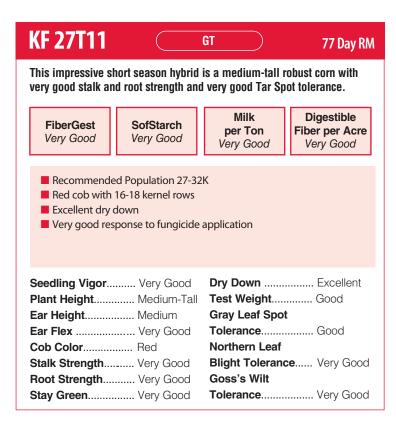
		Hybrid				Nut	rition		Positioning				
Hybrid	Relative Maturity	Trait	GDUs 50% Silking	GDUs to Black Layer	FiberGest	SofStarch	Milk per Ton	Digestible Fiber Per Acre	Less Productive/ Heavy Productive Stress Prone with Policy Soil Drains			Continuous Corn	Drought Tolerance
RT 27T11	77	GT	1132	2100	7	8	7	7	8	8	8	7	8
RT 35T12	85	GT/CB/LL	1180	2150	7	7	8	8	8	7	8	8	8
RT 37T11	87	GT	1180	2190	8	8	8	8	9	8	9	9	9
RT 38T86	88	Agrisure® Above	1220	2260	9	9	9	9	9	9	9	9	8
RT 38T89	88	Duracade®	1220	2260	9	9	9	9	9	9	9	9	8
RT 41T14	91	Agrisure Viptera® 3110	1210	2350	8	8	8	9	9	9	9	8	8
RT 43T44	93	Agrisure Viptera® 3110	1210	2320	8	8	8	8	9	7	9	8	8
RT 43T48	93	Viptera®	1210	2320	8	8	8	8	9	7	9	8	8
RT 45T04	95	Agrisure Viptera® 3110	1250	2310	8	8	9	9	9	8	8	8	7
RT 45T09	95	DuracadeViptera™	1250	2310	8	8	9	9	9	8	8	8	7
RT 47T56	97	PowerCore® Enlist®	1280	2395	8	8	8	7	9	7	8	7	7
RT 49T62	99	GT/CB/LL	1250	2307	9	8	8	8	8	7	8	7	8
RT 51T86	101	PowerCore® Enlist®	1200	2290	8	8	8	8	9	9	8	8	8
RT 52T46	102	PowerCore® Enlist®	1305	2445	8	8	8	8	9	8	7	7	8
RT 53T44	103	Agrisure Viptera® 3110	1250	2390	7	8	8	8	9	9	8	9	8
RT 53T49	103	DuracadeViptera™	1250	2390	7	8	9	9	9	9	8	9	8
RT 54T11	104	GT	1390	2575	9	9	9	9	9	9	9	8	8
RT 54T96	104	PowerCore® Enlist®	1250	2550	8	8	8	8	9	8	8	8	9
RT 55T56	105	PowerCore® Enlist®	1310	2450	8	9	8	7	9	7	7	7	7
RT 55T71	105	GT	1320	2430	8	8	8	9	9	8	8	6	8
RT 55T76	105	Agrisure® Above	1320	2430	8	8	8	9	9	8	8	6	8
RT 55T79	105	Duracade®	1320	2430	8	8	8	9	9	8	8	6	8
RT 57T81	107	GT	1375	2570	9	9	9	9	9	9	7	6	8
RT 58T39	108	Duracade®	1340	2670	8	8	8	8	8	9	8	9	9
RT 58T46	108	Agrisure® Above	1315	2630	8	8	8	8	8	8	8	8	8
RT 59T56	109	Agrisure® Above	1380	2650	8	8	8	8	9	9	9	8	8
RT 61T96	111	Agrisure® Above	1380	2400	8	7	8	9	9	8	8	8	8
RT 61T99	111	Duracade®	1380	2400	8	7	8	9	9	8	8	8	8
RT 63T86	113	PowerCore® Enlist®	1340	2610	8	9	8	8	9	8	8	8	8
RT 64T36	114	Agrisure® Above	1365	2602	9	9	9	9	9	8	8	8	9
RT 64T39	114	Duracade®	1365	2602	9	9	9	9	9	8	8	8	9
RT 65T06	115	Agrisure® Above	1435	2630	8	8	8	8	9	8	8	8	9
RT 68T88	118	Viptera®	1370	2910	8	8	8	8	8	8	8	8	9
RT 68T89	118	DuracadeVintera™	1370	2910	8	8	8	8	l 8	8	8	8	9

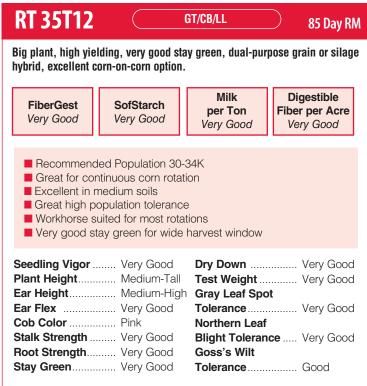
A Corteva® number is needed to sell and use Powercore® Enlist® Red Tail corn. A Syngenta® number is needed to sell and use all other Red Tail corn.

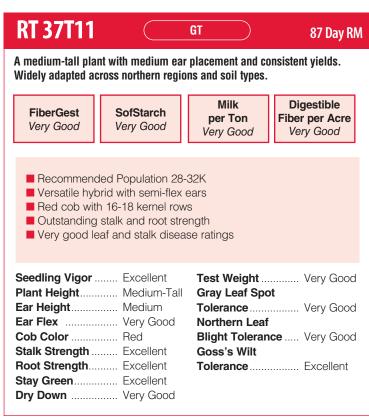
# Rating scale: POOR | FAIR | GOOD | VERY GOOD | EXCELLENT 1-2 | 3-4 | 5-6 | 7-8 | 9-10

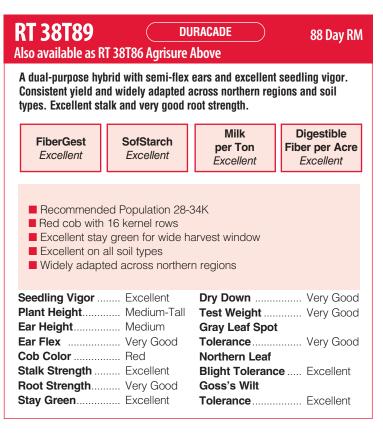
	Characteristics									Disease						
Ear Flex	Seedling Vigor	Plant Height	Ear Height	Cob Color	Stalk Strength	Root Strength	Stay Green	Dry Down	Test Weight	Hand Husking	Fungicide Response	Tar Spot	Gray Leaf Spot Tolerance	Northern Leaf Blight Tolerance	Goss's Wilt Tolerance	Common Rust Tolerance
7	8	MedTall	Medium	Red	8	7	8	9	5	8	8	7	6	8	7	7
7	8	MedTall	MedHigh	Pink	8	8	7	7	7	8	8	7	8	7	5	7
7	9	MedTall	Medium	Red	9	9	9	7	8	N/A	9	7	7	8	9	9
7	9	MedTall	Medium	Red	9	8	9	8	7	N/A	9	7	8	9	9	8
7	9	MedTall	Medium	Red	9	8	9	8	7	N/A	9	7	8	9	9	8
8	9	MedTall	MedHigh	Red	9	7	8	7	7	7	8	7	8	9	9	8
9	8	MedTall	Medium	Pink	8	8	8	7	7	8	8	7	8	9	7	8
9	8	MedTall	Medium	Pink	8	8	8	7	7	8	8	7	8	9	7	8
5	9	Tall	MedHigh	Red	8	7	8	9	7	N/A	9	7	7	7	9	8
5	9	Tall	MedHigh	Red	8	7	8	9	7	N/A	9	7	7	7	9	8
8	9	Tall	MedHigh	Red	7	7	8	7	7	7	9	7	7	8	8	7
7	8	MedTall	Medium	Light Red	7	7	7	7	7	7	8	5	8	7	7	7
8	8	Tall	Medium	Pink	9	8	9	7	8	8	9	9	8	8	7	7
8	9	MedTall	Medium	White	7	8	8	9	7	8	9	7	7	7	8	8
8	9	Tall	MedHigh	Pink	9	9	8	9	9	7	8	6	7	9	9	8
8	9	Tall	MedHigh	Pink	9	9	8	9	9	7	8	6	7	9	9	8
9	8	Tall	Medium	Pink	8	8	8	8	8	8	9	7	8	8	7	8
8	8	MedTall	Medium	Red	9	8	9	8	8	7	9	8	9	9	9	7
8	8	Tall	MedHigh	Pink	8	8	8	9	8	7	9	6	7	7	7	8
9	8	MedTall	Medium	Red	9	8	9	8	8	8	9	6	6	8	6	7
9	8	MedTall	Medium	Red	9	8	9	8	8	8	9	6	6	8	6	7
9	8	MedTall	Medium	Red	9	8	9	8	8	8	9	6	6	8	6	7
9	9	Tall	Medium	Red	8	9	9	8	8	7	9	7	8	8	6	8
8	8	MedTall	Medium	Red	8	8	8	7	7	6	9	7	8	7	8	7
8	8	MedTall	Medium	Red	8	8	8	9	7	8	9	7	9	8	8	7
6	9	MedTall	Medium	White	8	8	8	8	8	6	9	7	7	7	8	8
7	8	MedTall	Medium	Red	8	8	9	9	9	N/A	9	8	9	8	9	7
7	8	MedTall	Medium	Red	8	8	9	9	9	N/A	9	8	9	8	9	7
8	8	MedTall	Medium	Pink	9	7	8	7	8	8	8	7	8	8	8	8
8	7	MedTall	MedHigh	Red	9	8	9	8	8	N/A	8	7	9	8	7	9
8	7	MedTall	MedHigh	Red	9	8	9	8	8	N/A	8	7	9	8	7	9
7	9	MedTall	MedHigh	Pink	8	8	8	7	7	7	9	5	8	8	9	9
9	9	Tall	MedHigh	White	8	7	7	7	8	8	9	7	8	9	8	7
9	9	Tall	MedHigh	White	8	7	7	7	8	8	9	7	8	9	8	7











93 Day RM



**RT 41T14** 

**AGRISURE VIPTERA 3110** 

91 Day RM

A medium-tall plant with medium-high ear placement and consistent yield, widely adapted across northern regions and soil types.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Excellent

- Recommended Population 27-36K
- Dual-purpose with semi-flex ears
- Red cob; 18 kernel rows
- Wide population adaption
- Excellent leaf/stalk disease ratings

Seedling VigorExcellentPlant HeightMedium-TallEar HeightMedium-HighEar FlexVery GoodCob ColorRedStalk StrengthExcellentRoot StrengthVery GoodStay GreenVery Good

Good Goss's Wilt

Tolerance ..... Excellent

A medium-tall plant with medium ear placement, widely adapted across northern regions and soil types. Milk Digestible **FiberGest** SofStarch per Ton Fiber per Acre Very Good Very Good Very Good Excellent ■ Recommended Population 28-32K ■ Dual purpose with flex ears ■ Pink cob; 18-20 kernel rows Widely adapted to soil types ■ Very good leaf/stalk disease ratings Seedling Vigor ...... Very Good Dry Down ..... Very Good Plant Height..... Medium-Tall Test Weight ..... Very Good Ear Height..... Medium **Gray Leaf** Ear Flex ..... Excellent Spot Tolerance...... Very Good Cob Color ..... Pink Northern Leaf Stalk Strength ...... Very Good Blight Tolerance ..... Excellent Root Strength..... Very Good Goss's Wilt Stay Green..... Very Good Tolerance..... Very Good

AGRISURE VIPTERA 3110

#### RT 45T09

DURACADEVIPTERA

95 Day RM

Also available as RT 45T04 Agrisure Viptera 3110

A high-yielding, dual-purpose hybrid with excellent eye appeal, tall plant with medium-high ear placement.

FiberGest Very Good SofStarch Very Good Milk per Ton Excellent Digestible Fiber per Acre Excellent

- Recommended Population 30-34K
- Dual purpose with semi-flex ears
- Red cob; 18-20 kernel rows
- Excellent in cold/no-till soils
- Excellent eye appeal

Seedling Vigor Excellent	Dry Down Excellent
Plant Height Tall	Test Weight Very Good
Ear Height Medium-High	Gray Leaf Spot
Ear Flex Good	Tolerance Very Good
Cob Color Red	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stay Green Very Good	Tolerance Excellent

#### **RT 47T56**

RT 43T44

Also available as RT 43T48 Viptera

PCE

97 Day RM

Tall, robust, versatile hybrid with very good silage charateristics. It emerges quickly with excellent early growth.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

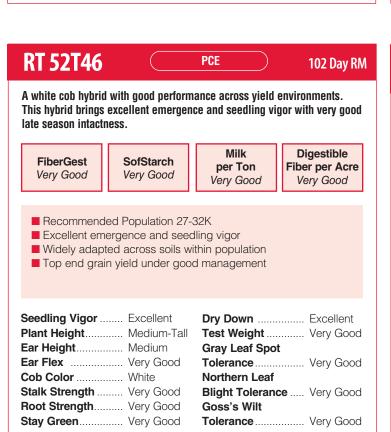
- Recommended Population 27-34K
- Red cob with 16-18 kernel rows
- Very good stay green with medium grain dry down
- Very good tar spot tolerance
- Excellent fungicide response

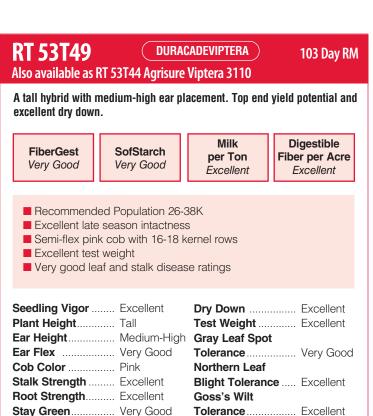
Seedling Vigor Excellent Plant Height Tall	Dry Down Very Good Test Weight Very Good
Ear Height Medium-High	Gray Leaf Spot
Ear Flex Very Good	Tolerance Very Good
Cob Color Red	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stay Green Very Good	Tolerance Very Good
-	•



**RT 49T62** GT/CB/LL 99 Day RM High yield with flex ears and impressive grain quality, outstanding silage hybrid for quantity and quality. Milk Digestible FiberGest SofStarch per Ton Fiber per Acre Very Good Very Good Very Good Very Good ■ Recommended Population 26-30K ■ Excellent seed emergence and vigor ■ Consistent yield with top end potential ■ Excellent eye appeal ■ Very good drought tolerance Seedling Vigor ...... Excellent Dry Down ...... Very Good Plant Height..... Medium-Tall Test Weight ..... Very Good Ear Height..... Medium Grav Leaf Spot Ear Flex ...... Very Good Tolerance..... Very Good Cob Color ..... Light Red Northern Leaf Blight Tolerance ..... Very Good Stalk Strength ...... Very Good Root Strength..... Very Good Goss's Wilt Stay Green..... Good Tolerance ...... Very Good

#### **RT 51T86 PCE** 101 Day RM Tall, robust, versatile hybrid with excellent stalk strength and very good root ratings. Stay green is excellent. Milk Digestible FiberGest SofStarch per Ton Fiber per Acre Very Good Very Good Very Good Very Good ■ Recommended Population 27-32K ■ Tall plant with medium ear placement ■ Flex pink cob with 18-20 kernel rows ■ Excellent tar spot tolerance ■ Very good leaf and stalk disease ratings Seedling Vigor ...... Very Good Dry Down ..... Very Good Test Weight ..... Very Good Plant Height..... Tall **Gray Leaf Spot** Ear Height..... Medium Tolerance...... Very Good Ear Flex ..... Very Good Northern Leaf Cob Color ..... Pink Blight Tolerance ..... Very Good Stalk Strength ..... Excellent Root Strength..... Very Good Goss's Wilt Tolerance...... Very Good Stay Green..... Excellent







RT 54T11

Excellent performand with high grain and sthat works on a wide

\_\_\_\_

104 Day RM

Excellent performance across varied environments. Dual-purpose hybrid with high grain and silage yields. Very good disease ratings. A flex hybrid that works on a wide range of populations.

FiberGest Excellent SofStarch Excellent Milk per Ton Excellent Digestible Fiber per Acre Excellent

- Recommended Population 28-32K
- Very good dual-purpose hybrid
- High yields of silage and grain across varied soils
- Broadly adapted with outstanding agronomics
- Consistent high yields across the Midwest and South
- Very good seedling vigor

Seedling Vigor	Very Good
Plant Height	Tall
Ear Height	Medium
Ear Flex	Excellent
Cob Color	Pink
Stalk Strength	Very Good
Root Strength	Very Good
Stay Green	Very Good

#### **RT 54T96**

PCE

104 Day RM

Medium-tall healthy plant with excellent flex. Widely adapted across all environments.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Excellent stalk strength and stay green
- Versatile hybrid that lends itself more to fed-grain
- Excellent test weight
- Excellent leaf and stalk disease ratings
- Very good tar spot tolerance

Seedling Vigor	Very Good
Plant Height	Medium-Ta
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Red
Stalk Strength	Excellent
Root Strength	Very Good
Stay Green	Excellent

d Dry Down ....... Excellent
Test Weight ...... Excellent
Gray Leaf Spot
Tolerance ..... Excellent
Northern Leaf
Blight Tolerance .... Excellent
Goss's Wilt

Tolerance..... Excellent

#### **RT 55T56**

PCE

105 Day RM

This tall, robust hybrid brings high silage tonnages under moderate population and good management. This hybrid moves south of its zone very well.

FiberGest Very Good SofStarch Excellent Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 27-32K
- Good kernel depth with a pink cob
- Excellent emergence and very good seedling vigor
- Very good disease ratings but will benefit from a fungicide application

Seedling Vigor Very Good	Dry Down Excellent
Plant Height Tall	Test Weight Very Good
Ear Height Medium-High	Gray Leaf Spot
Ear Flex Very Good	Tolerance Very Good
Cob Color Pink	Northern Leaf
Stalk Strength Very Good	Blight Tolerance Very Good
Root Strength Very Good	Goss's Wilt
Stay Green Excellent	Tolerance Very Good

#### RT 55T79

**DURACADE** 

105 Day RM

Also available as RT 55T76 Agrisure Above and RT 55T71 GT

A versatile medium-tall robust plant with excellent flex. Widely adapted with very good stress tolerance across all environments.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Excellent

- Recommended Population 27-32K
- Excellent stalk and stay green
- Excellent fungicide response
- Good leaf and stalk disease ratings
- Average tar spot tolerance

Seedling Vigor ...... Very Good
Plant Height ..... Medium-Tall
Ear Height ..... Excellent
Cob Color ..... Red
Stalk Strength .... Excellent
Root Strength .... Very Good
Stay Green .... Excellent
Dry Down .... Very Good

Test Weight ....... Very Good
Gray Leaf Spot
Tolerance ...... Good
Northern Leaf
Blight Tolerance ..... Very Good
Goss's Wilt
Tolerance ..... Good



RT 57T81 GT 107 Day RM A robust plant with excellent silage and grain ratings. Excellent eye appeal across the corn belt, dark green canopy type leaves with a robust stalk, excellent roots and late season standability. Wide regional adaptation with consistent yields in silage and grain. Digestible **FiberGest** SofStarch per Ton Fiber per Acre Very Good Excellent Very Good Excellent ■ Recommended Population 30-36K ■ High silage yields ■ Slower grain dry down due to plant health within maturity range ■ Manage populations to management practices and soil conditions ■ Very good response to fungicide application Seedling Vigor ...... Very Good Dry Down ..... Very Good Plant Height..... Tall Test Weight ..... Very Good Ear Height..... Medium-High Gray Leaf Spot Ear Flex ..... Very Good Tolerance...... Very Good Cob Color ..... Pink Northern Leaf Stalk Strength ..... Excellent Blight Tolerance ..... Excellent Root Strength..... Excellent Goss's Wilt

#### RT 58T39 **DURACADE** 108 Day RM A versatile medium-tall robust workhorse hybrid adapted to variable or less productive soils. Very good yield potential in continuous corn rotations. Digestible Milk **FiberGest** SofStarch per Ton Fiber per Acre Very Good Very Good Very Good Very Good ■ Recommended Population 27-30K ■ Strong foliar disease package ■ Excellent fungicide response ■ Very good tar spot tolerance Seedling Vigor ...... Very Good Dry Down ..... Very Good Plant Height..... Medium-Tall Test Weight ..... Very Good Ear Height..... Medium Gray Leaf Spot Ear Flex ..... Very Good Tolerance ...... Very Good Cob Color ..... Red Northern Leaf Stalk Strength ...... Very Good Blight Tolerance ..... Very Good Root Strength..... Very Good Goss's Wilt Stay Green..... Very Good Tolerance...... Very Good

#### Stay Green..... Excellent Tolerance..... Excellent **RT 58T46 AGRISURE ABOVE** 108 Day RM A versatile medium-tall robust plant with very good flex. Widely adapted with very good stress tolerance across all environments. Milk Digestible **FiberGest** SofStarch per Ton Fiber per Acre Very Good Very Good Very Good Very Good ■ Recommended Population 27-32K ■ Excellent stalk and stay green ■ Excellent fungicide response ■ Very Good leaf and stalk disease ratings ■ Average tar spot tolerance Seedling Vigor ...... Very Good Dry Down ..... Excellent Plant Height..... Medium-Tall Test Weight ..... Very Good Ear Height..... Medium **Gray Leaf Spot** Ear Flex ..... Very Good Tolerance..... Excellent Cob Color ..... Red **Northern Leaf** Stalk Strength ...... Very Good Blight Tolerance ..... Very Good Root Strength...... Very Good Goss's Wilt

RT 59T56	AGRISII	IRE ABOVE	100 Day DM						
KI 59156 AGRISURE ABOVE 109 Day RM									
This leafy white cob hybrid brings top yield potential across all productivity acres. It excels east to west; excellent seedling vigor.									
FiberGest Very Good	SofStarch Very Good	Milk per Ton Very Good	Digestible Fiber per Acre Very Good						
<ul><li>Keep popula</li><li>Excellent per</li><li>Excellent em</li></ul>	<ul> <li>Recommended Population 30-38K</li> <li>Keep populations on higher side for top grain yield</li> <li>Excellent performer in productive to average soil conditions</li> <li>Excellent emergence in cold/no till soils</li> <li>Excellent fungicide response</li> </ul>								
Seedling Vigor Plant Height Ear Height Ear Flex Cob Color Stalk Strength Root Strength	Medium-Tall Medium Good White Very Good	Test Weight Gray Leaf Spo Tolerance Northern Leaf	Very Good						
Stay Green	Very Good	Tolerance	Very Good						

Tolerance..... Very Good

Stay Green..... Very Good



**RT 61T99** 

DURACADE

111 Day RM

Also available as RT 61T96 Agrisure Above

Medium-tall plant with good flex and widely adapted across all environments. Versatile hybrid with very good feed quality.

FiberGest Very Good

SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Excellent

- Recommended Population 27-32K
- Very good stalk and root with excellent stay green
- Good kernel depth with a red cob
- Very good leaf and stalk disease ratings
- Very good tar spot tolerance

Seedling Vigor	Very Good
Plant Height	Medium-Ta
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Red
Stalk Strength	Very Good
Root Strength	Very Good
Stay Green	Excellent

Dry Down ...... Excellent
Test Weight ..... Excellent
Gray Leaf Spot
Tolerance .... Excellent
Northern Leaf
Blight Tolerance .... Very Good
Goss's Wilt
Tolerance .... Excellent

## **RT 63T86**

PCE

113 Day RM

This medium-tall, robust hybrid brings top end silage and grain potential. It produces dependable yield performance across most environments.

FiberGest Very Good SofStarch Excellent Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 29-32k
- Large flex ear with 16-20 deep kernels on a pink cob
- Very good tolerance to Tar Spot
- Very good stay green with good harvest window for silage

Seedling Vigor	Very Good
Plant Height	Medium-Ta
Ear Height	Medium
Ear Flex	Very Good
Cob Color	Pink
Stalk Strength	Excellent
Root Strength	Very Good
Stay Green	Very Good

Dry Down Very Good
Test Weight Very Good
Gray Leaf Spot
Tolerance Very Good
Northern Leaf
Blight Tolerance Very Good
Goss's Wilt
Tolerance Very Good

## RT 64T39

DURACADE

114 Day RM

#### Also available as RT 64T36 Agrisure Above

A high-yielding dual-purpose hybrid with excellent eye appeal and very good ear flex. Medium-tall plant with medium-high ear placement.

FiberGest Excellent SofStarch Excellent Milk per Ton Excellent Digestible Fiber per Acre Excellent

- Recommended Population 30-34K
- Red cob with 14-16 kernel rows
- Place on better soils with good management
- Excellent Gray Leaf and rust tolerance

Seedling Vigor	Very Good
Plant Height	Medium-Tall
Ear Height	Medium-High
Ear Flex	Very Good
Cob Color	Red
Stalk Strength	Excellent
Root Strength	Very Good
Stay Green	Excellent

	Dry Down	Very Good
	Test Weight	Very Good
ı	Gray Leaf Spot	
	Tolerance	Excellent
	Northern Leaf	
	Blight Tolerance	Very Good
	Goss's Wilt	
	Tolerance	Very Good

#### **RT 65T06**

AGRISURE ABOVE

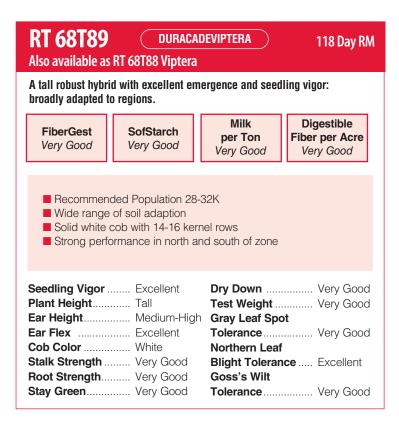
**115 Day RM** 

Consistent, medium-tall, robust, mid- to full-season corn with very good silage appeal, at home between I-80 and I-70 and in the I-24 corridors in the Midwest and throughout the eastern states.

FiberGest Very Good SofStarch Very Good Milk per Ton Very Good Digestible Fiber per Acre Very Good

- Recommended Population 32-36K
- Keep populations on higher side for best yields
- Excellent performer in productive to average soil conditions
- Excellent emergence in cold/no till soils
- Very good stay green for longer harvest window
- Moves north very well as a full season hybrid; not recommended for deep South

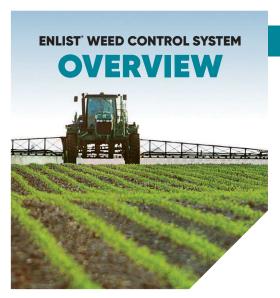
Seedling Vigor Plant Height		Dry Down Test Weight	-
Ear Height	Medium-High	Gray Leaf Spot	ř
Ear Flex	Very Good	Tolerance	Very Good
Cob Color	Pink	Northern Leaf	
Stalk Strength	Very Good	Blight Tolerance	Very Good
Root Strength	Very Good	Goss's Wilt	
Stay Green	Very Good	Tolerance	Very Good





PowerCore® Enlist® (PCE) corn is a comprehensive trait package for above-ground pests and weed management. PowerCore Enlist corn featuresthree modes of action against above-ground insect pests for broad-spectrum and long-lasting control. The primary pest controlled areblack cutworm, European corn borer, fall army worm, and southwestern corn borer. Tolerance to multiple herbicides – including glyphosate, glufosinate, 2,4-D choline, and FOPS - gives you the flexibility in herbicide choice and management practices to helpmaximize yield.

#### FiberGest = Fiber Digestibility; SofStarch = Starch Digestibility



ON-TARGET APPLICATIONS:

90% less drift than traditional 2,4-D 96% less volatile than 2,4-D ester



Enlist Duo® and Enlist One® herbicides with Colex-D® technology are the only herbicides containing 2,4-D that are labeled for preemergence and postemergence use on PowerCore® Enlist® corn.

2,4-D choline

| Glyphosate

| Glufosinate

**FOP Herbicides** 

- Convenient proprietary blend of 2,4-D choline and glyphosate
- · The two modes of action work together to deliver control of yield-robbing weeds and help prevent resistance
- · Straight goods 2,4-D choline with additional tank-mix flexibility
- Provides additional tank-mix flexibility with alyphosate, alufosinate and other qualified tank-mix products, allowing for a customized weed control program to fit each farm













The DuracadeViptera™ trait stack is a comprehensive solution for proactively protecting yield potential and field health. Featuring multiple modes of action to control 16 key above-and below-ground insects, including a unique mode of action that demonstrates strong performance against corn rootworm, and the convenience of an integrated E-Z Refuge® seed blend. **Pests controlled:** European corn borer, southwestern corn borer, corn earworm, western bean cutworm, black cutworm, dingy cutworm, fall armyworm, true armyworm, beet armyworm, common stalk borer, southern cornstalk borer, lesser cornstalk borer, sugarcane borer, western corn rootworm, northern corn rootworm, and Mexican corn rootworm. Tolerant to glyphosate and glufosinate-based herbicides.







The Duracade® trait stack offers season-long control of corn rootworm and corn borer, as well as suppression of ear-feeding insects, and includes a unique mode of action that demonstrates strong performance against corn rootworm, with an integrated E-Z Refuge® seed blend. Pests controlled: European corn borer, southwestern corn borer, black cutworm, beet armyworm, southern cornstalk borer, lesser cornstalk borer, sugarcane borer, western corn rootworm, northern corn rootwormand Mexican corn rootworm. Pests suppressed: Corn earworm, western bean cutworm, fall armyworm and common stalk borer. Tolerant to glyphosate and glufosinate-based herbicides.







The Viptera® trait stack offers the most comprehensive above-ground insect control with multiple modes of action against key above-ground insects and the convenience of an integrated E-Z Refuge® seed blend. It is ideal for areas where corn rootworm management is not a primary concern. Pests controlled: European corn borer, southwestern corn borer, corn earworm, western bean cutworm, black cutworm, dingy cutworm, fall armyworm, true armyworm, beet armyworm, common stalk borer, southern cornstalk borer, lesser cornstalk borer and sugarcane borer. Tolerant to glyphosate and glufosinate-based herbicides.







The Agrisure® Above trait stack offers the convenience of an integrated E-Z Refuge® seed blend plus multiple modes of action against corn borer, as well as suppression of ear-feeding insects. Pests controlled: European corn borer, southwestern corn borer, black cutworm, southern cornstalk borer, lesser cornstalk borer and sugarcane borer. Pests suppressed: Corn earworm, western bean cutworm, fall armyworm and common stalk borer. Tolerant to glyphosate and glufosinate-based herbicides.







The Agrisure® Total trait stack offers the convenience of an integrated E-Z Refuge® seed blend with multiple modes of action against corn borer and corn rootworm, as well as suppression of ear-feeding insects. Pests controlled: European corn borer, southwestern corn borer, black cutworm, southern cornstalk borer, lesser cornstalk borer, sugarcane borer, western corn rootworm, northern corn rootworm and Mexican corn rootworm. Pests suppressed: Corn earworm, western bean cutworm, fall armyworm and common stalk borer. Tolerant to glyphosate and glufosinate-based herbicides.





The Agrisure Viptera® 3110 trait stack offers season-long comprehensive above-ground insect control. It is ideal for areas where corn rootworm management is not a key focus. Pests controlled: European corn borer, southwestern corn borer, corn earworm, western bean cutworm, black cutworm, dingy cutworm, fall armyworm, true armyworm, beet armyworm, common stalk borer, southern cornstalk borer, lesser cornstalk borer and sugarcane borer. Tolerant to glyphosate and glufosinate-based herbicides.





The Agrisure GT/CB/LL trait stack provides tolerance to in-crop applications of both glyphosate and glufosinate-based herbicides. It also offers corn borer control.



The Agrisure® GT trait provides tolerance to in-crop applications of glyphosate-based herbicides. This hybrid is an excellent option for refuge acres in a structured refuge operation.

#### LIBERTY LINK'

Seed products with the LibertyLink® (LL) trait are resistant to the herbicide glufosinate ammonium, an alternative to glyphosate in corn, and combine high-yielding genetics with the powerful, non-selective, post-emergent weed control of Liberty® herbicide for optimum yield and excellent weed control LibertyLink®, Liberty® and the Water Droplet logo are registered trademarks of BASF.





Corn trait technology incorporated into these seeds is commercialized under license from Syngenta Seeds, LLC. Herculex® Technology incorporated into these seeds is commercialized under license from Corteva Agriscience LLC. Herculex® and the HERCULEX Shield are trademarks of Corteva Agriscience LLC.



Planting Refuges, Preserving Technolog

Before opening a bag of seed, be sure to read and understand the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits expressed in the seed set forth in the technology agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with those stewardship requirements.

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.

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More information about Duracade® is available at http://www.biotradestatus.com/.



Seeds containing the PowerCore® Enlist®, PowerCore® Enlist® Refuge Advanced®, Enlist® Corn - REFUGE and Enlist E3® traits are protected under one or more U.S. patents which can be found at www.traitstewardship.com. The purchase of this traited seed includes a limited license to produce a single crop in the United States. The use of seed from such a crop and/or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. You acknowledge and agree to be bound by the terms and conditions of the following documents in effect at the time of planting of this seed: (i) the Corteva Agriscience Technology Use Agreement and (ii) the Product Use Guides for all technologies in this seed, including the Herbicide Resistance Management (HRM), and Use requirements.

To plant PowerCore Enlist, PowerCore Enlist Refuge Advanced, Enlist Corn - REFUGE and Enlist E3 seed, you must have a limited license from Corteva Agriscience (or other appropriate affiliates). In consideration of the foregoing, Corteva Agriscience grants to the Grower a limited license to use its technology to produce only a single commercial crop in the United States under the terms and conditions set forth in the Technology Use Agreement in effect at the time of planting of this seed.

**IRM** - Properly managing trait technology is key to preserving it as a long term crop protection tool. **Growers who fail to comply with IRM requirements risk losing access to this product.** To help preserve the effectiveness of *Bt* corn technologies, growers planting *Bt* corn technologies are required to follow an IRM Plan. Consult the Corn Product Use Guide for appropriate refuge configuration options. Before opening a bag of seed, be sure to read, understand and accept the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits expressed in the seed as set forth in the Technology Use Agreement and Product Use Guide. By opening and using a bag of seed, you are reaffirming your obligation to comply with the most recent stewardship requirements. For complete details on IRM requirements for hybrids with *Bt* technology, including refuge examples and important information on the use of insecticides on refuge and *Bt* corn acres, please consult appropriate Product Use Guide. Go to **www.corteva.us/Resources/trait-stewardship.html** to download the latest Corteva Agriscience Corn Product Use Guide.

Corteva Agriscience is a member of Excellence Through Stewardship® (ETS). Corteva Agriscience product are commercialized in accordance with ETS Product Launch Stewardship Guidance and in compliance with the Corteva Agriscience policies regarding stewardship of those products. In line with these guidelines, our product launch process for responsible launches of new products includes a longstanding process to evaluate export market information, value chain consultations, and regulatory functionality. Growers and end-users must take all steps within their control to follow appropriate stewardship requirements and confirm their buyer's acceptance of the grain or other material being purchased. For more detailed information on the status of a trait or stack, please visit www.biotradestatus.com. Excellence Through Stewardship® is a registered trademark of Global Stewardship Group.

Following burndown, Enlist Duo® and Enlist One® herbicides with Colex-D® technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa. gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. 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. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CORN AND SOYBEANS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com. POWERCORE® multi-event technology developed by Corteva Agriscience LLC and Monsanto. LibertyLink® and the Water Droplet Design are registered trademarks of BASF. PowerCore® and Roundup Ready® are registered trademarks of Bayer Group. Always follow IRM, grain marketing and all other stewardship practices and pesticide label directions. Bt products may not yet be registered in all states. Check with your seed representative for the registration status in your state. ™ ®Trademarks of Corteva Agriscience and its affiliated companies.







# ALFALFA

Alfalfa is a legume that can fix most of its own nitrogen, is deep-rooted to give drought tolerance, and yields well during the hotter part of the summer. On many farms today, alfalfa stands are only in production for three to four years. Byron Seeds selects only the highest-performing varieties for maximum yields throughout the life span of the stand.

The low-lignin industry alfalfas are good quality but they have a drag on yield. Our KingFisher alfalfas are not only excellent in quality, but they actually *increase* yield. KingFisher alfalfas have improved fiber digestibility on farms across the country. KingFisher alfalfas and alfalfa/grass mixes also have produced award-winning yields of high-quality forages that have garnered many honors and championships in the rigorous, unbiased World Dairy Expo Forage Analysis Superbowl.

#### Management

Many modern varieties can handle 28-day cutting schedules, and some elite varieties need that type of management to perform their best. One very critical aspect of alfalfa management is knowing when to take the last cutting in the fall. Alfalfa

needs five weeks of growth before a killing frost (25°F). In some areas, another cutting can be taken after frost when the alfalfa is dormant.

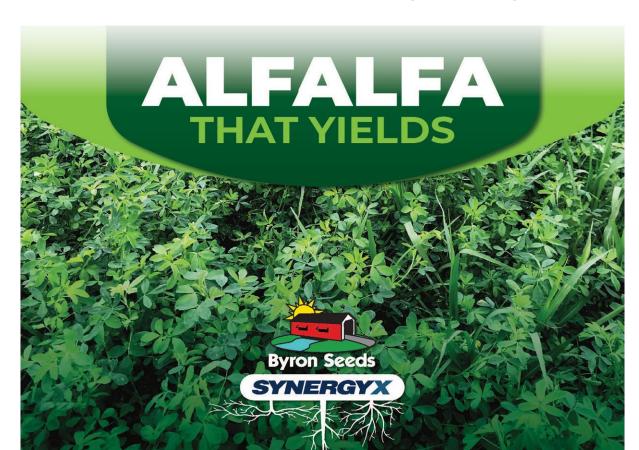
Higher fall dormancy numbers in alfalfa indicate early spring and late fall growth, thus increased yield. For winter survival, the lower the winter survival number, the more winter-hardy the variety.

#### Establishment

Alfalfa can be planted in the spring or late summer, but we advise late summer when possible. If spring sown, a nurse crop of grass or small grain is advisable to maximize the tonnage in the seeding year. We usually advise seeding grass with alfalfa to increase tonnage and produce a better quality feed for the life of the stand.

Good ratios of sulfur, boron, and phosphorus as well as a pH above 6.5 are critical for alfalfa. Nitrogen is key for good grass yields.

Alfalfa exhibits autotoxicity, which means established plants (older than 6 months) give off compounds that prevent new alfalfa seedlings from establishing.



# SynergyX alfalfas are available with a SureStand conventional coating or a SureStand coating approved for organic.









KingFisher SynergyX alfalfas are intelligent alfalfa combinations designed to increase yield, reduce risk, and extend life through the varying root systems and the synergistic teamwork of the high-performing alfalfa varieties that compose the blends.

Each of our four SynergyX blends has a unique place and focus:

• KF SynergyX Blaze HD<sup>2</sup> – focused on highest quality and highest disease resistance for best soils

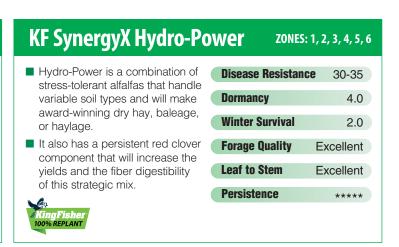
- KF SynergyX Ignite—focused for very high yields
- KF SynergyX Fortress—focused on rugged, high-traffic tolerance with a sunken crown component
- KF SynergyX Hydro-Power—focused for lower, wetter soils with a red clover component.

Because of the unique strengths they bring to the farmer, KingFisher SynergyX alfalfas have exploded across the Midwest! Don't miss out on their powerful advantages.

#### KF SynergyX Blaze HD<sup>2</sup> **ZONES: 1, 2, 3, 4, 5, 6** ■ Blaze is a combination of high-**Disease Resistance** 30-35 performing alfalfas naturally **Dormancy** 4.5 bred for reduced crosslinking with lignin and lower UNDF240. **Winter Survival** 1.8 ■ Blaze brings strong disease resistance (APH2) and increased **Forage Quality** Excellent NDFD30 and protein digestion. **Leaf to Stem** Excellent **Persistence**

KF SynergyX Ignite	ZONES: 1, 2, 3, 4, 5, 6		
■ Ignite is a combination of high- performing alfalfas with superior quality, disease resistance, and varying root systems for the best alfalfa managers.	Disease Resistance 30-35		
	<b>Dormancy</b> 4.5		
	Winter Survival 1.8		
■ This mix has very high yield	Forage Quality Excellent		
potential while having reduced crosslinking with lignin.	Leaf to Stem Excellent		
× #.	Persistence *****		
King Fisher 100% REPLANT			

#### **KF SynergyX Fortress ZONES: 1, 2, 3, 4, 5, 6** Fortress is a combination of **Disease Resistance** 30-35 rugged, high-traffic-tolerant **Dormancy** alfalfas. 4.5 ■ This mix includes sunken crown, **Winter Survival** 1.8 branch root, creeping, and APH2 resistant alfalfas. **Forage Quality** Excellent **Leaf to Stem** Excellent **Persistence** \*\*\*\*



30 out of 30 is the highest resistance rating. 35 ratings indicate resistance to APH2. Higher fall dormancy numbers indicate early spring and late fall growth. The lower the winter survival number, the more winter-hardy the variety. More asterisks means better persistence.

# SynergyX Alfalfas Boost Yield

The strength of our KingFisher SynergyX alfalfas is the power of synergy—mutually advantageous combined action. Instead of competing, the varieties in the SynergyX combinations work together with their strengths to produce yield and longevity above what each individual variety could do by itself.

The varying root systems of SynergyX combinations consistently feed the plants for better resilience in extreme weather patterns. SynergyX alfalfas fill a greater portion of the soil profile with roots, producing more root exudates for better soil health. This translates into better yield and persistence for the stand.

Most fields have a variety of high and low spots as well as soil types. Each variety in a SynergyX combination performs best in different areas. When planted in a field, these differences work together to bring a consistency in the yield across the field. Raising the yields of the poor spots in your field and bringing greater consistency to every square foot is probably the biggest way our SynergyX alfalfas bring more yield to your farm.

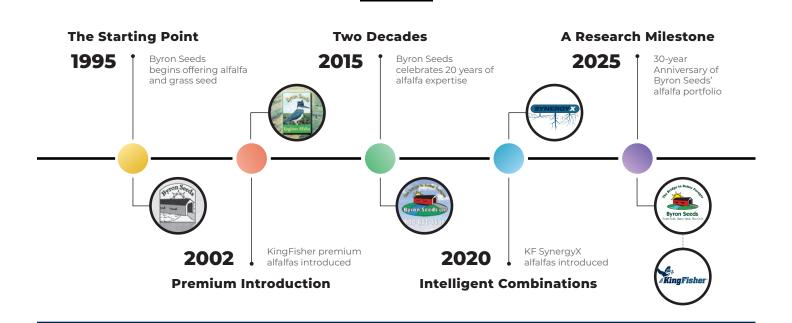




The SynergyX alfalfa program is a result of 30 years of alfalfa research and experience.

30 YEARS OF

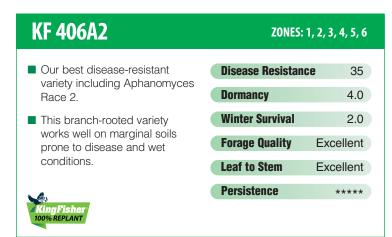
#### ALFALFA RESEARCH AND PRODUCTS



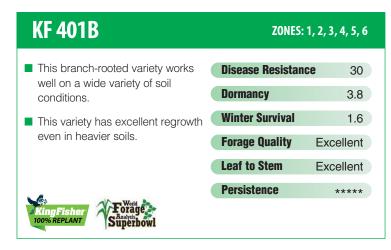
KingFisher alfalfas are available with a SureStand coating approved for organic and a few are available with a SureStand conventional coating as well.







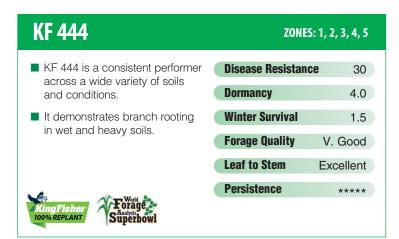






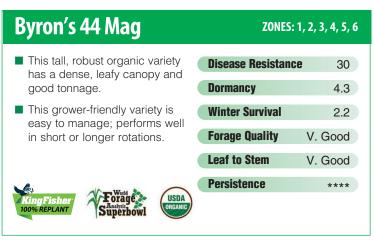
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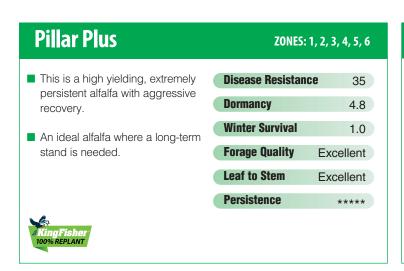
KingFisher alfalfas are available with a SureStand coating approved for organic and a few are available with a SureStand conventional coating as well.



KF 407A2	<b>ZONES:</b> 1, 2, 3, 4, 5,
<ul> <li>Our best disease-resistant variety including Aphanomyces</li> </ul>	Disease Resistance 35
Race 2.	<b>Dormancy</b> 4.0
■ This branch-rooted variety	Winter Survival 2.0
works well on marginal soils prone to disease and wet	Forage Quality Excellent
conditions.	Leaf to Stem Excellen
<b>A</b>	Persistence ****
King Fisher 100% REPLANT	









# SURESTAND HYDRO SEED COATING

## How SureStand Hydro Works

SureStand Hydro is a proprietary mix of minerals, special compounds, rhizobia bacteria and beneficial soil microbes designed for any type of legume seed. It is bonded to each seed in a dense, durable, protective coating that ensures survivability and stimulates vigorous growth in young seedlings by absorbing water from the soil and providing beneficial nitrogen-fixing bacteria.

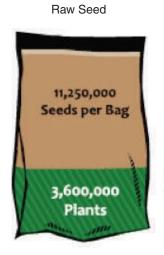
## About Myco Seed Treatment

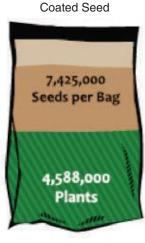
SureStand contains Myco Seed Treatment (MST), a proprietary organic microbial seed treatment package designed to stimulate healthy growth in legumes when conditions are less than ideal and increase performance in ideal conditions. MST includes free-living and symbiotic bacteria, fungi, actinomycetes, algae and mycorrhizal fungi. Once the seed is planted, the microbes start to grow and multiply.

# Byron Seeds field trials have shown that SureStand Hydro ensures:

- Nodulation
- More plants per pound of seed
- Improved seed emergence
- Seed survivability of 50% or greater
- More uniform stands
- Superior performance over uncoated seeds
- Potentially higher yields
- Easier handling and even distribution

	→ 3 WEEKS AFTER PLANTING →			FALL -		
SEED	SEEDING RATE LBS/ACRE	PLANTS/SQ. FT.	% SEED TO PLANT	PLANTS/SQ. FT.	% SEED TO PLANT	
Uncoated	15	29.9	40.4	24.2	32.7	
Coated	15	40.2	85.5	29.3	62.3	
Uncoated	20	39.3	40.1	29.4	30.0	
Coated	20	45.2	71.7	29.8	47.3	





SureStand



# **CLOVERS**

## RED CLOVER

#### Description

Red clover is a legume that is widely grown throughout the United States as a hay or forage crop. Red clover does better than alfalfa in areas with low soil pH or fertility and poor soil drainage. Improved red clovers are fast-starting, highly productive and more persistent than older common types. Improved red clovers will persist between 3 and 4 years.

Red clovers can be used in haying or grazing systems. In side-by-side trials, red clovers have had higher RFQs (more digestibility) than alfalfa in fermented or dried forages and approximately twice the level of bypass protein.

#### Management

Red clover production during the second year is generally higher than during the first or third years. The weather influences red clover growth much more than deeper-rooted alfalfa.

If summer rainfall is good, clover may be cut about every 35 to 40 days. Growth should be removed after "freezedown." Leaving the growth on a field during fall and winter can kill the stand. Red clover stands that are one year old or older should be cut three or four times in a season. Harvesting in drought conditions will also thin stands.

#### Establishment

Red clover can be sown by itself or in mixtures with small grains, sorghum-sudans, alfalfa, and/or cool-season grasses. Planting depth should be 0.25 to 0.50 inch. Red clover can also be established by frost seeding (broadcasting on frozen or snow-covered ground).

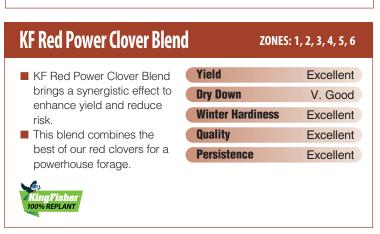
Red clover requires soil pH to be 6.0 or higher. Red clover is responsive to phosphorus and potassium. Apply to soil testing recommendations.



# All clovers are available with a SureStand coating approved for organic.

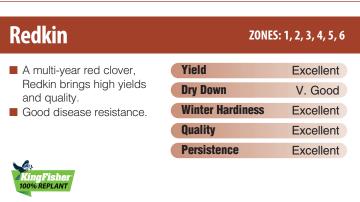


Prairie Fire	ZONES	: 1, 2, 3, 4, 5, 6
<ul> <li>This is a persistent, high yielding, double cut red clover</li> <li>Good compliment with alfalfa in a hay stand or can be planted with grasses.</li> </ul>	Yield	Excellent
	Dry Down	V. Good
	Winter Hardiness	Excellent
	Quality	Excellent
	Persistence	Excellent
KingFisher 100% REPLANT		











# WHITE CLOVER

# Description

White or ladino clover is a long-lived perennial that spreads by creeping above ground stems or stolons that root at the nodes.

It is a large-leafed clover, very high in protein, vitamins, and minerals. Addition of white clover to pastures will increase daily dry matter intake in livestock. Ladino clover is a good producer of high-quality feed and is utilized extensively as a soil-building crop. It is an excellent legume to use in combination with other legumes and grasses. Ladino also produces large amounts of nitrogen, which in turn feeds the grass sward within the pasture.

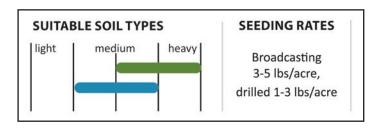
# Management

Ladino is primarily a pasture-type clover. Ladino clover planted with perennial grasses should be grazed or mowed frequently (2 or 3 times per summer) with the final mowing in late August. Fertilizer should be applied throughout the year. To manage the bloat risk associated with ladino clovers, manage your pasture swards with no more than a 10% stand of clover. Do not overgraze the grasses below 4 inches for this increases the clover concentration.

# **Establishment**

White clover will thrive on soils with a pH of 5.5 or higher. Both white and ladino clover require adequate phosphorus and potassium for establishment, persistence and growth. White clover is especially responsive to cool, moist conditions. It grows best between 50°F and 85°F. Because of its shallow root system, it is not adapted to shallow, droughty soils.

Ladinos can be broadcasted, frost-seeded, or drilled into soil. Seed depth should not exceed 0.25 inch.



#### Kakariki White Clover **ZONES: 1, 2, 3, 4, 5, 6** This late maturing white clover Yield Excellent has very large leaves for high Height Excellent **Winter Hardiness** Excellent ■ The many stolons of this variety bring persistence even in heavy **Stolon Density** Excellent grazing situations. **Persistence** Excellent







# COOL-SEASON GRASSES

When we say, "Byron Seeds searches the world over for better grasses," here's what we mean. Byron Seeds works directly with several grass-breeding companies that get their base genetics from around the world. For example, our popular Kora tall fescue has its origins in our breeding program in Central Europe. The weather conditions in that area resulted in a variety that is very cold-tolerant and very drought-tolerant.

We also have products that were developed in Romania and even New Zealand. A few of our products were developed here in the US. But whereas US breeders have made leaps and bounds in breeding corn, soybeans, wheat and alfalfas, they haven't advanced cool-season grasses at the same pace.

Producers like you have no cause for worry because Byron Seeds has made the commitment to find, test, select, and bring to you, the best cool-season grass the world has to offer.

# Description

Cool-season grasses can be used in conjunction with other grasses and/or legumes in pasture applications or in conventional harvesting applications. These grasses typically have a higher caloric or energy value than legumes by themselves, so if planted with a legume, greater tonnage can be realized. Cool-season annuals and perennials work well together because the annuals come on faster, and the perennials, once established, have longevity and tonnage.

# Management

Avoiding overgrazing or clipping lower than 3 inches helps stand vigor and regrowth. Six to eight inches are needed for overwintering and also encourage more root development. Proper fertility is important to ensure stand establishment, expected forage tonnage and quality. Approximate nitrogen needs are 40 lbs. for establishment and another 50 to 80 lbs. for the total annual requirement. If grass is to be used in a crop rotation where conventional chemicals are used, be aware of the potential chemical residue as the grass could be killed or suppressed.

## Establishment

Cool-season grasses can be planted as early as oats. Start with a soil test to determine the fertilizer and lime requirements. Plant at a depth of 0.25 to 0.375 inch (or a depth no more than five times the diameter of the seed). A smooth, firm seedbed is needed to create optimal seed-to-soil contact for maximum germination. We do not recommend broadcast seeding and will not give a replant if there is a stand failure. However, if you do have to broadcast grass seed, broadcast seeding requires extensive field preparation along with 25% more seed. For best coverage, use a split application at right angles to each other or crisscross the field. Grasses need a soil pH of 6.5-7.0 to perform well.



**KF Haylage Plus** 

custom pasture blend.

# **Haymaster**

**ZONES: 1, 2, 3, 4, 5** 

- A mix of tall fescue, orchardgrass, and timothy designed to dry down well for dry hay.
- Well suited for those who want to market dry hay for high RFQ and superior visual appearance.

#### CONSISTS OF AN INTELLIGENT MIX OF:

Tall Fescue	75%
Orchardgrass	20%
Timothy	50/2



# **KF Premium Hay Blend**

**ZONES: 1, 2, 3, 4, 5** 

- Contains at least two premium tall fescues.
- Highest-yielding of all grasses; high fiber digestibility (NDFD).
- Not recommended for grazing.

#### **CONSISTS OF AN INTELLIGENT MIX OF:**

Premium Tall Fescue #1 50%

Premium Tall Fescue #2 50%



# Untreated Seed

# A pointure of the

Tall Fescue

**Festulolium** 

**Meadow Fescue** 

KF Alfa-Plus

A mixture of the best tall fescues, orchardgrasses and meadow fescues.

■ Better for grazing than KingFisher Premium Hay Blend; grazing to 4-6 inches will protect both the orchardgrass and tall fescue.

■ Designed for haylage or baleage harvest, or as a base for a

■ High-yielding in various soil types and management systems.

50%

25%

25%

Excellent as a straight planting or mix with alfalfa.

CONSISTS OF AN INTELLIGENT MIX OF:

■ Great for hay and haylage; easy to dry.



**Untreated Seed** 

**ZONES: 1, 2, 3, 4, 5** 

**ZONES: 1, 2, 3, 4, 5, 6** 

Untreated Seed



**ZONES: 1, 2, 3, 4, 5** 

25%

CONSISTS OF AN INTELLIGENT MIX OF:

Tall Fescue 50%

Orchardgrass 25%

# **KF Hay Grazing**

**ZONES: 1, 2, 3, 4, 5** 

- A complete mix that can be either grazed or baled.
- Suited for two spring cuts and fall grazing combinations.



 Untreated Seed
 Organic Coating on Organic and Non-Organic Seed

#### CONSISTS OF AN INTELLIGENT MIX OF:

Red Clover5%KingFisher Alfalfa40%Meadow Fescue15%Orchardgrass15%

Tall Fescue 25%

\*Some percentages include seed coating

# **KF Highland Hay Mix**

■ This mix was developed for drier soils.

It has a very good ratio of grass to alfalfa.

 Features increased fiber digestibility (NDFD) and easy drying.

# KingFisher 100% REPLANT

- Untreated Seed

**Meadow Fescue** 

- Organic Coating on Organic and Non-Organic Seed

#### CONSISTS OF AN INTELLIGENT MIX OF:

KingFisher Alfalfa65%Orchardgrass10%Brome10%Timothy5%

**European Hay Type Tall Fescue 10%** 

\*Some percentages include seed coating

# KF Lowland Hay Mix

- This mix was developed for wetter soils.
- It has great quality, high sugar, and easy dry down.
- King Fisher
  100% REPLANT

**Timothy** 

- Untreated Seed - Organic Coating on Organic

10%

**ZONES: 1, 2, 3, 4, 5, 6** 

CONSISTS OF AN INTELLIGENT MIX OF: and Non-Organic Seed

KingFisher Alfalfa 50% Orchardgrass 15%

15%

**European Hay Type Tall Fescue 10%** 

\*Some percentages include seed coating

**Red Clover** 

# **KF Performance Max**

**ZONES: 1, 2, 3, 4, 5, 6** 

- A complete mix of two high-quality alfalfas and three different grasses.
- Ultimate tonnage for alfalfa and grass mixtures.



- Untreated Seed
- Organic Coating on Organic and Non-Organic Seed

#### CONSISTS OF AN INTELLIGENT MIX OF:

KingFisher Alfalfas 70% Orchardgrass 10%
Tall Fescue 10% Meadow Fescue 10%

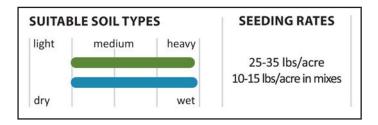
\*Some percentages include seed coating

# MEADOW FESCUE

# Description

Meadow fescue is becoming the new go-to grass in the Upper Midwest. Why is it replacing tall fescue? Tall fescue will always outyield meadow fescue head to head. But when meadow fescue or tall fescue is partnered with alfalfa, the yield of the alfalfa and either of the grasses gives the same increase in yield over the alfalfa alone. It seems the meadow fescue is less competitive and does not try to replace the alfalfa. Therefore, the alfalfa/grass ratio remains more constant with meadow fescue. Yes, we still like the drought tolerance of the tall fescue and some may choose Haylage Plus (tall fescue, meadow fescue and Perun festulolium as a nurse crop) as their alfalfa partner.

There is, however, one more meadow fescue advantage and one more contributing factor. Work at UW-Madison has shown an edge in fiber digestibility (NDFD) that can amount to a 2- to 3-pound milk boost when meadow fescue is substituted for tall fescue.



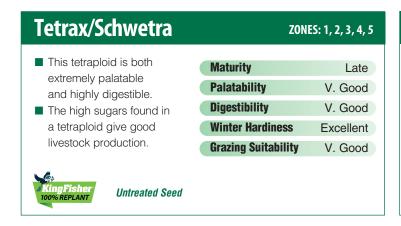
# Management

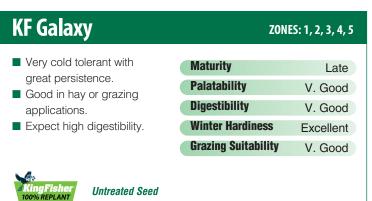
Meadow fescue needs fertile soils for optimum performance. It works well in intensively managed grazing or hay production if not mowed lower than 3 inches.

#### Establishment

Meadow fescue will establish faster than tall fescue or orchardgrass but will still benefit from a nurse crop. Use a low rate of a small grain or combine with festulolium or ryegrass to help suppress weeds. Meadow fescue is a good no-till option but will not express itself until the following year.







# TIMOTHY

# Description

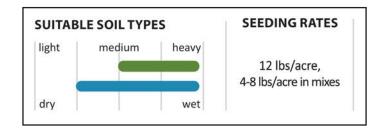
Known for its palatability and superior winter hardiness, timothy is the latest heading of all cool-season perennials. It is well suited as dry cow hay due to its low uptake of minerals such as potassium. It makes excellent horse hay. Timothy has a shallow root system allowing great spring production with poor performance in the heat and drought. However, it does well on heavy, wet, and peaty soils. The small bulb at the base stores nutrients, giving it persistence through the drought and heat periods.

# Management

Choose an earlier-heading variety when combining with alfalfa because timothy will not tolerate harvest during the jointing (stem elongation) and early-heading stages. Keep the cutting height 3-4 inches for stand persistence. Does not graze well. Use a late-heading variety for grazing. It tolerates mechanical harvest well, with proper fertility. Fall cuttings should be early enough to allow carbohydrate reserves to be replenished. Early application of nitrogen will significantly boost production.

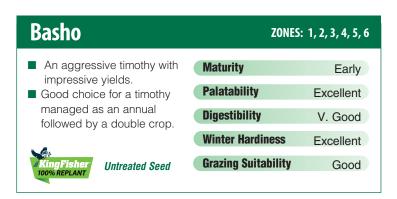
#### Establishment

Timothy can be spring or late summer planted. It needs to be planted into a very firm seedbed keeping the depth 0.125 to 0.25 inch. It is slow to establish so control weed pressure and leave 4 to 6 weeks from seeding date to summer drought for spring plantings and the same period before frost for fall plantings. In the South, timothy is often fall planted as a cover crop, harvested or grazed in the spring and then killed off to make way for spring crops.











# Building A Better Pasture and Hay Fertility Program by Dennis Brown

As the title suggests, we need to look at our forage fertility as a program. The definition of a program is "a planned, coordinated group of procedures for a specific purpose." Our purpose is to get the most kilocalories per acre. This includes forage quality and yield. Producers wonder why the nutrient levels of their pasture and hay ground appear to be so lacking, when fertilizer is being spread and/or manure is constantly being applied (or deposited) there? This is a common question from those growers who have soil tests pulled on their pasture and hay ground. Others who don't soil test are not sure why the yield is not there, why the cows won't milk, or why the stock just won't eat the hay or grass as well.

How many producers assume that due to stocking rates they will have adequate fertility because of all the manure being deposited on their pasture and all the money spent on fertilizers on hay acres? And how many livestock producers spend large sums of money to purchase excellent animals and then put them on pastures or feed hay that receive an occasional fertilizer top-dressing and expect it to suffice for maintaining top herd health and excellent pasture fertility. The forages are only as good as your soils. Same as your cows are only as good as your feeding program.

Most soils need more than Nitrogen, Phosphorus, and Potassium (N, P, and K). These nutrients should be added in sufficient amounts if required, but not at the expense of neglecting other required nutrients for top performance such as Calcium, Boron, Sulfur, and Zinc. Furthermore, the two nutrients most affected by manure in terms of an increase in soil fertility levels are P and K. In other words, two of the three macro nutrients most often supplied as fertilizer are the most likely nutrients to be supplied from manure. The producer needs to be careful not to over apply manures or over apply P and K in any form. Nitrogen is harder to measure because of the leaching effect and microbial tie up in the organic matter of the soil.

Excess nutrients can have just as negative an effect as a deficiency of nutrients. Our goal is to have a balance of nutrients in the soil. However, remember that manure produced on pastures that are already lacking one or more of these needed nutrients will likely also be short

when it comes to supplying those same nutrients. On dairy farms, calcium is the #1 nutrient that is lacking, because milk has a percentage of calcium per volume and it leaves the farm daily. Such deficiencies occur in far more forage acres than most producers seem to suspect.

Take a soil test to discover what nutrients are needed for optimal forage tonnage and quality. Also, learn how much nutrients are removed with each ton of forage, so you can replace what is removed.

Nutrient Removal by Alfalfa		
Nutrient	Removal per ton of hay	
Nitrogen	45 lb.	
Potassium	50 lb.	
Phosphate	13 lb.	
Calcium	30 lb.	
Sulfur	5 lb.	
Boron	.08 lb.	

Nutrient Removal byTall Fescue		
Nutrient	Removal per ton of dry hay	
Potassium	50 lb.	
Phosphate	18 lb.	

# ORCHARD GRASS

# Description

Orchardgrass is a perennial, cool-season bunchgrass best suited for fertile, light to medium soils with good drainage. It can persist in moderately poor drained soils. Orchardgrass has good winter hardiness, tolerance to shade and moderate tolerance to drought. It is an excellent choice for pasture, hay, greenchop or silage and is well adapted to grow with legumes such as clover and alfalfa. There is typically a 10 to 20 day spread in heading date between early-maturing and late-maturing varieties. Use a later-heading variety as a companion to alfalfa.

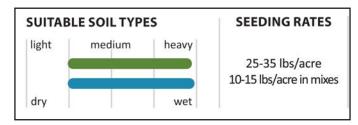
# Management

Orchardgrass is very responsive to fertilizer and aftermath production can be excellent with proper fertility and split N applications. For optimum first harvest yield and quality, orchardgrass should be harvested in early-mid boot stage at a cutting height of 3 to 4 inches so it can recover quickly and persistence can be maintained.

For grazing, excellent grazing management is required to maintain persistence and productivity. Graze to 3 to 4 inches and rest 28 days between rotations. Orchardgrass does not persist well under continuous grazing. It is not a good candidate to pair with perennial ryegrass since their management protocols are so different.

### Establishment

Orchardgrass can be planted either in early spring or late summer depending on the area of the country being grown. Seeding depth is generally 0.25 to 0.50 inch in a firm seedbed. Rolling or using a cultipacker after seeding ensures even germination and emergence.









Sundown	ZONE	S: 1, 2, 3, 4, 5
Sundown is excellent for	Maturity	Late
grazing or hay; aggressive	Palatability	Excellent
tillering.  Sundown is excellent	Digestibility	Excellent
quality, showing an NDFD	Winter Hardiness	Excellent
of 82 in some trials.	<b>Grazing Suitability</b>	Excellent
KingFisher Untreated Seed		

#### **KF OG Blend South ZONES: 3, 4, 5, 6** ■ This blend has been **Maturity** created for endurance and **Palatability** Excellent performance in the South. ■ Works well for grazing or hay **Digestibility** Excellent with exceptional yield and **Winter Hardiness** V. Good digestibility. **Grazing Suitability** Excellent

**Untreated Seed** 

KF OG Blend North		ZONES: 1, 2, 3, 4
■ This blend has been created for endurance and	Maturity Palatability	Late Excellent
performance in the North.  Works well for grazing or hay with exceptional yield and	Digestibility	Excellent
digestibility.	Winter Hardiness Grazing Suitability	Excellent Excellent
KingFisher 100% REPLANT Untreated Seed		



Late



# TALL FESCUE

# Description

Tall fescue has a strong agronomic constitution that allows season-long productivity that is unmatched by other cool-season grasses. Tall fescue can grow in wet conditions but is also very drought tolerant. On dairy farms, tall fescue is a great addition to the hay portfolio, and on beef operations in the Midwest it remains the foundation of pasture systems.

In the past number of years, tall fescue has made many appearances at the World Dairy Expo Forage Analysis Superbowl including as the Grand Champion haylage! While tall fescue has long been thought of as a southern grass, endophyte-free tall fescues are thriving in Wisconsin and Minnesota. For our southern farmers, Novel endophytes tall fescue are the way to go.

# Management

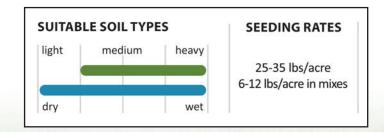
Tall fescue can be planted with alfalfa, with grass hay mixes, or simply in monoculture for hay or pasture systems. Remember that tall fescue, like most cool-season grasses, stores 90% of food for regrowth after harvest in the bottom 2 to 2.5 inches of the stem. This means that for maximum growth and production, at least 3 to 4 inches of stubble should remain after harvest.

Also, for top yield, we recommend 1 to 1.5 lbs. of available N for each day of growth. Another way to look at nitrogen is

that it will take a total of 25 lbs. N for each ton of dry matter harvested. Sulphur is also very necessary for proper conversion of the N to crude protein. Tall fescue can tolerate less than ideal fertility but, like most crops, it gives best yield and quality in balanced soils. Tall fescue is the best grass for stockpile grazing.

#### Establishment

Tall fescue is easy to establish; but remember, a good seedbed is at the heart of excellent stands of hay or pasture. It can be no-tilled into existing alfalfa stands (0.25 to 0.50 inch deep) immediately after harvest. (Talk to your dealer about the proper timing for your area.) When seeding in a prepared seedbed, make sure sufficient packing has been done before and after seed is put down. Also, 20 to 30 units of N at seeding is necessary for a faster establishment.



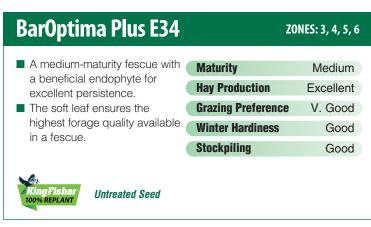


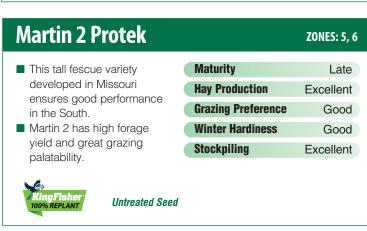


Kora is the best tall fescue for hay. Kora maintains high dry matter productivity typical of tall fescues, plus very high digestibility!

#### **BarElite ZONES: 1, 2, 3, 4, 5, 6** A soft-leafed variety that works **Maturity** Late well in grazing and hay **Hay Production** Excellent production situations. **Grazing Preference** Good ■ Impressive digestibility and yield. **Winter Hardiness** Good **Stockpiling** Good Forage **Untreated Seed** Superbowl

Tower Protek	<b>ZONES</b> : 1, 2, 3, 4, 5, 6	
All the advantages of Tower with a novel endophyte to ensure better persistence and heat tolerance.	Maturity	Late
	Hay Production	Excellent
	<b>Grazing Preference</b>	Good
	Winter Hardiness	Good
	Stockpiling	Good
KingFisher Untreated Seed		









# ITALIAN RYEGRASS

# Description

Italian ryegrass (IRG) is a cool-season biannual plant that requires vernalization (a period of cold and reduced day length) to initiate heading. IRG is extremely high-yielding and is typically the highest-quality, most-digestible grass of all. Its low cost and ease of seeding make it an excellent choice as either a nurse crop for other species or a great short-term forage in all Upper Midwest growing zones.

IRG is often used as a nurse when seeding alfalfa, tall fescue, orchardgrass and meadow fescue, with only about 2 pounds of IRG required. IRG makes excellent haylage or baleage, but it does not dry well for hay.

# Management

Successful use of IRG requires aggressive management and high fertility. If there are a lot of nutrients on a farm, IRG can be a good choice to utilize and recycle those nutrients. It can be easily used to extend thinning alfalfa or mixed stands for one more year, resulting in high yields of excellent quality forage without the hassle of a total stand renovation.

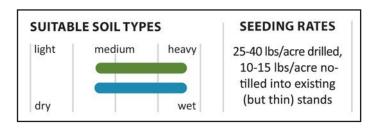
With its soft leaves, clear stands of IRG are better suited to mechanical harvest with a discbine than a sicklebar. IRG also needs to be stored horizontally rather than in a vertical silo. It

would be difficult to fill and to empty. Mixing IRG with other grasses or legumes alleviates these problems.

When IRG is sown in spring, very few seedheads will be observed throughout the seeding year. If IRG is fall sown, the plants will head profusely the following spring.

#### Establishment

IRG is very fast to establish, making it ideal for a spring nurse crop with other more perennial grasses. Planting depth should be 0.25 to 0.50 inch. Broadcast sowing into thin stands can sometimes be successful, but no-till drilling is the recommended method to thicken existing stands. Depending on the time of planting and conditions, the first harvest can come as early as 50 to 60 days after planting, and the first pasturing can take place in about six weeks or when the plant cannot be pulled from the ground.



# KF Allegro

**ZONES:** 1, 2, 3, 4, 5, 6

- A Superbowl Grand Champion, this diploid/tetraploid blend can give you the highest quality feed in just 40 days.
- Best in the North where it can yield as much dry matter as corn silage.

Tetraploid or Diploid	Both
Yield	Excellent
Winter Hardiness	Excellent
<b>Grazing Tolerance</b>	Excellent
Persistence	Excellent

**Untreated Seed** 









# PERENNIAL RYEGRASS

# Description

Globally, perennial ryegrass (PRG) is the most widely used grass for grazing because of its aggressive growth and high-quality forage. PRG also makes excellent haylage or baleage, but it does not dry well for dry hay. With proper management and high fertility, PRG can be persistent for 5 to 7 years or more in the Midwest. All the PRG varieties that Byron Seeds selects have excellent grazing tolerance.

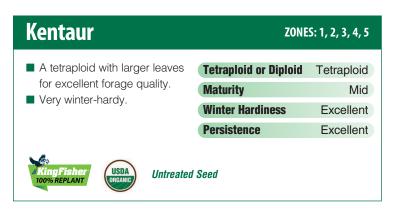
# Management

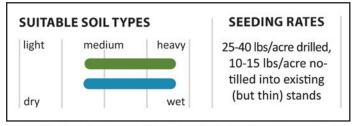
Intensively managed pastures are a great place to use PRG, which requires aggressive management and high fertility. Residual heights for PRG can be lower than for other grasses. Grazing down to about 2 inches in spring and fall is recommended, and leaving higher residual of at least 3 inches in the summer helps persistence and overall productivity of the stand. PRG is not a good candidate for pairing with orchardgrass, which has taller residual requirements.

# Establishment

PRG can be sown by itself (usually 30 lbs./acre) or sown in mixtures with legumes or other cool-season grasses. Planting depth should be between 0.25 and 0.50 inch. Broadcast sowing into thin stands is sometimes successful, but no-till drilling is the recommended method to thicken existing stands. Plants are ready for pasturing when they no longer can be pulled out by the roots (about 6 weeks) and are ready for harvesting in about 50 to 60 days.

#### **KF Eclipse ZONES: 1, 2, 3, 4, 5** A very winter-hardy **Tetraploid or Diploid** Both tetraploid and diploid **Maturity** Late blend that is great for **Winter Hardiness** Excellent grazing or haylage. Persistence Excellent ■ Good persistence with resistance to stem rust. **Untreated Seed**







# **FESTULOLIUM**

# Description

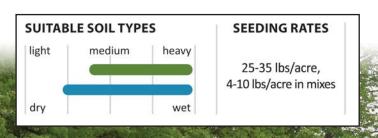
Festulolium is a cross between a fescue and a ryegrass. While there may be thousands of ways to make crosses, most yield very heady grasses. In contrast, the varieties we offer you are the best in the world.

# Management

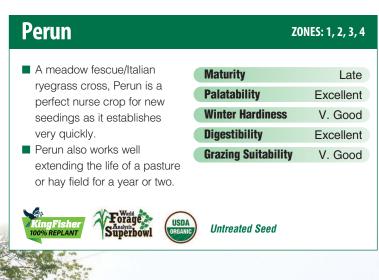
Festulolium fertilizer requirements are intermediate between ryegrass and tall fescue.

#### Establishment

Seed is identical in size and weight to tall fescue and they mix well together without separating. Seeding rate as a nurse crop with tall fescue and alfalfa is 2 to 3 lbs. per acre. For pastures in the Upper Midwest, we use 5 lbs. per acre. For a pure stand, the seeding rate is the same as tall fescue. This is not commonly done as stand life is approximately 3 years with the first year being the most productive and declining from there on. However, this characteristic with its fast establishment makes it an excellent nurse crop for alfalfa and tall fescue.



#### Mahulena **ZONES: 1, 2, 3, 4** Mahulena is a tall fescue **Maturity** Late type festulolium with excellent **Palatability** Excellent persistence. **Winter Hardiness** V. Good A robust top-yielding variety with excellent drought **Digestibility** Excellent tolerance; also does well **Grazing Suitability** V. Good in wet soils. Untreated Seed



# KENTUCKY BLUEGRASS

# Description

Balin Kentucky Bluegrass may well be the world's most widely used Kentucky bluegrass—and for good reason. It has shown superior winter hardiness compared to many other bluegrass varieties, and its relatively tall growth habit makes it a much better forage producer than the common bluegrass that most producers are used to. If there is moisture, it will stay green into the summer—almost as long as tall fescue.

# Management

Typically, 70% of bluegrass production is before June, hence its nickname "June Grass." Balin extends the growing period as long as there is moisture. This high-producing bluegrass can thrive in a more relaxed management system due to its superior summer production. Early heavy grazing prevents overmature, low-quality forage. And although Balin's rhizomatous root structure allows it to thrive on intensive grazing, any

companion grasses will be stressed to their demise. Keeping a stubble height of over 2-3 inches increases Balin's tillering.

#### Establishment

Most bluegrasses take 21 to 28 days to establish. Balin, by contrast, establishes at 17 days. Seeding depth is 0.125 to 0.25 inch.

# **Balin**

**ZONES: 1, 2, 3, 4, 5, 6** 

- This may be the world's most widely used bluegrass because it has shown superior winter hardiness.
- Its tall growth and summer production make it a much better yielder than common bluegrass.



**Untreated Seed** 

# **BROMEGRASS**

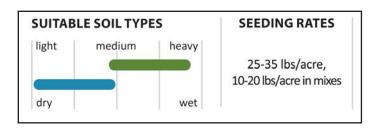
# Description

Bromegrass is a diverse family with species that range from annuals to long-lived perennials. In our program, we concentrate on improved bromes that give increased yield and faster emergence than some other varieties.

All bromes are large-seeded and care must be taken to make sure the seed doesn't bridge in the drill. Also, bromes need to be seeded at the correct depth. Broadcasting is not recommended.

# Management

Bromegrass requires high fertility levels and well-drained soils. Recommended seeding depth is 0.5 inch.



# Hakari Alaskan Bromegrass zon

**ZONES:** 1, 2, 3, 4, 5, 6

- Hakari is a late maturing brome that both yields well and holds its quality even when headed out.
- Overall quality is better than orchardgrass.



Untreated Seed

# **Cache Meadow Brome**

**ZONES: 1, 2, 3, 4, 5, 6** 

■ This variety is very palatable and works well for grazing, even in dry weather conditions.



# PASTURE MIXES

# Description

Pasture mixes are very popular for good reasons. They're versatile and more forgiving of adverse soil and climate conditions than monocultures. However, mixes can require good management to keep ratios consistent. Byron Seeds uses a lot of trial experiments from across the Midwest to help put together compatible mixes.

# Management

\*Some percentages include seed coating

Use the equivalent of about 40 pounds of N to kick-start the seedlings. Clip the pasture when the seedlings are about 6 to 8 inches high to encourage density. Don't graze until firmly rooted. Rotational grazing is best to promote per-

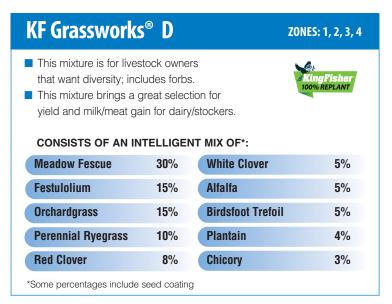
sistence. Manure or fertilizer in the fall will help with winter hardiness.

# **Establishment**

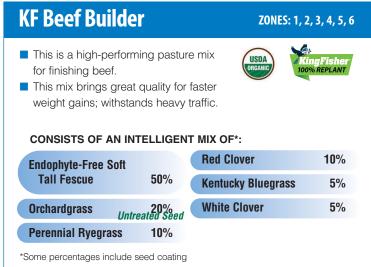
An early fall planting is best using a Brillion seeder or drilled 0.25 inch deep into a well prepared seedbed. If a Brillion seeder or drill is not available, the seed can be broadcast and rolled firm with a cultipacker. We **do not** recommend broadcasting, and seed that is broadcast **is not** supported by our replant policy.

Make sure weeds are controlled before establishment. Spring planting is possible but competition must be suppressed. Most of the Upper Midwest is spring planted.

#### KF Grassworks® Grazing Mix **ZONES: 1, 2, 3, 4** A mix developed especially for dairy quality (very high fiber digestibility/ sugar) for the Upper Midwest with good winter hardiness. ■ This mixture is selected for consistent palatability and high yield and milk production for dairy or stockers. CONSISTS OF AN INTELLIGENT MIX OF\*: **Meadow Fescue** 45% **Red Clover** 12% Festulolium 25% White Clover 8% **Perennial Ryegrass** 10%



KF Premium Pas	sture	Mix zones: 1,	2, 3, 4, 5, 6
<ul> <li>A high-yielding quality mix that lends itself to a variety of soils, heavy or light.</li> <li>This mix is drought tolerant. It's very versatile in the North but use only on good soils in the South.</li> </ul>			
CONSISTS OF AN INTE	LLIGEN	T MIX OF*:	
Meadow Fescue	20%	Perennial Ryegrass	15%
Soft-Leafed Tall Fescue	20%	Kentucky Bluegrass	5%
Orchardgrass	<b>15</b> %	White Clover	5%
KF 403CR	<b>15</b> %	Red Clover	5%
*Some percentages include seed coating			

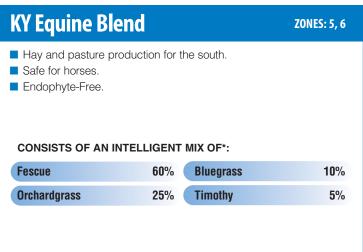


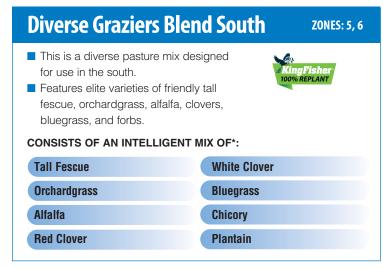
# All pasture mixes are available with an organic coating.

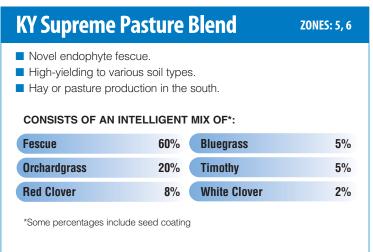


Friendly Fescu	e Foundatio	<b>n</b> ZONES: 4, 5, 6
<ul> <li>A solid mix of tall fescontain friendly endopfoundation.</li> <li>Orchardgrass and bluvalue and performance</li> </ul> CONSISTS OF AN INTI	ohytes) for your past uegrass bring even r be to this pasture mix	nore
Tall Fescue	90%	
Orchardgrass	5%	
Kentucky Bluegrass	5%	









#### **Diversemaster Supreme ZONES: 1, 2, 3, 4, 5, 6** ■ This extensive blend is designed for producers who want, and can manage, a biodiverse pasture stand. It's well suited for grass-finished beef or grass-based dairies. CONSISTS OF AN INTELLIGENT MIX OF\*: **Soft Leaf Tall Fescue** Alfalfa **Meadow Fescue Birdfoot Trefoil Perennial Ryegrass** White Clover **Meadow Brome Kentucky Bluegrass Timothy** Chicory **Festulolium** Plantain **Orchardgrass Red Clover**













# KingFisher Energy Edge soybeans can help dairy farms save money by lowering feed costs!

Feed cost represents over half of the cost of producing milk. Opportunities to lower the feed cost to produce a hundred weight of milk are very important to being profitable for a dairy farm. Certainly, one of our top priorities is to put up top-quality forages. This will have the biggest impact for any farm. Complementing the forage and grain in the diet, our new Energy Edge high oleic soybean line offers an additional opportunity for a farm to grow their own feed and save money on feed costs when they do.

Due to the unique make-up of the oil in the KF Energy Edge soybean, we are able to feed them to dairy cows and not have the negative effects associated with regular soybeans. Contrary to the usual drop in butter fat test when feeding regular soybeans, a change in the fatty acids in the high oleic soybean oil can actually increase milk fat production.

Now you can grow your own protein. By doing so, you should be able to lower your feeding cost. Swapping 5% of ration dry matter with high oleic soybeans can increase milk income (less feed cost) by up to \$0.27 per cow per day.

The KF Energy Edge soybeans can be ground, whether fed raw or roasted. Roasting soybeans improves digestibility and also reduces the rumen degradability of the protein in the soybeans. It is important to work with your nutritionist on how Energy Edge soybeans fit in your ration.

Contact your local Byron Seeds dealer to learn more about our KF Energy Edge soybeans.

SOYLEIC® is a trademark of Missouri Soybean Merchandising Council and is used here with permission. These soybeans are protected by one or more of the following U.S. Patent Nos.: 9,035,129; 10,329,576; 9,198,365; 10,087454 and 10,774,377. The high oleic soybean trait in these seeds was made possible by Missouri Soybean farmers and their checkoff.

# Do you need a guide to help you with forage solutions?

Byron Seeds dealers and managers know forage. It's what we do. We want to help farmers manage successful, profitable forage systems. From seed to fertility, from planting to harvesting, from nutrient management to cropping plans—Byron Seeds is here to help.

Find your local Byron Seeds dealer on pages 65-67 of this resource guide. Give them a call or stop in! They will be glad to help you develop a successful forage plan.

We also have forage tech support at our toll-free number, 800-801-3596.

Forage is our passion, and we want to help the American farmers run profitable livestock operations.

# SORGHUMS

Sorghums used for forage are generally classed as forage sorghum, sorghum-sudan hybrids and sudangrass. Byron Seeds researches many varieties in field plots and selects the best for our KingFisher lineup.

Sorghums offer many advantages as superb summer forage:

- Outstanding forage nutritional quality attributes especially Brown Mid-Rib (BMR) traits
- Drought tolerance and greater water use efficiency
- Ability to plant later than corn while achieving similar biomass yields
- Lower soil fertility requirements than corn
- Outstanding rotational crop benefits
- Opportunity for livestock grazing during summer months

With less lignin than conventional sorghums, sorghums with the BMR trait are extremely palatable with excellent fiber digestibility (NDFD). Because exceptional fiber digestibility fuels livestock performance, our sorghum lineups are exclusively BMR. Most sorghum plants possess greater total leaf area than corn due to a greater number of nodes per plant (more nodes equal more leaves). Forage sorghums will have leaves similar in size to corn, while the leaves of sudangrass and sorghumsudan will be smaller than those of corn.

Sorghums are extremely drought and heat tolerant and produce high yields with much less water than corn. Generally, sorghums will yield 1.75 to 2.5 tons of biomass per one inch of irrigation water, while corn produces less than one ton per inch of water applied. Sorghums also have a large, efficient root system capable of reaching soil profile depths of over five feet.

Sorghum's adaptive nature, high production and excellent fiber digestibility make it a valuable tool for forage producers demanding high-quality feedstocks. And all members of our sorghum product line carry our 100% Replant Guarantee to cover any germination issues.

Contact your local Bryon Seeds dealer to develop a plan to include sorghums in your summer crop rotation.



# **BMR Forage Sorghum**

# Description

Forage sorghum, a row crop handled very much like corn for corn silage, offers a replacement for corn silage or multicut sorghum-sudans at a much lower seed cost. The cost to plant an acre of forage sorghum—usually \$20 to \$25—is a fraction of the cost to plant an acre of corn.

The brachytic dwarf option adds more leaves and less stalk (the leaf nodes are much closer together). In addition, brachytic dwarfs tend to exhibit more tillering, along with the extra leaves, to more than make up for the shorter height. Brachytic dwarfs are also much less vulnerable to lodging from high winds.

Our forage sorghums are available both untreated and with Concep II  $^{\circ}$ .

# Management

Forage sorghum is usually direct-cut with a forage harvester. The one struggle is having the forage dry enough to chop and store without having too much sorghum grain. The grain fills from top to bottom on the panicle (head) and becomes very hard with ripening, so the starch of the ripe grain will not be very digestible.

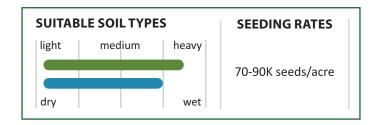
A big advantage of BMR forage sorghum over corn silage is that sorghums need about 33% less water and nutrients per ton of forage produced than corn silage. Sorghums love hot and dry climates, and therefore will be more productive than corn silage on marginal soils. Finally, sorghums have few insect problems (for example, corn borers and root worms), and mycotoxins are rarely a problem.

# KF FiberPro 50 KF FiberPro 50 is our shortest season brachytic dwarf. It is a very uniform hybrid with high yield and excellent quality. Relative Yield Excellent Tillering Excellent NDFD Excellent Treated Seed Untreated Seed

#### Establishment

Forage sorghum is planted (after 60°F soil temps are reached) with a corn planter adapted for low-output sorghum since seeding rates are small. Forage sorghum can be planted in 15- or 30-inch rows. Sorghum seeding rates—planted on 30 inch rows: 5 to 7 lbs with a target of 70,000 plants per acre; planted on 15 inch rows: 7 to 9 lbs with a target of 90,000 plants per acre.

Forage sorghum emerges in about 10 days, after which the plants grow from 3 to 6 inches a day, depending on whether the temperature stays over about 70°F. Sorghums will not grow below 60°F, but they will not deteriorate like corn at temps above 105°F. When the temperature moderates a bit, the sorghum recovers quickly.







# BMR SORGHUM-SUDAN

# Description

Sorghum-sudan crosses are a warm-season, or C4, grass. Because warm-season grasses process sunlight into sugars (photosynthesis) differently than do cool-season (C3) grasses, sorghum-sudan:

- must be planted after soil temperatures reach 60°F and are rising.
- grow very little at temperatures lower than 60°F.
- grow best at 77°F and higher.
- will produce a ton of silage with half the rain or irrigation needed by corn silage.

After germination, sorghum-sudans thrive in hot, dry weather. They die soon after a freeze.

These forages produce quick tons of highly digestible (high-energy) silage or pasture; they are an excellent source of pasture for the hottest months.

BMR (brown mid-rib) is a natural trait (not GMO) that produces lower levels of lignin in these plants. This trait transforms sorghum products into highly digestible feed that fuels livestock performance. All the sorghum-sudans in the Byron Seeds lineup are BMR.

Brachytic dwarf sorghum-sudans (a natural trait) provide some good benefits:

- Shorter residual cutting height
- Shorter space between leaves for better leaf-to-stem ratio
- Shorter stalk but with more leaves, a quality improvement
- Higher tillering capacity

# Management

Sorghum-sudan will be harvested for baleage or haylage about 45 days after planting. Grazing is usually initiated a week to 10 days earlier. Sorghum-sudan is mowed when it reaches a height of 38-40 inches.

Residue heights are also important. Brachytic dwarfs can be mowed with a 4-inch residue, one reason for their popularity. Non-brachytic versions must be mowed with at least 6 inches of residue (above the second growth node) to promote rapid regrowth. Caution: Regrowth can be almost zero if the residual is too short.

Fertilizer needs are 1.0-1.25 units of nitrogen per growing day, i.e., 45-50 units for the first cut and 30-35 units for each subsequent cut. Potassium, phosphorous and sulfur are also needed on most farms. All fertilizer needs are the equivalent of the needs for 100-bushel corn.

Manure can be used for the original application of fertilizer; however, commercial nitrogen is the best source after a cutting. Nitrogen needs for grazed sorghum-sudan must be reduced proportionally so that cows can be brought in to graze earlier without danger of nitrate poisoning. Sorghum-sudan should not be grazed for 7-10 days after a killing frost as it takes about seven days for the prussic acid produced by the frost to dissipate.



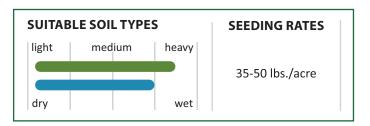
# BMR SORGHUM-SUDAN - CONT.

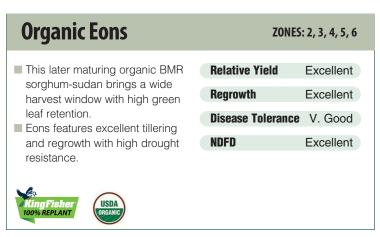
#### Establishment

Sorghum-sudan usually emerges in about 10 days and then can grow 3-6 inches per day. A conventional or no-till drill is used for the seeding, and planting depth should be 1.0-1.5 inches.

Planting after a small grain crop (rye or triticale, for example) requires dealing with the allelopathic effects from the dying grain plants. This can be accomplished with either minimum tillage or heavy application of liquid manure.

Because no herbicides are available for sorghum-sudan, weed-management activities must precede planting.







#### **KF Summer Supreme ZONES: 2, 3, 4, 5, 6** ■ Summer Supreme is a blend of **Relative Yield** Excellent four premium sorghum-sudans that Regrowth Excellent excel in regrowth, cold tolerance, disease resistance, and drought **Disease Tolerance** Excellent tolerance. **NDFD** Excellent ■ This blend brings yield and resilience above what each variety could do by itself. King Fisher 100% REPLANT Treated Seed Untreated Seed





# **BMR SUDANGRASS**

# Description

Our sudangrass hybrid is a very aggressive, droughttolerant summer annual. It emerges more quickly and has faster regrowth than sorghum-sudan as well as finer stems that contribute to its superior quality.

# Management

**60** 

Sudangrass can be grazed or cut for baleage or haylage with an optimum grazing height of 30 inches and an optimum harvest height of 40 inches. Residual height (when recutting is planned) is 6 inches.

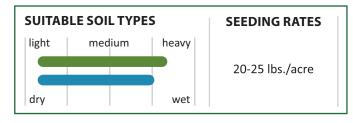
In southern zones, sudangrass can be made for dry hay, but it must be cut to 30 inches to achieve drydown. It responds well to applied fertility or manure. Timely cutting (45 days after planting and 30 days for subsequent cuts) is important because quality will decline as sudangrass reaches maturity.

Because sudangrass is highly sensitive to all herbicides, weed prevention—including starting with a clean field—must be done before planting. Sudangrass should not be grazed for 7-10 days after a killing frost as it takes about seven days for the prussic acid produced by the frost to dissipate.

#### Establishment

Sudangrass is easy to establish, but it does require 60°F soil temperatures (and rising) before planting. Seeding rates are 20-25 pounds per acre, with seeding at the higher rates providing the best yield and weed suppression. Seeding depth should be 0.75-1.0 inch. It is best to get the seed into the soil moisture.

If the seed will be interseeded into an existing hay or pasture stand, the grass should be cut very short to achieve good establishment.





# BMR PEARL MILLET

# Description

Pearl millet is a warm-season, annual grass with a growth habit like sorghum-sudan but without the potential for prussic acid poisoning. As a warm-season annual, pearl millet should be planted in the early summer and, like most crops, it will yield best in fertile, well-drained soils. However, it also will perform relatively well on sandy soils, acid soils, wet soils or when moisture and fertility are relatively low. Although millet seems to be utilized mainly for grazing, it can also be harvested for silage.

Pearl millet will provide grazing 45-60 days after planting with yields of over 6 tons of dry matter per year under good fertility.

# Management

To avoid nitrate toxicity potential, do not apply excessive amounts of nitrogen or graze drought-stressed plants. Frost will kill pearl millet just as it kills sorghum-sudan.

Though rotational grazing will greatly improve grazing efficiency because managed grazing is more efficient, pearl millet may be continuously grazed. Grazing may be initiated after plants reach 18-20 inches or are cut at 24-30 inches.

Regrowth is best if a stubble height of 4-5 inches remains. An additional 40-50 units of nitrogen should be applied after first harvest or grazing to maximize regrowth.

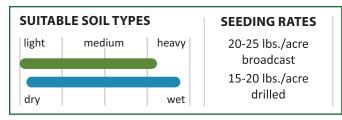
#### Establishment

Pearl millet should be planted in early summer when soil temperatures reach 60°F-65°F. It can be broadcast-seeded into a prepared seedbed or drilled. Broadcast-seed into firm soil, then cultipack for good seed-to-soil contact.

If pearl millet is drilled, the seeding rate should be 15-20 pounds per acre and the seeding depth 0.5-1.0 inch. For best results, soils should be soil tested and  $P_2O_5$  and  $K_2O$  applied accordingly. In the absence of a soil test, 70-90 pounds of both  $P_2O_5$  and  $K_2O$  should be applied along with 60-70 units of nitrogen at seeding.

Between 0.75 and 1.0 unit of nitrogen should be spoon-fed per growing day rather than applied all at once. In grazing situations, 0.5 unit of nitrogen per growing day will be more appropriate.







# **TEFF**

# Description

Teff, a warm-season annual grass native to Ethiopia, in recent years has attracted the interest of forage agronomists and producers for its contribution as a hay crop. It is characterized by a fairly large crown, many tillers, fine stems, a very shallow root system, rapid growth, and high tonnage capability.

Teff's maximum yield potential and quality expectations are not completely known. Two harvests per year are relatively commonplace, and many producers in warmer climates have reported three to four harvests per year. We have seen harvests yield 2.0-2.5 tons of dry matter per acre (DM/acre). Single harvests of 1.5 tons of DM/acre are probably more typical, with total yields for the growing season of 4-5 tons of DM/acre.

Although teff must be reseeded each growing season, it can be integrated into a forage program in a variety of ways, including as:

- A stand-alone grass hay crop for commercial sales or on-farm use
- An emergency hay or haylage crop that can be planted in June or July or later farther south
- A rotational hay crop that can be planted after harvesting cereals or annual ryegrass
- A break crop when renovating a perennial grass or alfalfa stand
- A fast-growing, self-limiting nurse crop for fall-seeded alfalfa
- A one-year grass component planted into a thinning alfalfa stand

# Management

Teff should be fertilized with potassium and phosphorous at rates comparable to other forage grasses grown in your region. We recommend split-applying a total of 80-100 units of nitrogen per acre during the season. Apply the first 50 units at planting, and then apply the remaining N after the first or second harvest.

Teff's fine stem is a benefit with respect to forage quality and palatability. However, the fine-stemmed nature of the crop can cause lodging problems if it is not harvested at the proper maturity stage. To avoid lodging, harvest teff in the late vegetative stage, just prior to seed head emergence, at a cutting height of 24-30 inches with a 4-5 inch residue height.

#### Establishment

Seeding depth is 0.125-0.25 inch; seed no deeper. Excellent teff stands can be achieved using either no-till or conventional seeding methods. But broadcasting teff seed into a very firm, prepared seedbed may be the best option in field environments where tillage is environmentally acceptable. The importance of a firm seedbed cannot be overemphasized.

Teff seedings should not be made until the soil temperature has consistently reached 64°F. The recommended seeding rate is generally 4-5 pounds per acre for uncoated seed and 10-12 pounds per acre for coated seed.

Teff is not recommended as a grazing crop due to its very shallow root system. Grazing animals are likely to pull substantial numbers of teff plants out of the ground as they graze. If grazing is necessary, wait until one or two hay harvests have been completed before grazing to allow the roots more time to develop and become better anchored in the soil.

Cascade/Corvallis	ZONES: 1	, 2, 3, 4, 5, 6
■ Teff is excellent as dry hay or haylage and is very palatable	Relative Yield	Excellent
for horses and cattle.	Regrowth	Excellent
■ Teff is very much like timothy hay in quality.	Disease Tolerance	V. Good
	NDFD	V. Good
KingFisher 100%REPLANT Organic Coating Seed		



# FORAGES TO MAXIMIZE YOUR GROWING SEASON

# Description

If you're looking for ways to increase your farm's productivity and decrease ration costs, the easiest way to accomplish this is to plant annuals with high amounts of digestible fiber. Annuals can yield more than perennials and can help crop rations be more aggressive. Cool-season annuals like forage oats, annual ryegrass and brassicas will grow well into the fall and help shorten the winter. By planting warm- and cool-season annuals in sequence, you'll maximize every day you have.

If you are north of Interstate 80, instead of summer-seeding a new alfalfa crop, consider an annual cocktail mix. Yield Max is a combination of BMR sorghum-sudan, Italian ryegrass, two clovers and hairy vetch. The pairing of warm- and cool-season annuals lowers the risk that could come with a cool/wet or a hot/dry summer. And there's another bang for the buck: The ryegrass and clover stretch the growing season into the fall and act as a cover crop for the winter.

Summer Pro is a warm-season mix of sorghum-sudan and millet designed to create a stronger sward through two different rooting actions and to provide greater crop density. This mix helps you be successful on a wider range of soils and growing conditions and brings faster regrowth than sorghum-sudan alone.

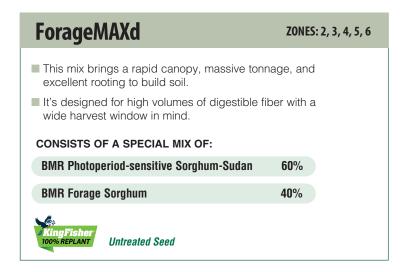
# Management

Summer Pro does best in the southern half of the Midwest. Suggested seeding rates are 25-35 lbs./acre.

Yield Max works great for very high-quality baleage, haylage or grazing and should be able to be harvested three times. Plant Yield Max in soils that are 60°F at 40 lbs./acre. Yield Max does best in areas north of Interstate 80.

ForageMAXd is a blend of forage sorghum and photo-period sensitive sorghum-sudan to give a single cut of highly digestible fiber in 60 to 90 days.

ForageMAXd is designed for a cut and wilt system as direct chop will be too wet for storage. Suggested seeding rates are 20-25 lbs./acre.



Yield Max			ZONES: 1, 2, 3	
■ Yield Max, developed for the North, is an annual cocktail mix that is summer seeded.				
Yield Max pairs warm- and cool-season annuals to maximize every day of summer and fall.				
CONSISTS OF A SPECIAL MIX OF:				
BMR Sorghum-Sudan	60%	Berseem Clover	5%	
Italian Ryegrass	25%	Hairy Vetch	5%	
Medium Red Clover	5%			



# **BMR GRAZING CORN**

We're offering an excellent BMR Grazing Corn, KF 10B90. This high-yielding short day crop brings BMR quality corn for your livestock to graze. KF 10B90 is adaptable to most soils, with great stalk and roots, as well as good disease ratings and excellent fungicide response. Excellent drought tolerance and stay green round out this amazing grazing corn.

KF 10B90 can be planted earlier than sorghums and has great potential to yield good tonnage in a short period of time. Consider how this hybrid could fit into your cropping rotations for BMR quality forage.

KF 10B90	BMR	60 Day RM				
BMR for improved NDFD30, this high-yielding grazing hybrid is adaptable to most soils with great stalk/root ratings and excellent drought tolerance.						
FiberGest (30-hr. NDFD) Excellent	SofStarch (ISVD7) Excellent	Milk per Ton Very Good	Digestible Fiber per Acre Very Good			
<ul> <li>Recommended Population 35-40K</li> <li>Excellent FiberGest</li> <li>Widely adapted to many soil types</li> <li>Amazing grazing corn</li> </ul>						
Seedling Vigor Plant Height Stalk Strength Root Strength Stay Green Drought Tolerance Fungicide Respon	Short Very Good Excellent Excellent Excellent	Northern Leaf	Very Good			

Rating scale: POOR | FAIR | GOOD | VERY GOOD | EXCELLENT



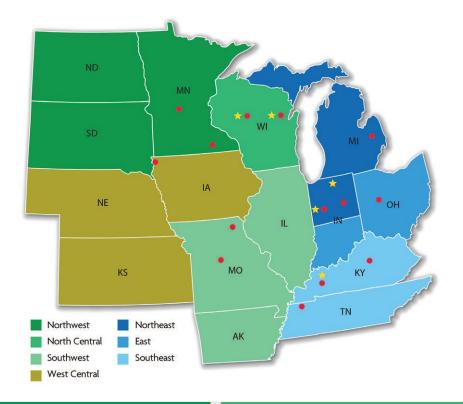
# BMR SORGHUM-SUDAN INCREASES AVERAGE DAILY GAIN IN STOCKERS!

In a study done by Texas Cooperative Extension, stocker calves grazing BMR sorghum-sudan showed a .31 lb/day higher ADG than stocker calves grazing conventional sorghum-sudan. During the 84 days of grazing, the calves eating BMR sorghum-sudan averaged 26 pounds heavier than those eating conventional sorghum-sudan. At \$2.75 a pound, that's \$71.50/head in your pocket!

Effects of Grazing Conventional and BMR 6 Sorghum-sudangrass on Performance of Stocker Calves.

		Gain (lbs/day)		(	Gain (lbs/acre)		
Forage Type	1999	2000	Mean	1999	2000	Mean	
Conventional Sorghum- sudangrass	2.74	2.51	2.63	305	295	300	
BMR 6 Sorghum- sudangrass	2.91	2.97	2.94	316	359	338	
McCollum et al. 20	US Tovas	Cooper	ativa Evtano	ion			

Consider using BMR Sorghum-Sudan from Byron Seeds to increase the average daily gains of your livestock this summer.



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Mechanicsburg     Gorin      Barnett      Crab Orchard	MO MO	Thorp Claremont Saint Cloud Inwood	MN MN
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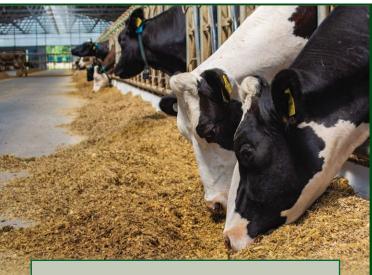
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