

# SORGHUM FORAGES

## PRODUCT SELECTION GUIDE

### BALED FEED

LACTATING COWS & GROWING ANIMALS		DRY COWS OR MAINTENANCE		HORSES & SPECIALTY LIVESTOCK	
SINGLE CUT	MULTI-CUT	SINGLE CUT	MULTI-CUT	SINGLE CUT	MULTI-CUT
Magnum Ultra, Drylander, All Star BMR Pearl Millet	Bruiser, Blue Ribbon 3D, NutriMaxx BMR, Drylander	Magnum, All Star BMR Pearl Millet	Excel II	All Star Hybrid Pearl Millet, All Star BMR Pearl Millet	

### GRAZING PASTURE

BEEF CATTLE LIVESTOCK			HORSES & SPECIALTY LIVESTOCK
CONTINUOUS SUMMER	ROTATIONAL	STANDING WINTER	ROTATIONAL OR CONTINUOUS
All Star Hybrid Pearl Millet, All Star BMR Pearl Millet	Bruiser, Blue Ribbon 3D	Magnum Ultra (Sterile)	All Star Hybrid Pearl Millet, All Star BMR Pearl Millet

### SILAGE

LACTATING COWS & GROWING ANIMALS		DRY COWS OR MAINTENANCE	
WITH GRAIN	NO GRAIN	WITH GRAIN	NO GRAIN
Brutis, Packer HGY, Quick Chop	Magnum Ultra (Sterile)	Packer HGY, Magnum LDP, Quick Chop	Magnum (Sterile)





## BALED FEED HARVESTING TIPS

When planning to harvest baled feed, it's best to harvest it around 48 inches and when the plant has reached the boot stage of maturity. Cut the feed down to 6-8 inches leaving three nodes for regrowth if desired. This added height will also help reduce the risk of nitrate poisoning. Using wide windrows will aid in drying, along with aggressive crimping.

## SILAGE HARVESTING

The best stage of growth to harvest grain producing Forage Sorghums is at the soft dough stage. Finding the optimal timing to harvest male sterile, or non-grain producing hybrids, can be more challenging. It is recommended to harvest male sterile hybrids when the whole plant moisture has dropped to around 60-70 percent.

## GRAZING TIPS

Rotational grazing is encouraged. Do not begin grazing until growth exceeds 20-24 inches or more. Remove when leaves have been removed but before stalks are consumed. Return to grazing only when growth exceeds 18 inches; this gives best animal performance, best growth, and reduces prussic acid and nitrate risks.





# SORGHUM FORAGES

## PRODUCT SELECTION GUIDE

### MANAGING PRUSSIC ACID & NITRATES WITH SORGHUM FORAGES

Prussic acid occurs when a compound in the leaf epidermis combines with a compound in the leaf mesophyll cells to release prussic acid (cyanide).

Crushing, chewing, or freezing can burst cells and allow these compounds to come in contact with each other; **do not graze during frost risk.**

Prussic acid is most concentrated in new re-growth therefore, sorghum forages **should not be grazed until more than 18" tall.**

Prussic acid is not generally a concern in well-cured hay, silage that has been stored more than 30 days, or in foliage that has been frosted and dried out.

**Pearl Millet** is the forage choice when prussic acid is a major concern.

Toxic levels of **nitrate** can develop in sorghum forages, especially when excessive nitrogen combined with drought conditions occur at or near the time of harvest. High levels of nitrate in sorghum forage is dangerous and can be fatal to livestock if not managed properly. To prevent and manage nitrate concerns, follow these general guidelines...

- Wait 7 to 10 days after a drought breaking rain before harvesting; test before harvesting during extended periods of stress.
- Balanced fertility reduces risks for nitrate problems. Split applications of N on multi-cuts is a constructive management practice, half at planting, and the rest after each hay harvest.



# GUIDELINES FOR ROTATIONAL STOCKING

## SORGHUM FORAGE

The nutritional requirements of the livestock being grazed should be considered when deciding when to end grazing. The closer a pasture is grazed, the lower forage quality will be toward the end of that particular grazing cycle. Greater residual heights may be desired for animals with higher nutritional requirements (for example: stocker cattle vs. cows and calves).

	BEGIN GRAZING	END GRAZING	RETURN TO GRAZING
Forage Sorghum & Sorghum Sudan	20-24 inches	8-12 inches	Regrowth >18 inches





# SUDANGRASS & FORAGE

## SORGHUM PRODUCTS

### MAGNUM

#### CONVENTIONAL SINGLE CUT HYBRID

**Magnum** has been a standout forage sorghum, producing outstanding tonnage as well as quality feed. Magnum can be ordered as a male sterile conventional, single cut hybrid that will perform over a wide range of environmental conditions.



#### MAGNUM CHARACTERISTICS

<b>Plant Height</b>	7-9 feet
<b>Grain</b>	Yes*
<b>Days to 50% Anthesis</b>	80
<b>Typical Seeds / lb</b>	15,500
<b>Dryland Seeding Rate</b>	15-20 lbs drilled
<b>Irrigated Seeding Rate</b>	20-24 lbs drilled
<b>Advanced Genetics</b>	Conventional Hybrid

\*Can be ordered sterile

#### MAGNUM PRODUCT INFORMATION

<b>Hay</b>	Very Good
<b>Silage</b>	Very Good
<b>Continuous Grazing</b>	Good
<b>Rotational Grazing</b>	Good
<b>Palatability</b>	Very Good



# MAGNUM ULTRA BMR

## SINGLE CUT BALED FEED OR PREMIUM QUALITY SILAGE

**Magnum Ultra** is a single cut forage sorghum hybrid with the BMR trait, leading to exceptional feed quality and high tonnage. This means that the feed production will always rank very high with respect to quality and value. Magnum Ultra can also be ordered as a sterile product, making it adaptable to many different environmental factors and farming practices.



MAGNUM ULTRA BMR CHARACTERISTICS	
Plant Height	7-9 feet
Grain	Yes*
Days to 50% Anthesis	100
Typical Seeds / lb	19,500
Dryland Seeding Rate	15-20 lbs drilled
Irrigated Seeding Rate	20-24 lbs drilled
Advanced Genetics	Brown Mid Rib (BMR)

*\*Can be ordered sterile*

MAGNUM ULTRA BMR PRODUCT INFORMATION	
Hay	Very Good
Silage	Excellent
Continuous Grazing	Good
Rotational Grazing	Good
Palatability	Excellent



# SUDANGRASS & FORAGE

## SORGHUM PRODUCTS

### PACKER HGY

#### A CONVENTIONAL HYBRID FORAGE SORGHUM FOR HIGH PRODUCTION SILAGE

**Packer HGY** produces a high grain yield and is a strong standing forage sorghum. Packer HGY is consistently one of the highest tonnage forage sorghums we see in testing in trialing. Packer HGY is the top choice for high tonnage full season silage.



#### PACKER HGY CHARACTERISTICS

<b>Plant Height</b>	6-7 feet
<b>Grain</b>	Yes
<b>Days to Pollination</b>	85-90
<b>Typical Seeds / lb</b>	16,000
<b>Dryland Seeding Rate</b>	5-6 lbs row planted
<b>Irrigated Seeding Rate</b>	6-8 lbs row planted
<b>Advanced Genetics</b>	Conventional Hybrid

#### PACKER HGY PRODUCT INFORMATION

<b>Hay</b>	N/A
<b>Silage</b>	Excellent
<b>Continuous Grazing</b>	N/A
<b>Rotational Grazing</b>	N/A
<b>Palatability</b>	Very Good



# PACKER BMR

## A BMR HYBRID FORAGE SORGHUM FOR HIGH PRODUCTION SILAGE

**Packer BMR** offers great tonnage in a BMR package. This Hybrid has a high grain stover ratio increasing silage energy.



PACKER BMR CHARACTERISTICS	
Plant Height	7-8 feet
Grain	Yes
Days to Pollination	90-95
Typical Seeds / lb	16,000
Dryland Seeding Rate	5-6 lbs row planted
Irrigated Seeding Rate	6-8 lbs row planted
Advanced Genetics	Conventional Hybrid

PACKER BMR PRODUCT INFORMATION	
Hay	N/A
Silage	Excellent
Continuous Grazing	N/A
Rotational Grazing	N/A
Palatability	Very Good



# SUDANGRASS & FORAGE

## SORGHUM PRODUCTS

### QUICK CHOP

#### SHORT SEASON BMR FORAGE SORGHUM

**Quick Chop** is a medium maturity one cut silage with grain for maximizing tonnage and digestibility. This hybrid grows quickly making it suitable for double cropping after wheat harvest. It should be ready to harvest in 90 days or in the soft dough stage. Quick Chop has good stalk strength giving it excellent standability. Reduced lignin in the plant improves the digestibility significantly.



#### QUICK CHOP CHARACTERISTICS

<b>Plant Height</b>	7-9 feet
<b>Grain</b>	Yes
<b>Days to Pollination</b>	75-80
<b>Typical Seeds / lb</b>	18,000
<b>Dryland Seeding Rate</b>	5-6 lbs row planted
<b>Irrigated Seeding Rate</b>	6-8 lbs row planted
<b>Advanced Genetics</b>	Brown Mid Rib (BMR)

#### QUICK CHOP PRODUCT INFORMATION

<b>Hay</b>	N/A
<b>Silage</b>	Excellent
<b>Continuous Grazing</b>	N/A
<b>Rotational Grazing</b>	N/A
<b>Palatability</b>	Excellent



# BLUE RIBBON 3D

## BMR HYBRID SUDANGRASS

**Blue Ribbon 3D** is a premium quality sudan forage with the dry stalk gene and quickness to cure for baling. This hybrid produces a fine stemmed sudan forage suitable for grazing or baling. With excellent regrowth, this sudangrass makes for exceptional multicut feed.



BLUE RIBBON 3D CHARACTERISTICS	
Plant Height	5-6 Feet
Grain	N/A
Days to Pollination	60-75
Typical Seeds / lb	22,500
Dryland Seeding Rate	13-19 lbs drilled
Irrigated Seeding Rate	22-32 lbs drilled
Advanced Genetics	Brown Mid-Rib (BMR)

BLUE RIBBON 3D PRODUCT INFORMATION	
Hay	Excellent
Silage	Good
Continuous Grazing	Very Good
Rotational Grazing	Excellent
Palatability	Excellent



# SUDANGRASS & FORAGE

## SORGHUM PRODUCTS

### HAY N GRAZE

#### CONVENTIONAL SORGHUM SUDANGRASS

**Hay N Graze** is a very tough hybrid that performs well with a large footprint. Hay N Graze is a medium maturity conventional hybrid, that has quick early season growth.



#### HAY N GRAZE CHARACTERISTICS

<b>Plant Height</b>	6-8 Feet
<b>Grain</b>	Yes
<b>Days to Pollination</b>	60-70
<b>Typical Seeds / lb</b>	19,000
<b>Dryland Seeding Rate</b>	15-24 lbs drilled
<b>Irrigated Seeding Rate</b>	24-40 lbs drilled
<b>Advanced Genetics</b>	Conventional Hybrid

#### HAY N GRAZE PRODUCT INFORMATION

<b>Hay</b>	Very Good
<b>Silage</b>	Good
<b>Continuous Grazing</b>	Very Good
<b>Rotational Grazing</b>	Very Good
<b>Palatability</b>	Good



# EXCEL II

## CONVENTIONAL SORGHUM SUDANGRASS

**Excel II** is a hybrid sorghum sudangrass that produces high-quality forage and has a quick regrowth. This variety produces tons of palatable forage. Excel II is a multicut hybrid that will perform over a wide range of environmental conditions.



EXCEL II CHARACTERISTICS	
Plant Height	6-9 Feet
Grain	Yes
Days to Pollination	90-95
Typical Seeds / lb	19,000
Dryland Seeding Rate	13-24 lbs drilled
Irrigated Seeding Rate	24-40 lbs drilled
Advanced Genetics	Conventional Hybrid

EXCEL II PRODUCT INFORMATION	
Hay	Very Good
Silage	Good
Continuous Grazing	Very Good
Rotational Grazing	Very Good
Palatability	Very Good



# SUDANGRASS & FORAGE

## SORGHUM PRODUCTS

### NUTRIMAXX BMR

#### LATE MATURING BMR SORGHUM SUDAN

**Nutrimaxx BMR** is a full season sorghum sudan alternative to Photoperiod Sensitive (PS) genetics. Nutrimaxx BMR hybrid features include a very high green leaf retention, aggressive tillering, re-growth and recovery, all packaged with excellent drought tolerance. This variety has a wide harvest window and produces full season forage.



#### NUTRIMAXX BMR CHARACTERISTICS

<b>Plant Height</b>	7-9 Feet
<b>Grain</b>	Yes
<b>Days to Pollination</b>	85-90
<b>Typical Seeds / lb</b>	17,000
<b>Dryland Seeding Rate</b>	13-24 lbs drilled
<b>Irrigated Seeding Rate</b>	22-32 lbs drilled
<b>Advanced Genetics</b>	Brown Mid-Rib (BMR)

#### NUTRIMAXX BMR PRODUCT INFORMATION

<b>Hay</b>	Excellent
<b>Silage</b>	Good
<b>Continuous Grazing</b>	Excellent
<b>Rotational Grazing</b>	Excellent
<b>Palatability</b>	Excellent



# 1ST CHOICE BMR

## HIGHLY PALATABLE BMR

**1st Choice BMR** offers tremendous flexibility to producers. Multi-purpose forage with excellent regrowth and recovery. Exceptional palatability improves livestock utilization and weight gains. Livestock’s #1 choice in competitive grazing trials.



1ST CHOICE CHARACTERISTICS	
Plant Height	6-7 Feet
Grain	Yes
Days to Pollination	70
Typical Seeds / lb	16,000
Dryland Seeding Rate	8-10 lbs drilled
Irrigated Seeding Rate	15-18 lbs drilled
Advanced Genetics	Brown Mid-Rib (BMR)

1ST CHOICE PRODUCT INFORMATION	
Hay	Excellent
Silage	Excellent
Continuous Grazing	Excellent
Rotational Grazing	Excellent
Palatability	Excellent



# SUDANGRASS & FORAGE

## SORGHUM PRODUCTS

### BRUISER

#### BRACHYTIC DWARF (BD) BMR SORGHUM SUDAN

**Bruiser** is a brachytic dwarf BMR sorghum sudan that overcomes many of the difficulties of grazing or haying older tall varieties. Brachytic Dwarf means a hybrid that has shortened internodes but additional leaves, so quality is enhanced without sacrificing yield. BRUISER has excellent grazing qualities with rapid and abundant regrowth after grazing or swathing. The BMR genetics coupled with the shortened internodes, makes this hybrid very palatable and nutritious, while at the same time leaving foliage accessible to livestock.



#### BRUISER CHARACTERISTICS

<b>Plant Height</b>	5-6 Feet
<b>Grain</b>	Yes
<b>Days to Pollination</b>	70-85
<b>Typical Seeds / lb</b>	14,000
<b>Dryland Seeding Rate</b>	13-24 lbs drilled
<b>Irrigated Seeding Rate</b>	22-32 lbs drilled
<b>Advanced Genetics</b>	Brown Mid Rib (BMR) Brachytic Dwarf (BD)

#### BRUISER PRODUCT INFORMATION

<b>Hay</b>	Excellent
<b>Silage</b>	Good
<b>Continuous Grazing</b>	Excellent
<b>Rotational Grazing</b>	Excellent
<b>Palatability</b>	Excellent



# DRYLANDER

## PHOTOPERIOD SENSITIVE (PS) SORGHUM SUDAN FOR UPLAND ACRES AND COVER CROPPING MIXES

Daylight rather than environmental condition triggers **Drylander** to switch from vegetative to the reproductive stage. This means environmental extremes have less impact on Drylander with better recovery and resumed vegetative growth after periods of drought and heat stress.



DRYLANDER CHARACTERISTICS	
Plant Height	8-9 Feet
Grain	No
Days to Pollination	Varies by Day Length; <12.5 hours daylight repro.
Typical Seeds / lb	17,000
Dryland Seeding Rate	13-24 lbs drilled
Irrigated Seeding Rate	22-32 lbs drilled
Advanced Genetics	Brown Mid Rib (BMR) Photoperiod Sensitive (PS)

DRYLANDER PRODUCT INFORMATION	
Hay	Excellent
Silage	N/A
Continuous Grazing	Excellent
Rotational Grazing	Excellent
Palatability	Excellent



# MILLET

## FORAGE PRODUCTS

### ALL STAR

#### HYBRID PEARL MILLET

**All Star** is a high protein, very palatable, no prussic acid millet forage type for grazing or high quality hay. A forage choice for horses and other livestock sensitive to the prussic acid levels in other sorghum forage types.



#### ALL STAR CHARACTERISTICS

Plant Height	5-6 feet
Grain	Yes
Days to 50% Anthesis	65-70
Typical Seeds / lb	80,000
Dryland Seeding Rate	10-20 lbs drilled
Irrigated Seeding Rate	20-28 lbs drilled
Advanced Genetics	Conventional Hybrid





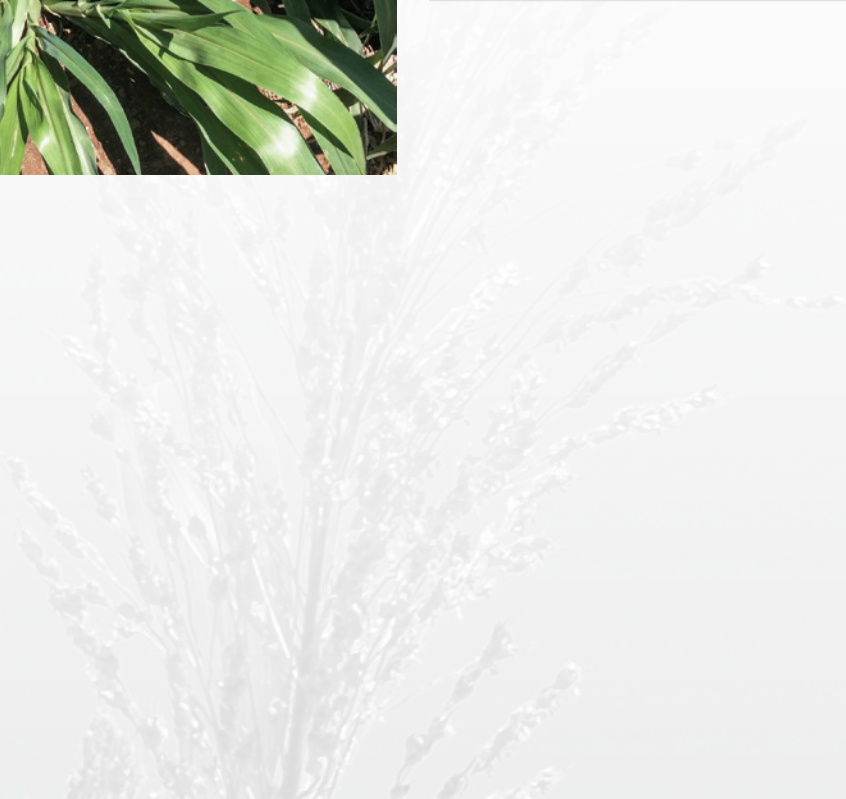
# ALL STAR BMR

## HYBRID BMR PEARL MILLET

**BMR All Star** is a shorter Brachytic Dwarf hybrid pearl millet that produces high yields. It typically will reach boot stage in around 60 days. It has a short plant structure, therefore, the plant is mostly all leaves. This high leaf mass assures high concentrations of protein and TDN values. It may not yield as much as typical sudangrass but tolerance to sugar cane aphids can offset that tonnage difference.



BMR ALL STAR CHARACTERISTICS	
Plant Height	4-5 feet
Grain	Yes
Days to 50% Anthesis	55-60
Typical Seeds / lb	60,000
Dryland Seeding Rate	10-20 lbs drilled
Irrigated Seeding Rate	20-28 lbs drilled
Advanced Genetics	Brown Mid-Rib (BMR); BD





# MILLET

## FORAGE PRODUCTS

### JAPANESE MILLET

ECHINOCHLOA FRUMENTACEA

**Japanese Millet** (*Echinochloa frumentacea*) is a higher yielding forage than foxtail (German) millet and much higher yielding than proso millet, but not as high yielding as pearl millet or sorghum sudangrass. Forage quality is similar to foxtail or pearl millet. It is very early maturing, able to produce seed in 60 days and has high seed yield. It is perhaps the most tolerant summer annual forage grass to flooded or wet conditions, making it a favorite plant to use in plantings for waterfowl.



#### JAPANESE MILLET CHARACTERISTICS

Plant Height	3-4 feet
Grain	Yes
Days to 50% Anthesis	45 to 60
Typical Seeds / lb	142,800
Dryland Seeding Rate	15-25 lbs drilled
Advanced Genetics	None

### PROSO MILLET

PANICUM MILLEACEUM

**Proso Millet** (*Panicum milleaceum*) is a very water efficient grain crop, but due to shallow roots, it is not tremendously drought tolerant and has a low yield potential compared to grain sorghum. It has prickly hairs on the leaves, which reduce forage palatability. It is often used in food plots due to its short height (grain heads are often within reach of pheasants) and early maturity. The seed is similar in quality and nutritional value as grain sorghum.



#### PROSO MILLET CHARACTERISTICS

Plant Height	2 feet
Grain	Yes
Days to 50% Anthesis	60 to 65
Typical Seeds / lb	150,000
Dryland Seeding Rate	20-25 lbs drilled
Advanced Genetics	None





# GERMAN MILLET

## FOXTAIL MILLET (SETARIA ITALICA)

**German**, or **Foxtail Millet**, is rapid growing and drought tolerant but matures early, which limits its yield potential to less than pearl millet or sorghum sudan. The forage of foxtail millet cures rapidly after swathing due to its naturally fine stems, making it very easy to put up as dry hay. The regrowth after cutting is very poor, making it best suited as a one cut, short term hay crop.



GERMAN MILLET CHARACTERISTICS	
Plant Height	2-3 feet
Grain	Yes
Days to 50% Anthesis	40 to 60
Typical Seeds / lb	165,000
Dryland Seeding Rate	20-25 lbs drilled
Advanced Genetics	None