

# MISSOURI SOUTHERN SEED

SEED for EVERY SEASON



FORAGE



COVER  
CROP



WILDLIFE  
SEED



NATIVE  
GRASS



LAWN &  
TURF







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Rolla, Missouri 65402

# PLANTING CHARTS

## FORAGE LEGUMES

SPECIES	DRILL/ BROAD CAST	SEEDING RATE LBS./ACRE	PLANTING TIME	DEPTH	SEEDS LBS. (1000)
ALFALFA	D	15-20	SPRING or LATE SUMMER	1/4"	220
BIRDSFOOT TREFOIL	D	5-8	FEB - APR or LATE SUMMER	1/4"	375
MEDIUM RED CLOVER	B	5-8	JAN - APR or LATE SUMMER	0 - 1/4"	275
ALSIKE CLOVER	B	4-6	JAN - APR or LATE SUMMER	0 - 1/4"	680
COW ★ LOVER CLOVER MIX	B	6-8	JAN - APR or LATE SUMMER	0 - 1/4"	304
LADINO CLOVER	B	1-3	JAN - APR or LATE SUMMER	0 - 1/4"	860
WHITE CLOVER	B	1-3	JAN - APR or LATE SUMMER	0 - 1/4"	860
SWEET CLOVER, YELL/WHITE	B	10-15	JAN - APR or LATE SUMMER	0 - 1/4"	260
KOBE LESPEDEZA, STRIATA	B	15-20	JAN - APR	0 - 1/4"	227
KOREAN LESPEDEZA, STIPULECEA	B	15-20	JAN - APR	0 - 1/4"	240
KOREAN LESPEDEZA, HULLED	B	10-20	JAN - APR	0 - 1/4"	320
<b>ANNUAL LEGUMES / BRASSICAS / HERB</b>					
BALANSA CLOVER	D	5-8	FEB - APR or LATE SUMMER	0 - 1/4"	500
BERSEEM CLOVER	D	15	FEB - APR or LATE SUMMER	0 - 1/4"	300
CRIMSON CLOVER	B	15-20	AUG - OCT	0 - 1/4"	150
HAIRY WINTER VETCH	B	20-25	FEB - APR or LATE SUMMER	1/2 - 1"	16
WINTER PEAS	B	30-40	FEB - APR or LATE SUMMER	1/2 - 1"	3.6
CHICORY, PER. HERB		4-5	SPRING or FALL	1/8 - 1/4"	425
RADISH		10-12	AUG - SEPT	1/4"	40
RAPE		6-10	SPRING or FALL	0 - 1/4"	145
TURNIP		2-5	SPRING, SUMMER or FALL	1/4"	167

## FORAGE GRASSES

SPECIES	DRILL/ BROAD CAST	SEEDING RATE LBS./ACRE	PLANTING TIME	DEPTH	SEEDS LBS. (1000)
BERMUDAGRASS	D	8-12	LATE SPRING & EARLY SUMMER	1/4"	1,300
BLUEGRASS	B	10-15	FEB - APR or AUG - OCT	0 - 1/4"	2,200
BROMEGRASS, SMOOTH	B	15-25	FEB - APR or AUG - OCT	1/4 - 1/2"	134
BROMEGRASS, MEADOW	B	15-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4 - 1/2"	93
ORCHARDGRASS	D	15-20	MAR - APR or AUG - OCT	1/4 - 1/2"	590
PRAIRIE BROME	D	30-35	EARLY SPRING or EARLY FALL	1/4 - 1/2"	520
RED TOP	B	8-12	FEB - MAY or AUG - OCT	1/4"	5,100
REED CANARYGRASS	B	8-12	FEB - MAY or AUG - SEPT	1/4 - 1/2"	550
RYEGRASS, ANNUAL	B	25-35	FEB - MAY or AUG - OCT	1/4 - 1/2"	270
RYEGRASS, PERENNIAL	B	25-35	FEB - MAY or AUG - OCT	1/4 - 1/2"	270
TIMOTHY	B	8-12	FEB - MAY or AUG - OCT	0 - 1/4"	1,230
TALL FESCUE	B	20-25	FEB - APR or AUG - OCT	1/4 - 1/2"	225

## PASTURE MIXES PLANTING CHART

SPECIES	DRILL/ BROAD CAST	SEEDING RATE LBS./ACRE	PLANTING TIME	DEPTH	SEEDS LBS. (1000)
HORSE	B	20-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4-1/2"	1,033
ELITE	B	20-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4-1/2"	475
CLASSIC	B	20-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4-1/2"	630
HARDY	B	20-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4-1/2"	452
WATERWAY	B	20-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4-1/2"	432
FIX-A-LOT	B	20-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4-1/2"	475
FLEX	B	20-25	FEB - 1 <sup>ST</sup> MAY or AUG - OCT	1/4-1/2"	400

## TYPICAL PURITY AND GERMINATION WITH PLS %

PURITY %	GERM 90%	GERM 85%	GERM 80%	PURITY%	GERM 90%	GERM 85%	GERM 80%
99.50	89.55	84.57	79.60	96.00	86.40	81.60	76.80
99.25	89.32	84.36	79.40	95.00	85.50	80.75	76.00
99.00	89.10	84.15	79.20	94.00	84.60	79.90	75.20
98.50	88.65	83.72	78.80	93.00	83.70	79.05	74.40
98.00	88.20	83.30	78.40	92.00	82.80	78.20	73.60
97.50	87.75	82.87	78.00	90.00	81.00	76.50	72.00
97.00	87.30	82.45	77.60	65.00	58.50	55.25	52.00
96.50	86.85	82.02	77.20	64.00	57.60	54.40	51.20

# PLANTING CHARTS

## ANNUAL FORAGES & GRAINS

SPECIES	DRILL/ BROAD CAST	SEEDING RATE LBS/ACRE	PLANTING TIME	DEPTH	SEEDS LBS. (1000)
<b>SPRING</b>					
OATS, FORAGE, COW★PRO	D	85-100	FEB - APR	1 - 2"	16
OATS, SPRING, GRAIN	D	64-96	FEB - MAR	1 - 2"	16
BARLEY, SPRING, GRAIN (NORTH)	D	72-96	EARLY SPRING	1 - 2"	14
WHEAT, SPRING, GRAIN (NORTH)	D	90-120	EARLY SPRING	1 - 2"	11
<b>SUMMER</b>					
COWPEAS, FORAGE (HAY)	D	50-60	MID MAY - JULY	1"	3.6
MILLET, PEARL, HYB, COW★PRO	D/B	12-15/30-40	MID MAY - JULY	1/2 - 3/4"	82
MILLET, GERMAN FOXTAIL	D	20-30	MID MAY - JULY	1/2"	165
SORGHUM-SUDAN HYB. HONEYCOMB	D/B	20-30/30-50	MID MAY - JULY	1"	22
SORGHUM-SUDAN HYB. SURPASS BMR6	D/B	20-25/30-35	MID MAY - JULY	1"	20
SORGHUM, FORAGE HYB, SILO 7000	D/B	6-8/20-25	MID MAY - JULY	1"	15
SORGHUM, GRAIN HYB, RS230	D	6-8	MID MAY - JULY	1"	15
SOYBEANS, FORAGE COW★PRO	D	75-90	MID MAY - JULY	1"	3.4
SOYBEANS, HAY, LAREDO	D	40-50	MID MAY - JULY	1"	6
TEFF GRASS	D	10	MID MAY - JULY	1/8 - 1/4"	1300
<b>FALL/WINTER</b>					
BARLEY, WINTER, GRAIN	D	72-96	AUG - EARLY OCT	1/2 - 1"	14
OATS, WINTER, BOB	D	75-100	AUG - OCT	1 - 2"	16
RYE, FORAGE, COW★PRO (SOUTHERN CEREAL)	D	100-120	AUG - OCT	0 - 2"	18
RYE, WINTER (NORTHERN CEREAL)	D	84-112	AUG - NOV	0 - 2"	18
TRITICALE, WINTER	D	100-120	SEPT - OCT	1 - 2"	15
WHEAT, FORAGE, COW★PRO	D	100-120	AUG - OCT	1 - 2"	11
WHEAT, PASTURE	D	100-120	AUG - OCT	1 - 2"	11
WHEAT, WINTER, GRAIN	D	100-120	OCT - NOV	1 - 2"	11-13

## WARM SEASON GRASSES (PLS) PURE LIVE SEED

SPECIES	SEEDING RATE PLS/ACRE	PLANTING TIME	SEEDS LBS. (1000)
BIG BLUESTEM	5-10	LATE MAY or JULY	130
INDIANGRASS	6-10	LATE MAY or JULY	170
LITTLE BLUESTEM	5-6	LATE MAY or JULY	260
SIDE OATS GRAMMA	8	LATE MAY or JULY	135
SWITCHGRASS	5-6	LATE MAY or JULY	280
EASTERN GAMMA GRASS (DORMANT)	8	DEC - FEB	7.5
CAUCASIAN BLUESTEM	2-3	LATE MAY or JULY	900
CRABGRASS	4-6	LATE MAY or JULY	825
VIRGINIA WILDRYE	5-10	SPRING - FALL	96
CANADA WILDRYE	7	SPRING - FALL	115

## LAWN SEED

SPECIES	SEEDING RATE LBS/ 1000 SQFT	PLANTING TIME	SEEDS LBS. (1000)
BERMUDAGRASS	2-3	MAY - JULY	1,300
BENTGRASS	2	MARCH - SEPT	8,000
BLUEGRASS	3-5	FEB-MAY or AUG - OCT	2,200
BUFFALOGRASS	1-3	MAY - AUG	275
CLOVER, WHITE DUTCH	3-5	FEB - APR or AUG - OCT	700
CROWNVELTCH	2-3	SPRING - SUMMER - FALL	122
FESCUE, TALL KY 31	8-10	FEB - APR or AUG - OCT	225
FESCUE, TALL TURF TYPES	8-10	FEB - APR or AUG - OCT	225
FESCUE, CREEPING RED	3-5	MAR-MAY or AUG - OCT	615
FESCUE, CHEWINGS	3-5	MAR - MAY or AUG - OCT	615
RYEGRASS, PERENNIAL	5-6	FEB - JUNE or AUG - OCT	270
RYEGRASS, ANNUAL	5-6	FEB - JUNE or AUG - OCT	270
RYEGRASS, TURF TYPES	5-6	FEB - JUNE or AUG - OCT	270
ZOYSIA	2	MAY - AUG	1,200
WILDFLOWERS, MIDWEST MIXTURE	5 OZ	SPRING, FALL	419

## WILDLIFE FOOD PLOT

SPECIES	SEEDING RATE LBS/ACRE	PLANTING TIME
BUCKWHEAT	48 - 60	MAY - AUG
CHICORY	5	SPRING - EARLY FALL
CHUFA	30 - 40	APRIL - JULY
CLOVER, LADINO	5 - 8	JAN - APR, AUG - SEP
CORN, HYBRID, & OP	12	APRIL - MAY
COWPEAS	60	MAY - JULY
DEER MAGIC	10	SPRING - FALL
EGYPTIAN WHEAT	10	MAY - JULY
SPRING WILDLIFE	50	MAY - JULY
FALL WILDLIFE	50 - 100	AUGUST - OCTOBER
LAB-LAB BEANS	20	MAY - JULY
LESPEDEZA, SERICEA	20 - 30	EARLY SPRING
MILLET, BROWNTOP	30 - 40	SPRING - SUMMER, EARLY FALL
MILLET, JAPANESE	20 - 30	MAY - AUGUST
MILLET, WHITE PROSO	30	MAY - AUGUST
PEAS, WINTER	50	FEB - APR or AUG - SEPT
RADISH	10 - 12	JULY - SEPT
RAPE	6-10	APR - SEPT
RICE	50 - 90	MAY - JUNE
SORGHUM, HYB, FORAGE	6 - 8	MAY - JULY
SORGHUM, HYB, GRAIN	6 - 8	MAY - JULY
SORGHUM, WGF	15 - 30	MAY - JULY
SOYBEANS	15 - 20	MID MAY - JULY
SUGAR BEET	5	SPRING, EARLY FALL
SUNFLOWER, PEREDOVIC	15 - 30	APRIL - JULY
SUNFLOWER, HYBRID OIL	6 - 8	MAY - JULY
SUNN HEMP	25 - 35	MAY - JULY
TURNIP, FORAGE	3 - 5	EARLY SPRING - MID SUMMER
TURNIP, PURPLE TOP	2 - 5	SUMMER - FALL

## HELPFUL CONVERSIONS

ACRE = 43,560 SQ. FT. or .405 HECTARE  
 HECTARE = 2.47 ACRES  
 POUND = 454 GRAMS  
 KILOGRAM = 2.205 LB.

## LAWN MIXES

SPECIES	SEEDING RATE LBS/ 1000 SQFT	PLANTING TIME	SEEDS LBS. (1000)
FANCY	3-5	FEB - APR or AUG - OCT	700
PREMIUM	3-5	FEB - APR or AUG - OCT	935
SUPREME	3-5	FEB - APR or AUG - OCT	808
PLAYGROUND	5-7	FEB - APR or AUG - OCT	440
LANDSCAPER	7-9	FEB - APR or AUG - OCT	236
PRETTY TUFF	7-9	FEB - APR or AUG - OCT	236
EASY TURF	7-9	FEB - APR or AUG - OCT	234
SUPER EASY TURF 4	8-10	FEB - APR or AUG - OCT	234
SHADY	5-7	FEB - APR or AUG - OCT	420
5-WAY	8-10	FEB - APR or AUG - OCT	225
5 PLUS 10	7-9	FEB - APR or AUG - OCT	422
CONTRACTORS	7-9	FEB - APR or AUG - OCT	236

# FORAGE



## VARIETY LINEUP



AmeriStand  
**481 HVXRR**



FALL DORMANCY: 4.0  
WINTERHARDINESS: 1.9

### A Technology Powerhouse: HarvXtra® Alfalfa Paired with the UltraCut™ Alfalfa Disease Package

- Latest advancement in disease resistance, featuring the UltraCut™ alfalfa disease package with a DRI of 39/40, which includes High Resistance to Aphanomyces Root Rot Race 1, 2 and evolving strains<sup>1</sup>; and includes multi-race resistance to Anthracnose<sup>2</sup>
- HarvXtra® Alfalfa gives growers the ability to better manage the yield-versus-quality tradeoff. It offers more flexibility in cutting schedule to achieve improved forage quality or greater yield potential, when compared to conventional alfalfa at the same stage of maturity

AmeriStand  
**435TQ RR**



FALL DORMANCY: 3.1  
WINTERHARDINESS: 1.2

### Traffic Tested® Alfalfa with Roundup Ready® Technology

- Outstanding leaf retention and stem quality for optimizing digestibility and forage quality potential
- High yield potential with excellent stand persistence
- High resistance to common yield-robbing diseases

AmeriStand  
**420LH RR BRAND**



FALL DORMANCY: 3.9  
WINTERHARDINESS: 2.2

### Roundup Ready® Alfalfa with High Resistance to Potato Leafhopper

- High potato leafhopper resistance that delivers high yield potential and forage quality, even under heavy leafhopper pressure
- High establishment success with glyphosate application shortly after emergence. Broad spectrum weed control reduces competition for water and nutrients allowing alfalfa to canopy and develop a strong root foundation

AmeriStand  
**419LH BRAND**

FALL DORMANCY: 4  
WINTERHARDINESS: 2

### High Resistance to Potato Leafhopper with Increased Yield and Forage Quality Potential

- Selected for enhanced glandular hair trait expression with excellent winterhardiness
- High resistance to common alfalfa diseases plus leafhopper
- Fast recovery after cutting with very good forage yield potential

AmeriStand  
**428TQ**



FALL DORMANCY: 4.4  
WINTERHARDINESS: 1.3

### UltraCut™ Alfalfa Disease Package Ups Ante on Yield and Persistence Leader

- Outstanding yield potential and agronomic performance under 4 to 5-cut harvest management systems (FD=4.4) in various locations throughout dormant alfalfa use areas
- A new day in disease resistance greatly affecting establishment and in-crop performance, AmeriStand 428TQ features the UltraCut™ alfalfa disease package with a perfect Disease Resistance Index (DRI) of 40/40 including HR (high resistance) to aphanomyces race 1, race 2, and evolving strains<sup>1</sup>, and HR to anthracnose race 1 and race 5<sup>2</sup>
- Superb winterhardiness (WH=1.3); AmeriStand 428TQ delivers excellent cold tolerance and persistence

**FREEDOMSTAR™**  
RR BND



FALL DORMANCY: 4  
WINTERHARDINESS: 2

### Exceptional Quality for an Exceptional Value

- An economical Roundup Ready® alfalfa blended for dependable forage yield potential and good quality



AmeriStand

457TQ RR



TRAFFIC  
TESTED



FALL DORMANCY: 4.2

WINTERHARDINESS: 1.8

### High Quality Traffic Tested® Alfalfa with Roundup Ready® Technology

- Excellent forage quality for optimal animal performance
- Perfect disease resistance score of 35/35 DRI with HR for both races 1 and 2 of Aphanomyces
- Very fast recovery for frequent harvest schedules under intensive management

AmeriStand

455TQ RR



TRAFFIC  
TESTED



FALL DORMANCY: 4.4

WINTERHARDINESS: 2.0

### High Quality Traffic Tested® Alfalfa with Roundup Ready® Technology

- Excellent forage quality for optimal animal performance
- Improved salt tolerance of germinating seeds\*

**ULTRACUT™**  
Alfalfa Disease Package

The UltraCut™ alfalfa disease package helps you grow a healthy alfalfa crop even in field conditions susceptible to Anthracnose and Aphanomyces disease strains.

The UltraCut alfalfa disease package can help deliver an advantage through improved agronomic performance and yield potential.

## Use these tips to help you establish a great stand of high yielding, high quality alfalfa.

### SOIL SELECTION

- Choose a field with good drainage
- Test the soil for pH and fertility
- Soils should have a pH of 6.5 or above
- If soil pH is below 6.5, an application of lime may be required 12 months ahead of seeding to raise soil pH

### SOIL TEST

- Soil test for phosphorus (P), potassium (K) and other elements like sulfur
- Your local soil testing lab can make best recommendations for fertility
- P and K can be applied anytime prior to and/or at seeding
- Soil and plant tissue tests can also guide ongoing topdressing ratios throughout the life of the stand

### SEEDING

- With proper management, alfalfa can be seeded conventionally, into reduced tillage or into no-till
- Seed a minimum of 15 pounds per acre
- Spring seedings can begin as soon as frost is out of the ground, seeding early will help improve first year yields
- Fall seedings should occur at least 6 weeks before the historic freeze date for performance the following year

### SEEDING DEPTH

- Start with a firm seed bed
- Seed to soil contact and proper seeding depth makes the difference in stand performance
- Plant 1/4 to 1/2 inch deep in heavier soils
- Plant 1/2 to 3/4 inch deep in sandy soils

### HARVEST

- Cut first year spring seeded stands at early to mid-bloom (about 70-80 days after seedings)
- Subsequent harvests can be made 25 to 28 days later
- Established stands (second year or older) can be harvested more frequently without severe stand damage
- Most growers like to start first harvest on established stand with a bud cut and following harvests at early bloom (about 26-30 days in most areas)
- Traffic Tested® varieties have been proven to withstand more frequent harvests

Variety Characteristics	Fall Dormancy	Traffic Tested*	Salt Tolerance*	Phytophthora Root Rot	Anthracnose Race 1	Anthracnose Race 5 <sup>2</sup>	Verticillium Wilt	Fusarium Wilt	Bacterial Wilt	Aphanomyces Root Rot Race 1	Aphanomyces Root Rot Race 2	Evolving Aphanomyces Strains	Stem Nematode	Root Knot Nematode	Pea Aphid	Spotted Alfalfa Aphid
AmeriStand 435TQ RR	3.1	EX	Ger	HR	HR	—	HR	HR	HR	HR	R	—	MR	—	HR	R
AmeriStand 420LH RR Brand	3.9	—	—	HR	HR	—	HR	HR	HR	HR	R	—	R	—	R	R
AmeriStand 481 HVXRR	4.0	—	Ger	HR	HR	R	HR	HR	HR	HR	HR	HR	R	—	R	R
FreedomStar™ RR BND	4	—	—	HR	R	—	HR	HR	HR	R	—	—	—	—	—	—
AmeriStand 419LH BRAND	4	—	—	HR	HR	—	HR	HR	HR	HR	R	—	R	—	R	MR
AmeriStand 457TQ RR	4.2	EX	Ger	HR	HR	—	HR	HR	HR	HR	HR	—	R	—	HR	R
AmeriStand 428TQ	4.4	EX	Ger	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	—	R	R
AmeriStand 455TQ RR	4.4	EX	Ger	HR	HR	—	HR	HR	HR	HR	R	—	HR	HR	R	—

HR = >51% Resistance, R = 31-50% Resistance, MR = 15-30% Resistance, LR = 6-14% Resistance

# FORAGE



## 1. Venus Brand Alfalfa

FORAGE | FORAGE LEGUME

### High Yielding • Economical • Disease Resistant

Venus alfalfa is for the hay producer who wants top quality forage but at an economical price. Venus has the high quality and disease resistance of the newer types at an economical price. Its fine stems and numerous leaves bring quality animals can gain on. This quality hay is highly marketable, producing premium prices. Coated, pre-inoculated, and Apron treated for better stand establishment.

#### Venus Brand Alfalfa offers:

- Fine stems and lots of leaves
- Disease and insect resistance
- Good winter hardiness
- Long life
- High yields/quality forage
- Reasonable price
- Does well with grass mixtures
- Fall Dormancy 4

**Seed Rate:** 18 lbs/acre optimum, 15 lbs. minimum

**Planting:** March - Early May or August - September

## 2. Venus XDT Alfalfa

FORAGE | FORAGE LEGUME

### High Yielding • Very High Disease Resistance • Fast Recovery

Top yielder in comparative trials and a high forage yielding alfalfa with deep crown placement resulting in excellent traffic tolerance. These sunken crowns protect the plant under wheel compaction and animal traffic pressures. Provides an excellent disease resistance package including resistance of multiple strands of aphanomyces Root Rot Race 2. With a fall dormancy of 4.5 and a winter hardiness of 2.0, Venus XDT alfalfa delivers a quality similar to many high end alfalfa.

**Seed Rate:** 20lbs/acre drilled

**Planting:** March - Early May or August - September



VENUS XDT AGRONOMIC TRAITS	RATING
BACTERIAL WILT	HR
FUSARIUM WILT	HR
PHYTOPHTHORA ROOT ROT	HR
VERTICILLIUM WILT	HR
ANTHRACNOSE	HR
APHANOMYCES ROOT ROT (RACE 1)	HR
APHANOMYCES ROOT ROT (RACE 2)	HR
TRAFFIC TOLERANCE	EX
RECOVERY AFTER HARVEST	FAST
FALL DORMANCY	4.5
WINTER SURVIVAL	2.0
STAND PERSISTENCE	EX
DRI	35/35

VARIETY	HAY TONS/ACRE
VENUS XDT	4.45
PIONEER 55Q27	3.78
WL365HQ	3.45
HI-GEST 360	3.42
REBOUND 6XT	3.42
Lancaster, WI Trial Results with 4 Replications over 2 cuttings	



### 3. Dynamite

FORAGE | FORAGE LEGUME

#### 3 Year Clover • High Yielding • Improved Disease Resistance

A high yielding, double cut red clover selected for its improved disease resistance. Excellent addition to mixtures for hay, silage, pasture, and wildlife settings. Early spring growth and abundant regrowth help prove that this clover is one of the top yielding clovers available. Can be mixed with small grains, grasses, and other legumes to fit your needs.

**Seed Rate:** 7-10 lbs/acre when sown alone or 4-6 lbs/acre when seeding in a mix. 1/8" - 1/4" deep

**Planting:** January - April or Mid-August - Mid-September



### 4. Q Red Clover

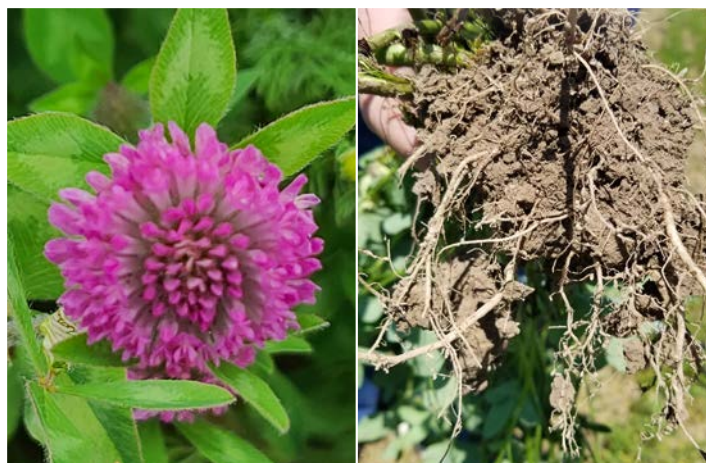
FORAGE | FORAGE LEGUME

#### 2,4-D Resistant • Superior Yields • Disease Resistant

A high yielding, short-lived perennial legume developed using traditional breeding methods (non-GMO) to provide tolerance to the broad spectrum herbicide 2,4-dichlorophenoxyacetic acid (2,4-D). It features excellent biomass production throughout the year and its earlier spring growth means weeds have less time to get established. This results in a higher quality forage, while reducing your herbicide costs. If weeds do establish themselves in your grass pasture, Q's tolerance to 2,4-D herbicide means you'll be able to control broad-leaf weeds without sacrificing yield.

**Seeding Rate:** 8-10 lbs/acre alone; 5-6 lbs/acre with grass

**Planting:** January - April or Mid-August - Mid-September



### 5. Stamina White Clover

FORAGE | WILDLIFE

#### Aggressive Tillering • High Yielding • Excellent Persistence

Intermediate-type of white clover selected for persistence under grazing, stolon density, and larger leaf size. High stolon density helps it spread aggressively preventing hoof damage caused from grazing pressure. This aggressive nature gives Stamina the persistence to out-yeild and out-last other white clovers and ladinos. In trials conducted by the University of Kentucky in Lexington, KY, Stamina proved to persist better than Patriot, Durana, and Alice. In other trials, Stamina has proven to out-yeild Legacy and our previous clover, Kopu II.

**Seeding Rate:** 1-3 lbs/acre new hay fields/pasture mix; 2-3 lbs/acre renovation/overseeding existing fields/pastures alone

**Planting:** August - September or February - April



#### GRAZING PERSISTENCE DATA

VARIETY	PERCENTAGE								
	2014	2015	2016	2017	2018				
	NOV.3	APR.6	OCT.30	MAR.24	OCT.17	MAR.22	OCT.19	MAR.20	SEPT.26
STAMINA	72	88	88	89	68	45	66	58	69
DURANA	83	91	91	86	69	48	64	59	65
PATRIOT	87	93	93	90	78	53	62	53	55
ALICE	91	92	92	85	53	35	53	47	52
LSD VALUE	9	8	8	10	16	17	16	17	13

University of Kentucky Forage Trial Planted Sept. 9, 2014 at Lexington, KY.



# FORAGE



## 1. Synergy Ladino Clover

FORAGE | FORAGE LEGUME | WILDLIFE

**Graze Persistent • Good Regrowth • Complements Existing Pasture**

With its performance and customer satisfaction, Synergy is a very recognizable ladino in the Midwest. An impressive Ladino White Clover with exceptional growth habits, characterized by a tall, leafy, spreading plant mass. Complements existing pasture grasses, has good regrowth and persistence, and performs well under heavy grazing settings. Highly compatible with cool season grasses and legumes including tall fescue, orchardgrass, ryegrass, red clover, and alfalfa. Performs on a variety of conditions including wetter and lower pH soils where other legumes are not well suited.

**Seeding Rate:** 2-3 lbs/acre in pasture overseeding

**Planting:** January - April or Mid-August - Mid-September



## 2. Cow Lover Clover Mixture

FORAGE | FORAGE LEGUME

**Excellent Grazing Addition • Protein Increaser**

A mixture of 94% Medium red cp and 6% Ladino clover cp. Need help for stressed pastures? This convenient pasture overseeding mixture is a great addition to your pasture. This legumes reduce nitrogen costs and dilutes effects of endophyte fungus in KY31 tall fescue. Increase the protein content of grass forages. The Ladino Clover can withstand close grazing and spreads by stolons, while Red clover is a short lived perennial making for excellent grazing.

**Seeding Rate:** 6-10 lbs/acre initially, 2-4 lbs/acre for maintenance

**Planting:** January - April or Mid-August - Mid-September



## 3. Birdsfoot Trefoil

FORAGE | FORAGE LEGUME

**Hay Addition • Rotational Grazing Dependent • Non Bloating**

An upright product suitable for pasture or hay. Does best in grass mixes and prefers rotational grazing. Missouri Southern Seed applies a coating material that holds inoculation next to the seed for better plant growth and nitrogen fixation. We also add Apron seed treatment to ward off early seedling diseases. Raw seed is sometimes available. A very good addition to most grass pastures, including tall fescue. Preferred pH soil 5.0 to 6.0

**Seeding Rate:** 4-8 lb/acre at a 1/4 inch depth

**Planting:** January - April or Mid-August - Mid-September; May be frost seeded in winter, or shallow seeded in the spring or late summer.



## 4. AberLasting White x Kura Clover

FORAGE | FORAGE LEGUME | WILDLIFE

**Cold Tolerant • Drought Tolerant • Aggressive Spread**

Aberlasting Clover is a cross between White Clover and Kura Clover. Making this it more persistent than white or ladino clover. Can be grown with most cool season grasses. Excellent cold and drought tolerance. Great addition to any pasture. Spreads by rhizome.

**Seeding rate:** 2-3 lbs/acre for pasture.

Can be frost seeded or drilled.

**Planting:** January - April or Mid-August - September





## 5. Cow★Pro Tall Fescue

FORAGE | FORAGE GRASS

### Early Vigor • Fast Regrowth • High Yielding

An outstanding forage grass suitable for all classes of livestock, with early vigor, fast regrowth and almost year-round production. Solves many forage needs. High yielding-high quality forage with exceptional early seedling vigor for quick establishment. Suitable for horses, even broodmares. Shows resistance to rust and other foliar diseases for longer life and better animal intake.

- Excellent spring and fall growth.
- Suitable for winter stockpiling.
- Tolerant of poorer soils.
- Heat and drought resistant.

**Seeding Rate:** 20-25 lbs/acre

**Planting:** March - May or August - October

## 6. Cow★Pro II Tall Fescue

FORAGE | FORAGE GRASS

### Early Vigor • High Yielding • Heat & Drought Tolerant

A new generation, top yielding, endophyte-free tall fescue. With excellent early seedling vigor, this quick to establish making for excellent pasture, hay or silage production. Highly disease resistant, medium maturing fescue with excellent heat and drought tolerance. Well adapted to various soil types and pH levels. In multiple trials, it has out yielded KY31, Max Q, and Baroptima +E34. Highly palatable when compared to KY31 so avoid overgrazing. Remove livestock from pastures when grass levels reach 3-5 inches. With proper management practices, it should provide high quality forage.

**Seeding Rate:** 20-25 lbs/acre

**Planting:** March - May or August - October

## 7. Estancia Tall Fescue

FORAGE | FORAGE GRASS

### Endophyte Enhanced • Heat & Drought Tolerant

Estancia with ArkShield® is the latest generation forage tall fescue with the addition of a beneficial endophyte. Estancia Tall Fescue is the result of years of laboratory and field research by the University of Arkansas in cooperation with the University of Missouri. A medium maturing, high yielding tall fescue with excellent seeding vigor.

ArkShield® is a patented smart endophytic fungus that lives inside the seed and plants in a mutually beneficial relationship protecting the grass from disease, insects and environmental stresses like heat and drought. ArkShield® is natural and desirable in forage grasses and has no known negative effects on livestock. The ArkShield® endophyte makes Estancia a more productive and persistent perennial forage grass.

Estancia is packaged in 25 lb. sealed foil bags to reduce air, heat and moisture transfer into and out of the bag that helps to ensure the viability of the seed and the live ArkShield® endophyte. Has both a guaranteed analysis tag ensuring the seed purity and germination, as well as a sow-by date ensuring the viability of the live endophyte.

**Put your pasture to work!** Two factors that dramatically impact the profitability of a cow-calf operation are calving rate and weaning weight. Improvement to these factors will increase the pounds of calf within a given calving season or year. Lower pregnancy rates, calving rates and calf weaning weights have been observed in many research studies in cows and heifers grazing toxic fescue.

Produces nutritious, palatable, high-quality forage resulting in healthier cows, heavier weaning calves and improved weight gains.

### Planting Guide for Estancia Tall Fescue:

- Closely graze or harvest existing toxic fescue
- Spray stubble with a non-selective herbicide
- Test soil and follow soil test recommendations
- Plant a cover-crop
- Graze/Harvest break-crop (don't transfer toxic fescue seeds in manure to break-crop forage)
- After useful life of the break-crop, spray out with a non-selective herbicide
- Fertilize as recommended
- Estancia can be planted with other species such as alfalfa, red or white clover and grasses
- Don't graze or harvest seeding pasture the first winter.

**Seeding Rate:** 20-25 lbs/acre

**Planting:** February - April or August - October



Effect of Cultivar on Grazing and Subsequent Performance of Steers Grazing Tall Fescue Pastures, Southeast Agricultural Research Center, KSU, 2004 Tall Fescue Cultivar - High Endophyte - 257 Day Grazing Phase			
ITEM	ESTANCIA	MAXQ	K-31
GAIN, LB	3.99	3.77	2.43
DAILY GAIN, LB	1.55	1.47	0.94
GAIN/ACRE, LB	319	302	199





# FORAGE

1.

THREE YEAR DRY MATTER YIELD TRIAL OF ORCHARDGRASS  
STUDIED IN ORANGE, VIRGINIA BY VIRGINIA TECH

VARIETY	LB DM/A
WARRIOR II	38772
SHILOH II	37488
BENCHMARK PLUS	37109
PERSIST	36501
ENDURANCE	35582



DISEASE RESISTANCE RATING	S	LR	MR	R	HR
LEAF RUST					•
STEM RUST					•
LEAF SCALD					•
MOTTLE VIRUS			•		
STRIPE RUST					•

S=Susceptible LR=Resistance MR= Medium Resistance  
R=Resistance HR=High Resistance



3.

## 1. Warrior II Orchardgrass

FORAGE | FORAGE GRASS

**Rust Resistant • Grazing Persistent • High Yielding**

A later maturing, upright growing orchardgrass derived from the Warrior line of high-yielding orchardgrass. This next generation variety boasts all of the traits of Warrior Orchardgrass, with improved resistance to disease and grazing pressures. Using data gathered using three harvest schedules throughout the given year, it is the #1 ranked proprietary orchardgrass in a three year dry matter yield trial in Orange, Virginia beating Persist & Shiloh II orchardgrass varieties.

Selected for its improved disease resistance to stem and leaf rust as well as its increased forage yields. These traits make it a perfect complement to alfalfa, red and white clover, birdsfoot trefoil, tall fescue, and early maturing varieties of Timothy such as our Cow★ Pro Timothy. Its palatability and longevity give this variety strong bonus features. Recommended for intensive rotational grazing, pasture, hay, green chop, and silage. Requires a high mowing/ grazing height. For best yields and plant life, leave at least 3.5-5 inches of stubble for regrowth..

**Seeding Rate:** 15-20 lbs/acre. Best results when drilled.

**Planting:** March - April or September - October

## 2. Alpine II Orchardgrass

FORAGE | FORAGE GRASS

**Excellent Forage • High Yielding • Disease Resistant • Excellent Regrowth**

Top-rated, very late-maturing orchardgrass. It's able to produce high-quality, disease-free forage later in the season, making it the industry's go-to for very late orchardgrass, especially as a companion crop with alfalfa, red clover or other legumes. Performed well in university variety trials in Kentucky and Wisconsin, as well as New York and Pennsylvania. Exhibits superb agronomic traits such as strong seedling vigor, quick establishment, and high winter hardiness as well.

**Seed Rate:** 15-20 lbs/acre

**Planting:** March - April or August - October

## 3. Crown Royale Orchardgrass

FORAGE | FORAGE GRASS

**Early Vigor • High Yielding • Rust Resistant**

A later maturing orchardgrass with improved disease resistance to leaf, stem, and stripe rust. Selected for its increased yield trials throughout most of the United States producing up to 35% more forage than other grasses tested. Excellent early seedling vigor making it easy to establish. It also performs well on various soil types ranging from clay to gravelly loams and on shallow to deep soils. Has shown excellent winter hardiness and moderate drought resistance. Due to its later maturity, it is a perfect companion for fescue, timothy, alfalfa, and red and white clovers. Works well for rotational grazing pasture, hay, green chop, and silage. Requires a higher mowing/grazing height. It has been found for best yields and plant life to leave at least 3.5 to 5 inches of stubble for regrowth.

**Seed Rate:** 15-20 lbs/acre. Best results when drilled.

**Planting:** March-April or late August-October; 1/8 to 1/4 inch depth.



#### 4. **Cow★Pro Timothy**

FORAGE | FORAGE GRASS

**Earlier Maturing • High Yielding • Great Companion Crop**

A tall standing, productive Timothy that brings forward many special improved characteristics that outperform Climax in both volume and quality. Noticeably taller in upright growth and offers a great number of extra wide leaves for more tonnage. Also matures one week earlier than Climax allowing for a better companion crop.

**Seed Rate:** 8-12 lbs/acre

**Planting:** February - April or September - October



#### 5. **Reed Canarygrass**

FORAGE | FORAGE GRASS

**Highly Palatable • Withstands Excessive Moisture • Low Alkaloid Content**

A cool season grass that is known for its ability to withstand excessive wetness in the pasture/hayfield. Low alkaloid varieties are more palatable to cattle. With good winter hardiness, it has a record of producing 5 tons of dry matter over a 3 year average of three cuttings. Has been known to produce multiple hay cuttings throughout the year. It makes great pasture when incorporated with a legume. A fine and firm seedbed is needed for planting.

**Seed Rate:** 14 lbs/acre

**Planting:** February - April or August - September. Late summer planting is recommended for low, wet areas.



#### 6. **Sierra Perennial Ryegrass**

FORAGE | FORAGE GRASS

**Drought Tolerant • Diploid Perennial • Great Hay**

Sierra is a diploid variety of perennial ryegrass that makes an excellent addition to pastures. Best suited for cooler climates where drought and extreme high temperatures are uncommon. Highly palatable with excellent drought and cold tolerance for a perennial ryegrass. Many varieties of perennial ryegrass tend to thin within 1-2 years. However, Sierra consistently rates high in percentage of stands well into the third year in trials across the country due to its dense, low crown, which allows it to be more tolerant to hoof traffic and stress.

**Seeding Rate:** 25-30 lbs/acre drilled in a mono stand or 5-10 lbs/acre in a mixed stand. Should be planted in a well prepared seedbed. Responds well to fertilizer applications.

**Planting:** March - Early May or September - October



#### 7. **Albion Tetraploid Forage Perennial Ryegrass**

FORAGE | FORAGE GRASS

**Drought Tolerant • Very Persistent • High Sugar Content**

A widely adapted variety of perennial ryegrass suitable to the Midwest. Is deeper rooted and much more heat and drought tolerant than other perennial ryegrasses. A profuse tillering plant with wider leaves than most. Very suitable for a rotational grazing system or frequent hay cuttings. Responds best when grazing or hay harvest occurs before reproduction and when 3 inches of stubble is left for regrowth.

**Seed Rate:** 25-35 lbs/acre. Responds well to fertility.

**Planting:** March - April or September - October





# FORAGE



## 1. TetraMag Hybrid Ryegrass

FORAGE | FORAGE GRASS

### High Yielding • Cold Tolerant • Early Seedling Vigor

Ranked at the top of experimental trials throughout various regions of the United States, TetraMag was selected for its yield capability and excellent persistence. It is a cross of perennial ryegrass and Italian ryegrass and can produce large amounts of forage for hay, pasture or silage. Results largely due to its excellent early seedling vigor making it an excellent choice for inter-seeding pastures or hay fields. Planting is optimal when done in the spring. However, early fall plantings are also successful due to its improved winter hardiness. Not known to be a long lived perennial. Leave 3-5 inches for regrowth.

**Seed Rate:** 25 lbs/acre for a mono stand or 5-15 lbs/acre in mixed stands. Responds well to fertilization.

**Planting:** March - early May or August - October

## 2. Bestfor Tetraploid Intermediate Ryegrass

FORAGE | FORAGE GRASS

### Highly Palatable • High Yielding • Early Seedling Vigor

A cross of perennial and Italian ryegrass. Produces an immense amount of forage consisting of broad dark green blades, and large succulent stems preferred by all livestock. Compared to tall fescue, brome grass, and timothy, it is by far more palatable and digestible. Produces a superior pasture when sown alone. However, originally bred to be sown with alfalfa, legumes or other grasses for permanent pasture or hay production. Its quick germination and rapid establishment make it an excellent choice for overseeding existing pastures and hay fields. Consistently outperforms improved forage perennial ryegrass in dry matter yield trials. Germinates in 4-7 days under ideal conditions, which allows grazing and chopping within 6-8 weeks.

**Seed Rate:** 30-35 lbs/acre mono stand and 5 lbs/acre in mixed stand. If combined with other grasses or legumes, the seeding rate is 25-50% of the mixture.

**Planting:** March - early May or August - October. Planting is optimal when done in spring, however, early fall plantings are also successful.



## 3. SugarCrest Festulolium

FORAGE | FORAGE GRASS

### Rapid Establishment • High Forage Quality

A perennial-type festulolium that provides better forage quality and persistence than other "fescue-type" festulolium. Festuloliums are known to establish quickly making them an excellent addition to pasture and hay mixes. Excels from other varieties by having fast regrowth giving more tonnage capabilities per acre than its competition. Also proven to be more persistent than its competition allowing for the possibility of a perennial field. Recommended for hay, grazing, silage, and green chop. In the transitional zone it has been found best used when added to a grass/legume mix to help bolster pastures. Festuloliums are not known to be long lived perennials. If grazing or mowing, leave 3-4 inches for regrowth.

**Seed Rate:** 25-35 lbs/acre sown alone or 5-15 lbs/acre sown with other grasses. Responds well to fertilization.

**Planting:** March - April or September - October





## 4. Enhancer Italian Ryegrass

FORAGE | FORAGE GRASS

### Highly Palatable & Digestible • Improved Dry Down

A diploid Italian ryegrass developed for lower moisture content and increased sugar content. By lowering the moisture content livestock can ingest more plant material. With an increase in sugar content, additional energy is provided to the animal, allowing for an easier conversion of plant proteins into meat and milk. Requires cold temperatures for it to go reproductive. When planted in the late spring in the transition zones, it can over-winter and produce early season production the following year. Recommended for grazing, green chop, haylage, and dry hay for beef/dairy cattle, sheep, and goats. Due to its strong seedling vigor, high yield capability, and high forage quality, it makes an excellent addition to temporary pastures or permanent pastures/hayfields.

**Seed Rate:** 30-35 lbs/acre sown alone or 5-15 lbs/acre in a mix.

**Planting:** Late March - Early May



## 5. Lonestar Annual Ryegrass

FORAGE | COVER CROP

### Improved Cold Tolerance • Improved Disease Resistance

A cold tolerant, disease resistant forage variety that has excellent seedling vigor and rapid regrowth. A medium maturing variety suitable for grazing, hay, cover crop, or erosion control. A diploid annual ryegrass, which will allow the hay to dry quicker than tetraploid varieties. Features improved foliar disease resistance, such as gray leaf spot and crown rust. Provides growers the highest quality forage and high yields. Has placed near the top of forage trials throughout the U.S. for overall dry matter yields. Has shown to perform well in cold or high temperatures making it one of the most versatile ryegrasses available.

**Seed Rate:** 25-35 lbs/acre

**Planting:** Mid-August - October



VARIETY	DM POUNDS/ACRE
LONESTAR	9447
MARSHALL	8044

Trial ran by The Samuel Roberts Noble Foundation Ag Division Ardmore, OK.

### FORAGE GRASSES PLANTING CHART

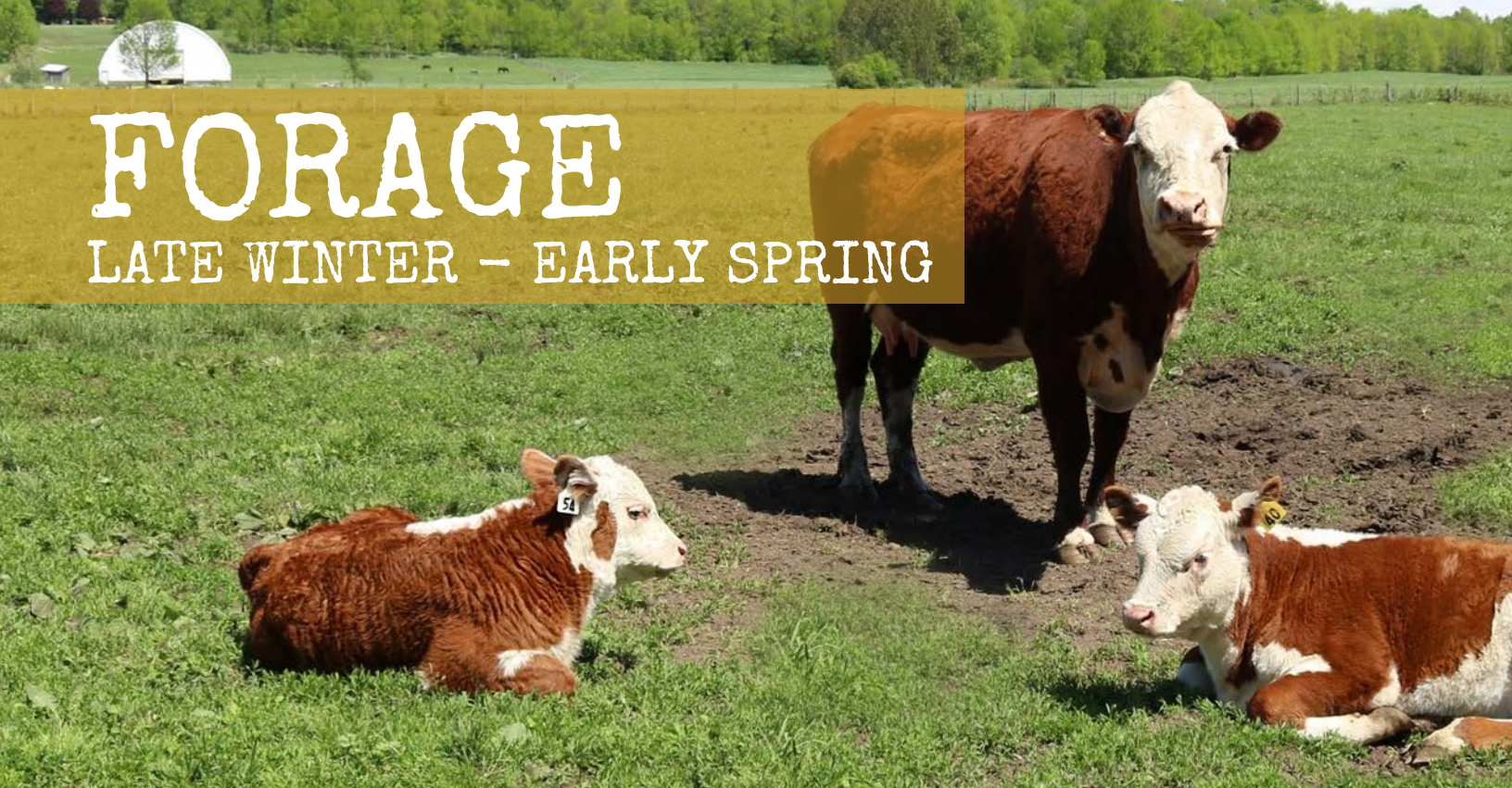
SPECIES	DRILL/BROADCAST	SEEDING RATE LBS/ACRE	PLANTING TIME	DEPTH	SEEDS LBS. (1000)
BERMUDAGRASS	D	8-12	LATE SPRING & EARLY SUMMER	1/4"	1,300
BLUEGRASS	B	10-15	FEB-APR or AUG-OCT	0 - 1/4"	2,200
BROMEGRASS, SMOOTH	B	15-25	FEB-APR or AUG-OCT	1/4 - 1/2"	134
BROMEGRASS, MEADOW	B	15-25	FEB-1ST MAY or AUG-OCT	1/4 - 1/2"	93
ORCHARDGRASS	D	15-20	MAR-APR or AUG-OCT	1/4 - 1/2"	590
PRAIRIE BROME	D	30-35	EARLY SPRING & EARLY FALL	1/4 - 1/2"	520
RED TOP	B	8-12	FEB-MAY or AUG-OCT	1/4"	5,100
REED CANARYGRASS	B	8-12	FEB-MAY or AUG-SEPT	1/4 - 1/2"	550
RYEGRASS, ANNUAL	B	25-35	FEB-MAY or AUG-OCT	1/4 - 1/2"	270
RYEGRASS, PERENNIAL	B	25-35	FEB-MAY or AUG-OCT	1/4 - 1/2"	270
TIMOTHY	B	8-12	FEB-MAY or AUG-OCT	0 - 1/4"	1,230
TALL FESCUE	B	20-25	FEB-APR or AUG-OCT	1/4 - 1/2"	225





# FORAGE

LATE WINTER – EARLY SPRING



## 1. Cow★Pro Forage Oats

FORAGE | COVER CROP

**Late Maturing • Strong Straw Strength •  
Responds Well to Nitrogen**

An extremely tall oat variety. Developed especially for forage production. Late maturing – approximately 5 days later than Jerry oats. Have strong straw strength, resistant to Smut, moderate resistance to Stem Rust. Grain has light test weight, and white color. Highly recommended for hay, pasture, or silage. Adding Austrian winter peas or hairy vetch will increase protein and yield.

**Seed Rate:** 100 lbs/acre

**Planting:** February - April or late August - September

## 2. Vivant Hybrid Brassica

FORAGE | COVER CROP | WILDLIFE

**Vigorous Regrowth • High Quality • Good Digestibility**

A high yielding brassica that is a cross between a forage turnip and forage rape. Offers a tremendous opportunity for multiple grazings. Can be sown in the spring with oats or Italian Ryegrass; in the summer with sorghum-sudangrass or pearl millet. With good fertility, moisture and management, can be ready to graze in 40-65 days. Has a tap root and grows longer than turnips into times of dry weather.

**Seed Rate:** Direct Drill 4 lbs/acre, Broadcast 6 lbs/acre

**Planting:** April - May or August - September

## 3. Austrian Winter Peas

COVER CROP | FORAGE | WILDLIFE

**Nitrogen Producing • Cold Tolerant Legume**

An excellent companion to small grains for hay or silage, adding additional protein and yield. Not adapted for grazing. Makes a good nitrogen producing cover crop. Seed in late winter with oats or late summer with wheat or triticale.

**Seed Rate:** 40-60 lbs/acre

**Planting:** March - May or July - September





## Jerry Oats

FORAGE | COVER CROP | WILDLIFE

### Good Lodging Resistance • High Test Weight • High Oat Percentage

Medium maturity-about 4 days later than Don, medium height. Good lodging resistance, very high test weight, high groat percentage, white/ivory seed. Moderately susceptible for red leaf, moderately resistant to crown rust and moderately susceptible to stem rust.

**Seed Rate:** 2-3 bu/acre

**Planting:** February - April or September - October for cover crop planting

## 4. Winter Hairy Vetch

FORAGE | COVER CROP | WILDLIFE

### Winter Hardy • High N Producer

A very winter hardy legume for pasture, baleage, or silage. Very palatable and makes a good companion with small grains, wheat, rye, barley or triticale. This legume can be used for a cover/ plowdown crop. Known for its nitrogen contribution. Produces such a large amount of N that it can partially replace fertilizer for spring. It will improve topsoil tilth and is also a weed suppressor and a phosphorus scavenger.

**Seed Rate:** 20-30 lbs per acre

**Planting:** July - September



## 5. Wrangler Seeded Bermudagrass

FORAGE

### Cold Tolerant • Early Spring • Fast Regrowth

With improved cold tolerance and forage production, Wrangler is an excellent choice for pasture, hay, or soil conservation in temperatures and subtropical regions. Well adapted to the transition zone of the United States (OK, KS, MO, AR, TN, etc.) where winterkill is a problem. The most widely planted cold tolerant forage variety planted in the U.S. It has great early spring green-up and fast regrowth making Wrangler an excellent choice for any farming system.

## 6. Stampede PLUS Bermudagrass Blend

FORAGE

### Fast Establishing • Winter Hardiness • Early Spring Green-up

Formulated to combine the excellent winter hardiness and early spring green-up of the proven Wrangler variety with the fast establishing, fast producing Giant and CD90160 varieties. The result, a widely adapted, high producing forage blend that establishes quickly and handles the toughest stress. Due to the addition of varieties Giant and CD90160, grazing or multiple hay cuttings can occur during the planting year.

Follow the cultural practices of Wrangler (below).

### WRANGLER SEEDED BERMUDAGRASS CULTURAL PRACTICES

FERTILITY	A total of 100 to 200 lb./ac./year (112 to 224 kg/ha/year) of actual Nitrogen is recommended based on expected precipitation and level of dry matter production or quality desired. The Nitrogen should be split into at least two applications; the first in early spring and the second in mid summer. Minimum soil levels of 65 lb./acre phosphorous and 200 lb./acre potassium should be maintained for maximum production at the desired Nitrogen level
HARVESTING SCHEDULE	Every 30 to 60 days depending on fertility and moisture. As a rule, the more frequent cuttings provide higher quality forage with less total dry matter while less frequent cuttings reduce quality but increase dry matter production.
DATES	Late spring when soil temperatures reach 65°F (20°C). Plantings through summer months are successful if moisture is available for germination and seedling establishment.
RATES	8 to 12 lb./acre
DEPTH	1/8" (3 mm) on heavy soils to 1/4" (6 mm) on sandy soils
METHOD	Brillion seeder; broadcast (roll or harrow)
SOIL PREPARATION	Prepare firm seed bed free of weeds and clods to provide good seed to soil contact.
PH	Test soil prior to planting. A range of 6.0 to 7.5 is sufficient.
FERTILITY	Test soil prior to planting. A fertilizer low in nitrogen but high in phosphorous and potassium is recommended as a starter fertilizer to promote seedling vigor without promoting excessive weed growth. Increases nitrogen as seedlings develop and a sod forms.
WEED CONTROL	Not recommended in the seedling stage except for very light applications of 2, 4 D to control broadleaf weeds. Residual herbicides are not recommended in the first 60 days.
IRRIGATION	If applicable, keep soil moist for germination. As seedlings develop reduce frequency of watering but increase the amount.



# FORAGE

## LATE SPRING & SUMMER



### 1. **Surpass BMR 6 Sorghum Sudangrass**

#### FORAGE

#### **High Sugar Content • Superior Regrowth • Less Lignin Content**

A bmr-6 hybrid sorghum sudangrass that can meet more than half of the energy needs of cattle and is comparable to alfalfa. This does not mean that it has the same protein level, but rather similar energy levels to get equal weight gains. Can be used for hay, baleage, silage, greenchop, or directly grazed. Usually harvested in 50-60 days for the first cutting. With adequate moisture and fertilization, later cuttings should occur in approx. 40 day intervals. Having BMR traits gives Surpass reduced levels of lignin, resulting in higher feed intake and improved weight gains. It also indicates a higher leaf to stem ratio resulting in higher feed intake. Due to better stalk digestibility and a smaller stalk diameter, seeding rates can be reduced compared to other hybrid sorghum sudangrasses.

- High sugar content to improve palatability and feed intake
- Superior regrowth for quicker harvests
- Up to 50% more leaves than traditional haygrazers, improving feed quality and feed utilization
- 15-25% less lignin content than competitive bmr hybrids
- RFQ value comparable to alfalfa
- Dwarf multileaf helps improve stand ability and harvest ability

**Fertility:** We recommend that no more than 80-120 units of N in split applications should be used throughout the growing season. Apply 60 units preplant and 40 units after each cutting. P, K, and all micronutrients should be applied at rates according to a soil test.

**Seed Rate:** Drill 20-25 lbs/acre or broadcast 30-50 lbs/acre

**Planting:** Late May - July





## 2. Honey Comb - Hybrid Sorgho Sudangrass

FORAGE | COVER CROP

**Good Tonnage • Exceptional Seedling Vigor • Fast Regrowth**

Cow★Pro Honeycomb is fine stemmed and very leafy. Well suited for summer pasture, hay or green chop. A three way cross Hybrid Sorg-Sorghum X Sudangrass. The sorgho cross reduces the stem size and brings about its sweet juiciness. Has uniform growth with very broad, dark green leaves. Its excellent root system provides standability and drought tolerance. Excellent seedling vigor and fast regrowth provide multiple cuttings or continuous summer pasture.

- Harvest 24 to 36 inches and should be cut when the first boot stage appears. Leave 6 to 10 inches of stubble for tillering and regrowth.
- Protein content ranges for 12% to 14% prior to heading.
- Not recommended for horses. Alternative Cow★Pro Pearl Millet.
- Follow guidelines to avoid prussic acid and nitrate toxicity.
- A perfect way to rebuild hay supplies or quick pasture.

Fertility: Soil test before planting. Honeycomb normally needs 80 to 120 lbs. N. Split application, preplant and after first cutting, 50 lbs. P - 90 lbs. K. Very responsive to nitrogen needs. Lime is needed on acidic soils.

Seed Rate: Drilled at 25-30 lbs/acre. Broadcast at 35-50 lbs/acre. Planting depth of 1 inch is recommended. A good seed bed preparation will enhance quality and quantity. The higher the seeding rate, the smaller the stem size.

**Planting:** May - July



VARIETY	MID-RIB TYPE	SCA TOLERANT	BEEF/ TON	DECISION MAKER
GENERIC SORGHUM-SUDAN	CONVENTIONAL	NO	106	POOR CHOICE
DEFIANCE	CONVENTIONAL	YES	148	GREAT CHOICE
ENDURANCE	BMR - 6	YES	200	BEST CHOICE

## Defiance Sorghum Sudangrass

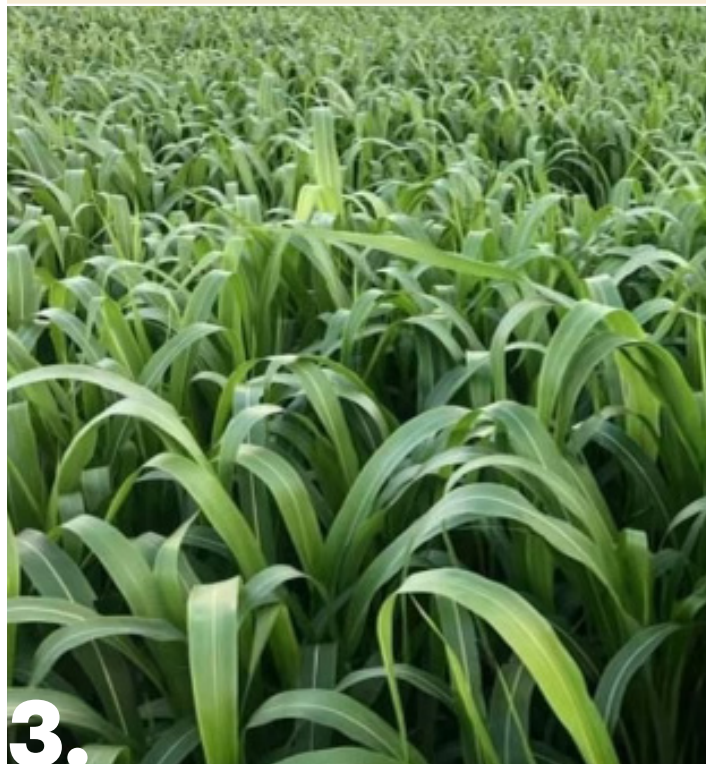
FORAGE

**Drought Tolerant • Disease Resistance • Quality Feed**

Typical 3-way sorghum Sudangrass hybrid with added resistant to Sugarcane aphid. In sorghum-sudangrass, this pest becomes a problem in the summer months during attempts to cut and bale the forage. A sweet sorgho Sudan hybrid that produces plants with fine stems and large leaves. Cattle usage includes grazing, hay, or green chop. The best SCA tolerance on the market to date. Excellent leaf to stem ratio. Fast recovery after grazing or cutting. Excellent foliar disease resistance.

**Seed Rate:** 25-30 lbs/acre drilled or 35-40 lbs/acre broadcasted

**Planting:** May - July



## 3. Endurance BMR Sorghum Sudangrass

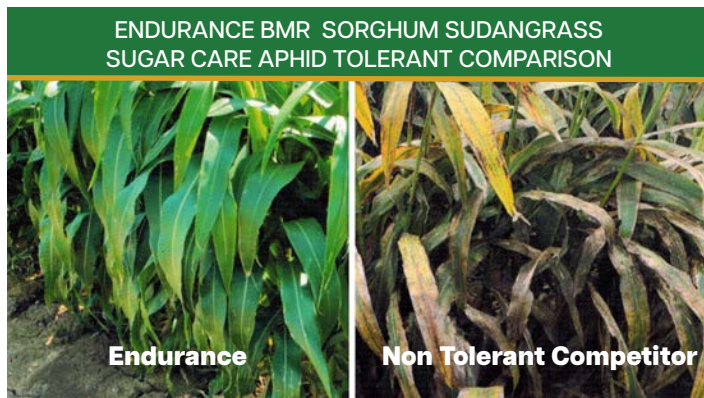
FORAGE

**Aphid Resistant • Excellent Standability • Foliar Disease Resistant**

A bmr-6 hybrid sorghum sudangrass that has the best sugar cane aphid resistance on the market to date. With added BMR and brachytic dwarf technology, this product not only gives you increased feed value over traditional sorghum sudans, but also excellent standability with massive amounts of large leaves. When planted later in the season, Endurance has excellent foliar disease resistance and can tolerate sugar cane aphids that can decimate a crop in July and August. Can be used for hay, baleage, silage, or pasture.

**Seed Rate:** 25-30 lbs/acre drilled or 35-40 lbs/acre broadcasted

**Planting:** May - July





# FORAGE

LATE SPRING & SUMMER

1.

## SILO 700D BMR FORAGE SORGHUM

SEED COUNT	17,000
SEED COLOR	RED
EXERTION	6-8 INCHES
PLANT HEIGHT	6-8 FOOT
HEAD SIZE	6-10 INCHES
DAYS TO BLOOM	85-90 DAYS
REGROWTH	GOOD



2.



3.

## MANAGEMENT GUIDE TO SUMMER FORAGES

**FERTILIZING:** When planting summer forages (i.e. sorghum-sudan, pearl millet, teffgrass, forage sorghums) it is recommended to use 60-80 units of N at planting. After each cutting, apply a smaller amount N (40 units) to help with regrowth. Forage sorghums can use 80-100 units of N at planting due to only one cutting. Soil test for lime, P, and K applications.

**PREVENTING PRUSSIC ACID:** In most cases prussic acid is produced early in a plants life (sudan, sorghum, and sorghum-sudans) and then diluted by additional growth so by the time the forage is fed there is no harm to the animal. Prussic acid content can be harmful when plants are stunted at an early stage or when growth is abnormally slow. This slow growth can be due to drought or an early freeze. If either occurs, it is best suited to wait one week. If drought occurs, it is best suited to wait for adequate rainfall which will help dilute prussic acid.

**NITRATE POISONING:** All plants contain some nitrate, meaning that nitrate poisoning can occur in almost anything you plant. Nitrate poisoning tends to occur most frequently when forages are grown under stressful conditions. Nitrate levels can be diluted in the diet with grains or other forages low in nitrates. At that time the forage can be fed safely. If there is ever any doubt, it is best to test the forage for nitrate levels. Contact your local seed or feed dealer.

## 1. Silo 700D BMR Forage Sorghum

FORAGE | WILDLIFE

### Reduced Lignin • High Grain Yield • High Green Leaf Retention

This forage sorghum hybrid is "Brown midrib" and has a very sweet stem with excellent green leaf retention. The brown midrib characteristic increases digestibility of the stem fibers by reducing the quantity of indigestible lignin. Lignin content is reduced approximately 40-60% depending upon environmental conditions. By reducing lignin, cellulose and hemicellulose content is increased making the plant more palatable which in turn provides additional energy and nutrition. Reduced lignin can make a stem softer and more limber. However, Silo 700D BMR has good standability and lodging resistance. Large grain heads add to the nutritional level of silage produced. Its high grain yield of 5000+ pounds per acre on a strong, sturdy stem make this an excellent silage performer. Due to having such a high grain-stover ratio, animal performance is excellent in both the feedlot and dairy. The protein content and total digestible dry matter makes this a near perfect silage product.

**Seed Rate:** 6-8 lbs/acre drilled in rows or 15 lbs/acre broadcast when soil temperatures reach a consistent 60-65 degrees F. Although this product is thought of as a one time cutting, it has been found to have decent regrowth

**Planting:** May - July

## 2. RS230 Hybrid Grain Sorghum

FORAGE | WILDLIFE

### Drought Tolerant • Outstanding Yields

A medium-early maturing (105 day) hybrid grain sorghum that produces a high density, high bushel weight, red grain. RS215 is a drought tolerant variety with good standability and excellent disease resistance. It typically blooms around 65 days and reaches 45-50 inches of height at maturity. Capable of yielding 6500-8000 lbs/acre. Product has approximately 15,000 seeds per pound.

**Seed Rate:** 6-7 lbs/acre when planted in rows.

**Planting:** Late May - June

## 3. Cow★Pro Hybrid Pearl Millet

FORAGE | COVER CROP

### High Protein Levels • Excellent Seedling Vigor • Drought Tolerant

An excellent choice for a quick hay crop or summer pasture. Very leafy on very fine stems. The extra leafiness will help boost protein levels over other pearl millets. Has excellent seedling vigor and tremendous regrowth and tillering after cutting or grazing. Will grow better on marginal or acidic soils than sorghum sudan crosses and is drought tolerant. There is no prussic acid danger with pearl millet, but is susceptible to nitrate toxicity. Offers multiple cuttings of excellent quality forages for cattle, horses, sheep and other grazing animals.

**Fertility:** Soil test before planting. Hybrid pearl millet normally requires 80 to 120 lbs. nitrogen in split applications, preplant and after first cutting. It responds to nitrogen, but excessive amounts with stress may cause nitrate toxicity.

**Harvest:** 24 to 36 inches, or before seed heads emerge. Leave 6 to 10 inches of stubble for tillering and regrowth.

**Protein Content:** Ranges 12% to 14% prior to heading.

**Seed Rate:** Drilled 12 - 15 lbs/acre, preferably in narrow rows. Broadcast 30-40 lbs/acre on prepared seedbed. 85,000 seeds per/lbs. Planting depth of 1/2 - 3/4 inches.

**Planting:** Mid-May or when soil temperatures are over 60 degrees. Later plantings can be done if moisture is adequate.



#### 4. Epic BMR Pearl Millet

FORAGE

**Aphid Resistant • Less Lignin Content • Tremendous Regrowth**

An enhanced summer annual that delivers a high quality forage product to dairy, beef, sheep, and goat producers. Has BMR gene technology resulting in less lignin content, which provides improved palatability, feed intake, and digestibility. Creates excellent weight gains or milk production in livestock. Also has a dwarfing gene which increases leaf to stem ratios and improves standability giving you an excellent summer pasture, hay field, or silage product. Shown to grow well on a variety of soil types. No prussic acid danger with pearl millets, however, it can be susceptible to nitrate toxicity. With adequate moisture and fertility, will provide multiple cuttings or grazings for cattle, horses, sheep and other grazing animals.

**Seed Rate:** Drilling 15 lbs/acre when drilling or 20-25 lbs/acre for broadcasting.

**Planting:** Mid-May or when soil temperatures reach a consistent 60-65 degrees F. Later planting dates can be successful if adequate moisture is present.



#### 5. Charger Teff Grass

FORAGE

**Fast Growing • Multiple Harvests • Drought Tolerant**

A warm season annual grass that can be harvested multiple times during the growing season for hay, silage, or pasture. Is fast growing and produces high quality forage and yields during the summer growing season. With ideal growing conditions harvest schedules should occur 40-45 days apart. Teff has a nutritional value comparable to timothy, making it an excellent forage choice for cattle, horses, and other livestock. Teff is very small seeded, preferring a firm seedbed like alfalfa. When planting, a Brillion seeder or cultipacker works best. A conventional no-till drill may be used, however, it is not optimal. Often, no-till drills push the seed too deep. If broadcasting, rolling must occur before planting and after.

**Seed Rate:** 10 lbs/acre, 1/8 to 1/4 inch deep

**Planting:** May - July or after soil temperatures reach 65 degrees consistently.



#### 6. Bonus Teff Grass

FORAGE

**Fast Growing • Drought Tolerant**

A warm season annual forage grass that can provide multiple cuttings of high-quality forage through the summer months. University trials place it among the top of the charts. Bonus can be used for all classes of livestock, such as sheep, cattle, and horses. Soil tests are recommended to determine the proper amount of fertilization needed. To help boost growth after a cutting, small amounts of nitrogen should be applied. When harvesting teff grass, try to harvest in the pre-boot stage, roughly 45-50 days after planting. Leave 3-4" for regrowth and expect a second cutting in 35-45 days.

**Seed Rate:** 10 lbs/acre, 1/8 to 1/4 inch deep with a brillion seeder or use a cultipacker to roll into the soil. Planting too deep results in poor stands.

**Planting:** May - July

DRY MATTER YIELDS OF TEFFGRASS, STARKVILLE, MISSISSIPPI, 2011 - TRIAL DATA			
VARIETY	PLANTING 1	PLANTING 2	TOTAL YIELD
BONUS	3,268	3,391	6,659
CW604	3,186	3,328	6,514
DESSIE	3,127	2,962	6,089
TIFFANY	3,067	3,162	6,229
LSD (0.05)	646	642	



# FORAGE

LATE SPRING & SUMMER

1.



## 1. German Millet

FORAGE | COVER CROP | WILDLIFE

### Drought Tolerant • Excellent Vigor

A summer annual that is used for hay and wildlife plantings. Extremely drought tolerant and can be planted later in the season with expected good yields. With quick growth, it is typically harvested in about a 60 day period. This one time cutting should be harvested for best forage results when grain is in the milk stage. Can also be planted with Laredo Haybeans for roughage. However, the millet is usually over-ripened at harvest.

**Seed Rate:** Drill 20-30 lbs/acre when planted alone or 15 lbs/acre when planted with 40 lbs/acre of Laredo Haybeans.

**Planting:** Late May - early July if adequate moisture. Responds well to nitrogen applications. Not well suited for horses.

2.



## 2. Cowpeas

FORAGE | COVER CROP | WILDLIFE

### Drought Tolerant • High Protein

A summer annual legume that is used for pasture, hay and wildlife plantings. Cowpea varieties can vary greatly. Some are smaller in height and quite bushy while others can be taller, viney types. Red Ripper, Iron and Clay tend to be the varieties that are sold most often. These two varieties are characterized as tall, viney stemmed, and large leaf varieties. Cowpeas are tolerant of drought-like conditions, low fertility, and acidic soils.

**Seed Rate:** 50 lbs/acre drilled or 60-75 lbs/acre broadcasted

**Planting:** Late May - early July if moisture is adequate.

3.



## 3. Laredo Haybeans

FORAGE | COVER CROP | WILDLIFE

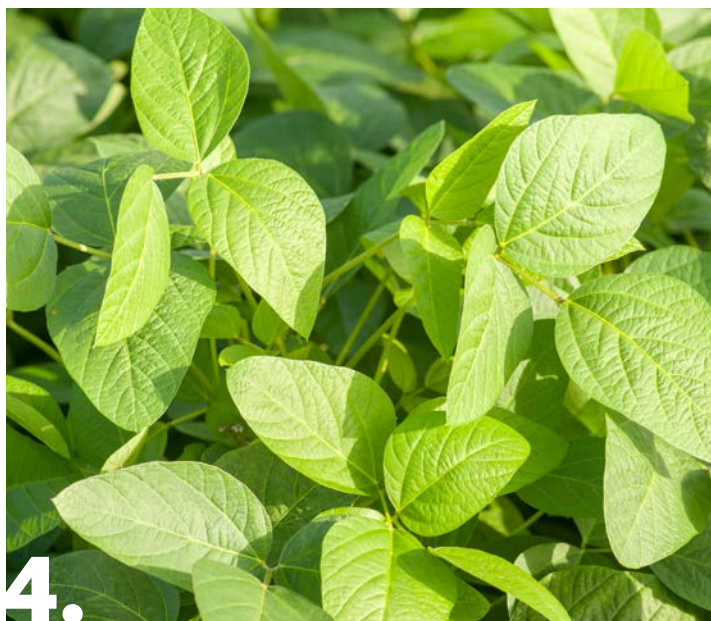
### Rich Tonnage • High Protein • Late Maturing

A late maturing soybean variety used for hay, silage, and wildlife plantings. As one of the oldest soybeans still in production, Laredo soybeans have proven to be a resilient variety. Being a group 7 soybean, they get very tall and bushy reaching 4-5 foot in height. High in protein content and can be very rich. German Millet is sometimes planted with Laredos for added roughage. Typically, the millet will mature before the soybeans are harvested. Unlike traditional soybeans, these have a terminal bud that sets closer to the stem allowing for some regrowth when slightly grazed by wildlife. The ideal harvest is when pods begin setting. Seed size is smaller than a conventional soybean resulting in lower seeding rates.

**Seed Rate:** 50 lbs/acre drilled. 40 lbs/acre with 15 lbs/acre of German millet.

**Planting:** Mid May - July

4.



## 4. Cow★Pro Soybeans

FORAGE | WILDLIFE

### Drought Tolerant • High Yielding

A soybean bred for forage production. This late group IV soybean is tall and leafy and tends to be 10 to 14 days earlier than Laredo Haybeans. Very drought tolerant and have been found to be very productive in poorer soils. Similar to a Laredo, can be planted with German millet in order to add roughage and increase yield.

**Seed Rate:** 60 lbs/acre in rows or 90 lbs/acre drilled. Approximately 3400 seeds per pound.

**Planting:** Mid May - July or after soil temperatures reach a consistent 60 degrees F.

FORAGE YIELD AND QUALITY OF THREE COW PRO SOYBEANS HARVESTED 60, 80 AND 100 DAYS AFTER PLANTING AT SUN PRAIRIE, WISCONSIN IN 2000.

VARIETY	DAYS TO HARVEST	HEIGHT	DM YIELD T/A	CP %	ADF \$	NDF \$	MILK YIELD LB/A	RFV
COW★PRO	60	28	1.66	32.8	3.6	40.5	3106	144
	80	36	2.37	24.6	32.5	36.8	4925	161
	100	36	2.52	17.9	32.3	38.5	5076	154
	AVG	33	2.18	25.1	32.8	38.6	4333	153



# BRASSICAS & HERBS



## 1. Vivant Hybrid Brassica

FORAGE | COVER CROP | WILDLIFE

### Quick Growing • High Feed Quality

A high yielding cross between a forage turnip and forage rape. Unlike a turnip, Vivant has a taproot and has been found to be best suited for grazing situations. With excellent regrowth capability, multiple grazings can occur. Can be planted in the spring with oats; in the summer with pearl millet or sorghum sudangrass; or in the late summer with grains or cool season grasses. With good pH levels, fertility, and moisture, can be ready for grazing within 40-50 days. Do not overgraze. Once grazed down to 4 inches it is best to remove cattle for a minimum of 30 days. Responds well to Nitrogen and Phosphorous.

**Seed Rate:** 2-5 lbs/acre

**Planting:** June or late July - early September



## 2. Jackpot Forage Turnip

FORAGE | COVER CROP | WILDLIFE

### Excellent Palatability • Multiple Growing Points • Ideal Cover Crop

A new variety of turnip bred to give multiple grazings of high quality forage. With 6-10 growing points emerging from a low set bulb. Jackpot provides improved grazing over a traditional purple top turnip. Have also shown to have increased palatability and regrowth capability over a purple top turnip. They can be sown with oats, other cereal grains, and cool season grasses. Best results are when planted in late summer.

**Seed Rate:** 2-5 lbs/acre

**Planting:** April - late May or late July - early September



## 3. Chicory

FORAGE | WILDLIFE

### Perennial Herb • Great Protein • Drought Tolerant

A high yielding, broad leaved perennial herb that has excellent feed value for livestock. Suitable for all types of livestock and is a great protein source. It is ideally managed when mixed with clovers and grasses.

**Seed Rate:** 5 lbs/acre

**Planting:** March - May or late August - September

## 4. Purple Top

FORAGE | COVER CROP | WILDLIFE

### Quick Emerging • High Protein • Great Forage

Purple Top turnips are a 55 day general purpose turnip. Roots are large and smooth, globular, white in color measuring sometimes up to 4 inches in diameter. Tops will provide forage for cattle or wildlife.

**Seed Rate:** 2-5 lbs/acre

**Planting:** March - May or late July - September





# FORAGE

## FALL & WINTER



### 1. **Cow★Pro Forage Wheat** (*Triticum Aestivum*)

FORAGE | COVER CROP | WILDLIFE

#### **Excellent Tonnage • Exceptionally • Tall Height**

A beardless, soft red winter wheat bred for large volume forage production. Very leafy, with wide blades and exceptionally tall height. 6 to 12 inches taller than most wheat varieties and almost double the forage production. Produces a lot of straw with decent grain yields. Its closed head reduces disease and is resistant to weather damage resulting in high test weight. The beardless aspect allows for wider window of hay harvest time. Good for fall grazing and hay or haylage in the spring. Responsive to Nitrogen.

**Seed Rate:** 100 - 120 lbs/acre

**Planting:** August - November



### 2. **Outlaw Triticale** (*Triticum Secale*)

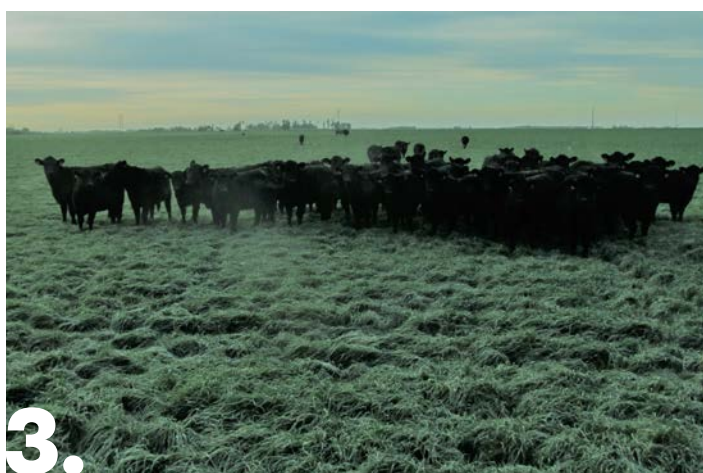
FORAGE | COVER CROP | WILDLIFE

#### **Excellent Winter Survival • High Protein • Excellent Tonnage**

A tall winter variety with excellent winter survival throughout the Midwest. A genetic cross between wheat (triticum) and rye (secale) and has the ability to reproduce itself. It is higher in protein and palatability than wheat and common rye, and is an excellent small grain for pasture, hay, or haylage. In general, the variety is recognized by strong stems, dark medium green foliage color, and long, awnletted spikes (not bearded). Relies on rapid, early growth and stand height to produce tonnage. Fertility requirements: 40 lbs P, 80 lbs K in the fall. 80 to 100 lbs N in the spring.

**Seed Rate:** 100 - 120 lbs/acre

**Planting:** September - October



### 3. **Cow★Pro Forage Rye** (*Secale Cereale*)

FORAGE | COVER CROP | WILDLIFE

#### **Great for Grazing • Quick Growing**

Cow★Pro Forage Rye is the best grain for grazing. Establishes fast for fall grazing. A strain cross variety which results in hybridized vigor. Very adaptable to cattle grazing, but not recommended for hay. Comes out of winter dormancy quicker than common rye, wheat and cool-season grasses. This allows you to graze earlier in the spring and save some hay. Compatible with annual ryegrass for extra yield and extended grazing. Responsive to Nitrogen.

**Seed Rate:** 100 - 120 lbs/acre

**Planting:** August - November



# COVER CROP

## 1. Kentucky Pride Crimson Clover

COVER CROP | FORAGE | WILDLIFE

**Cold Tolerant • Late Maturity • Increased Yields**

A late maturing crimson clover known for its improved winter hardiness and its increased biomass capabilities. In recent trials, it showed 36% improvement in winter survival when compared to the industry standard, Dixie. Has proven to have four times the biomass and 25% increase in root depth. This allows nitrogen contribution, but also superior weed suppression. Performs best on soils with pH levels of 5.5-7.0

**Seeding Rate:** Alone 15 lbs/acre. In mix 5 lbs/acre

**Planting:** April - March or August - September



1.



3.

## 2. Survivor Cold Tolerant Winter Pea

COVER CROP | FORAGE | WILDLIFE

**Nitrogen Producer • Weed Suppressor • Cold Tolerant**

A cool season annual legume selected for their advanced cold tolerance and later maturity. Winter peas (or field peas) are known for being very inconsistent in their winter survival rate. Survivors provide more confidence in winter survival and create more consistent results. Have excellent biomass production which translates to excellent weed suppression and increased nitrogen contribution. With peas having a low C:N ratio, nitrogen is quickly made available for the next cash crop.

**Seed Rate:** 40-50 lbs/acre

**Planting:** August - September or mid-February - April



2.

## 3. GroundHog Radish

COVER CROP | FORAGE | WILDLIFE

**Extra-long Root • Nitrogen Mining & Nutrient Scavenger**

A daikon radish that has proven to be excellent for cover crop in the midwest. Being a Nitrogen scavenger, they have an extra large root system allowing to pull nitrogen and other nutrients deep within the soil back to the surface. According to studies, radishes have the ability to capture 100-175 lbs of nitrogen per acre before winter killing. While decomposing throughout the winter, nitrogen and other nutrients will release and become available for the next season's cash crop. Upon decomposition, radish roots leave large holes in the ground that not only help aerate the ground but help promote water infiltration. Although radishes are mostly used as a cover crop, it has been found that they can be planted for forage, weed suppression, and wildlife.

**Seed Rate:** 6-10 lbs/acre sown alone or 1-5 lbs/acre used in a mix

**Planting:** August - early October or early April - May



# COVER CROP



## 1. Term N Mix - Cover Crop Mix

COVER CROP | FORAGE | WILDLIFE

**Fast Growing • Erosion Control • Terminate Winterkill**

A highly attractive option to plant after corn or soybeans. Consisting of Diakon radishes, turnips, rape, and crimson clover, it is a fast growing blend providing erosion control and cover quickly. This mixture will terminate winterkill, unless a mild winter occurs a complete termination may not happen.

**Seed Rate:** 8 lbs/acre alone or 4-5 lbs/acre planted with cereal grain

**Planting:** March - April or late July - September



## 2. Spring Oats

COVER CROP | FORAGE | WILDLIFE

**Fast Growing • Large Biomass • Erosion Control**

A quick growing cover crop that can provide quick erosion control. Oats collect excess nitrogen and other nutrients. Winter kills after the first freeze, but provides an excellent weed barrier.

**Seed Rate:** 1-3 bushel/acre

**Planting:** August - September



## 3. Cowpeas

COVER CROP | FORAGE | WILDLIFE

**Drought Tolerant • High Protein**

A viney, annual legume making an excellent addition to summer cover crop. Very forgiving of poorer soil types and pH levels, cowpeas can provide nitrogen for your next cash crop. Creates a good amount of biomass meaning that it suppresses weeds well.

**Seed Rate:** 50-60 lbs/acre

**Planting:** May - July



## 4. Turnips

COVER CROP | FORAGE | WILDLIFE

**Quick Emerging • High Protein**

Not only an edible food but also great for alleviating soil compaction. Roots are large and smooth, and although they don't produce as much biomass as a radish, turnips are great for water infiltration.

**Seed Rate:** 2-5 lbs/acre

**Planting:** July - September



## 5. Rape

COVER CROP | WILDLIFE

**Fast Growing • Heat & Cold Tolerant**

Most often used for forage, but it can also be used as a cover crop. Due to its rapid fall growth, it can capture a significant amount of N. Also a great weed suppressor.

**Seed Rate:** 10 lbs/acre

**Planting:** August - September



## 6. Wheat

COVER CROP

**Germinates Quickly • Weed Suppressor**

Mostly used for a cash grain, it also makes a great cover crop. Slower to mature than other cereal grains making it easy to kill. Germinates quickly, helping to suppress weeds.

**Seed Rate:** 60-120 lbs/acre

**Planting:** July - October



## 7. Fixation Balansa Clover

COVER CROP | FORAGE | WILDLIFE

**Highly Digestible • Cold Tolerant • High Nitrogen Producer**

A cool season, winter annual legume proven to be very versatile and capable of big results. An excellent choice for a fall/winter cover crop, pasture, and wildlife attractant. Capable of setting large amounts of nitrogen (up to 100 lbs/acre). It has a deep taproot to break up soil compaction creating channels for air, water, and succeeding roots. Also very winter hardy, found to survive down to -10 degrees making it more hardy than winterpeas, crimson clover, and berseem clover. Can be planted in the fall or spring, but it creates a much larger amount of biomass when planted in the fall. Throughout the early process of the plant's life there is minimal vertical growth. However, the plant is actively growing beneath the soil's surface. Within the first 45 days it has been recorded to have 18 inches of growth beneath the soil surface. When mature, the plant can reach heights of 4-6 feet. However, because of the plant's rosette growth pattern (prostrate growth) only 2 feet in vertical growth is visible.

**Seed Rate:** 5-8 lbs/acre alone; with any cereal 3-5 lbs/acre.

**Planting:** April - March or August - September



## 8. Frosty Berseem Clover

COVER CROP | FORAGE | WILDLIFE

**Aggressive Growth • Excellent Palatability**

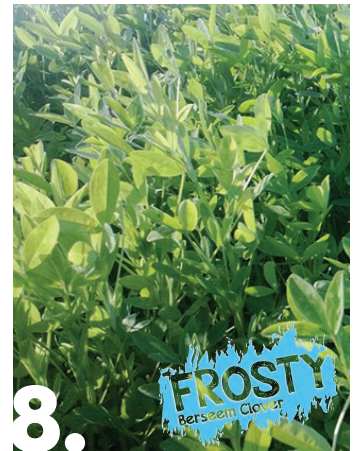
A cool season annual legume that can be used for cover crops, pasture/hay applications, companion to alfalfa, and wildlife attractant. Has been bred for later maturity, cold tolerance, productivity, and nutritional value.

A multi-cut variety shown to be an excellent additive to weakening alfalfa stands. With its quick establishment, it can fill in the bare spots and increase yields up to 30%. When harvested, it dries down just like alfalfa. Also shown to re-grow at the same rate as alfalfa, therefore, maintaining yields for second and third cuttings.

As a cover crop, it is an ideal nitrogen fixing legume due to its growth habit. It produces early season biomass, making it a highly attractive cover crop when in rotation with corn. Is also more winter hardy than common berseem clover. Has shown to survive in temperatures as low as 5 degrees Fahrenheit. Even though it has shown excellent winter hardiness, it should be planted in a mixture or used in an application where winterkill is acceptable.

**Seeding rate:** alone 15 lbs/acre; in mix 5-7 lbs/acre

**Planting:** April - May or September



## 9. eNhance Persian Clover

COVER CROP | FORAGE | WILDLIFE

**Highly Fragrant • High Cold Tolerance • Suitable for Sandy Soil**

Possibly the most fragrant of all the clover species with a pleasantly sweet scent that may attract wildlife and livestock alike. An annual legume originating in the eastern Mediterranean area. It has a semi-upright growth habit, it has oval leaves with jagged edges. Has a notable root development speed that is similar to that of Daikon Radish, making it highly suitable for sandier soils. The only Persian clover with the ability to withstand temperatures as low as -15 degrees Fahrenheit. Improved seedling vigor allows it to establish at a rate similar to Cereal Rye. The low C:N ratio makes it a good choice to mix with Cereal Rye as the contrasting ratios provide balance and help reduce the yield drag often experienced in corn following a cereal rye crop.

**Seed Rate:** Drilled alone 5-8 lbs/acre or in mix 3-4 lbs/acre;  
broadcast alone 8-10 lbs/acre or in mix 5-8 lbs/acre

**Planting:** March - April or August - September

Chart Available



## 10. Fix N Mix - Cold Tolerant Cover Crop Mix

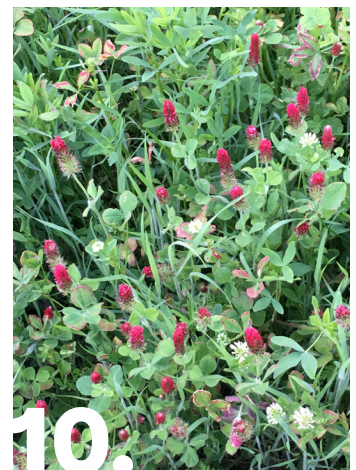
COVER CROP | WILDLIFE

**Cold Tolerant • Breaks Compaction • Nitrogen Producer**

This cold tolerant cover crop mixture is a highly attractive choice for rotation with corn. Consisting of Fixation balansa clover, Frosty berseem, Crimson clover, and Daikon radish, not only does it set a large amount of nitrogen for the next cash crop, but breaks-up compaction.

**Seed Rate:** 8 lbs/acre alone or 4-5 lbs/acre planted with cereal grain

**Planting:** August - September





# COVER CROP

## 1. Cereal Winter Rye

COVER CROP

### Hardy Grain, Weed Suppressor

The hardiest of the cereal grains. Can be planted later in the fall than other grains. Quicker growing than wheat, rye also absorbs more unused N. Suppresses weeds.

**Seed Rate:** 60-120 lbs per acre

**Planting:** July - October



## 6. Crimson Clover

COVER CROP | FORAGE | WILDLIFE

### Excellent Protein · Nitrogen Producer

Crimson clover is a winter annual that can provide nitrogen for your next cash crop. It will create a good amount of biomass and has been found to grow well when planted with a companion crop. can be used for pastures or hayfields. Excellent addition to winter wheat, triticale, or spring oats to increase protein content for haylage.

**Seed Rate:** 15-20 lbs/acre

**Planting:** March - April or August - September

## 2. Buckwheat

COVER CROP | WILDLIFE

### Weed Suppressor · Pollinator

A great short-season cover crop. Generally matures in a 10-12 week time period. Known for its ability to suppress weeds and collect phosphorus. Also attracts beneficial insects and pollinators.

**Seed Rate:** 50-60 lbs/acre drilled or 100 lbs/acre broadcast

**Planting:** May - August



## 7. Winter Peas

COVER CROP | FORAGE | WILDLIFE

### Nitrogen Producing · Cold Tolerant Legume

A legume that can be an excellent nitrogen source. Most often used as a plow down crop, they can produce a large amount of biomass. Can also withstand cold temperatures. However, they do not always winter over.

**Seed Rate:** 40-60 lbs/acre

**Planting:** March - May or July - September

## 3. Annual Ryegrass

COVER CROP | FORAGE

### Establishes Quickly · Excellent Roots

An economic choice for a cover crop. It holds the soil well and will collect some N. Has a very dense and deep root system.

**Seed Rate:** 20-30 lbs/acre

**Planting:** August - September



## 8. Winter Barley

COVER CROP | FORAGE | WILDLIFE

### Early Maturing · Weed Suppressor

An early maturing cover crop and a quick source of biomass which can improve soil structure and water infiltration. It will collect excess N and it is a great weed suppressor. Earliest maturing cereal grain.

**Seed Rate:** 60-100 lbs/acre

**Planting:** August - early October

## 4. Winter Oats

COVER CROP | FORAGE | WILDLIFE

### Quick Growing · Collects Excess N

A quick growing cover crop. They will collect excess N and small amounts of other nutrients when planted early enough. Not as winter hardy as rye, wheat, or barley.

**Seed Rate:** 2-3 bushel/acre

**Planting:** July - September



## 5. Winter Hairy Vetch

COVER CROP | FORAGE | WILDLIFE

### Winter Hardy · High N Producer

A winter annual legume that is known for its nitrogen contribution. Produces such a large amount of N that it can partially replace fertilizer for spring. It will improve topsoil tilth and is also a weed suppressor and a phosphorus scavenger.

**Seed Rate:** 20-30 lbs per acre

**Planting:** July - September



# WILDLIFE



## 1. Hybrid Field Corn

WILDLIFE | COVER CROP

### Roundup Ready • Weed Control

This hybrid is Roundup Ready with 115 day maturity. Provides weed control in food plots.

**Seed Rate:** 80,000 kernel bag covers 4 acres.

**Planting:** April - June



## 1. Reid's Yellow Dent Corn

WILDLIFE

### Open Pollinating • High Attractant

This old fashioned, 110 day maturity field corn is an open pollinated, non-hybrid variety with yellow kernels. A hardy and productive plant that will attract many wildlife species including deer.

**Seed Rate:** 10-12 lbs/acre

**Planting:** April - June



## 2. Peredovic Sunflower

WILDLIFE | COVER CROP

### Game Bird Attractant

Small, black sunflowers, growing 4-5 feet in height. Attracts game birds and other wildlife. Provides good hunter cover. 100-120 days to maturity.

**Seed Rate:** 30 lbs/acre broadcast, 15 lbs/acre drilled.

**Planting:** April - July



## 2. Hybrid Sunflower

WILDLIFE

### High Oil Content

This hybrid sunflower is high in oil content, attracting most wildlife. Grows 2-3 ft tall with small heads filled with seeds. 100 day maturity.

**Seed Rate:** 15 lbs/acre broadcast, or 6 - 8 lbs/acre drilled

**Planting:** April - July



## 3. Buckwheat

COVER CROP | WILDLIFE

### Weed Suppressor • High Yielding

Good for quail, doves, turkey, duck, and geese, plus other wildlife. Abundance of feed.

**Description** pg. 26

## 4. Japanese Millet

WILDLIFE

### Game Bird Attractant • Fast Growing

One of many different millets, growing fast to 2-4 ft. in height. Maturity 100-120 days. Good in flood plain. Loved by ducks, geese, dove and quail.

**Seed Rate:** 20-30 lbs/acre

**Planting:** May - September

## 5. Lablab

WILDLIFE

### High Yielding • Drought Tolerant

This summer bean is extremely high yielding and drought tolerant. Once established, its high protein content makes it excellent for deer throughout the summer and fall until a killing frost. Can be planted with millet, sorghum, or corn to provide a stalk for the vines to climb. This will help increase its productivity.

**Seed Rate:** 20 lbs/acre

**Planting:** May - July

## 6. HYB Grain Sorghum

WILDLIFE | FORAGE

### Drought Resistant

Also known as Milo, grown for livestock and wildlife. Full grain head 100-120 day maturity.

**Seed Rate:** 8-12 lbs/acre

**Planting:** May - July



# WILDLIFE

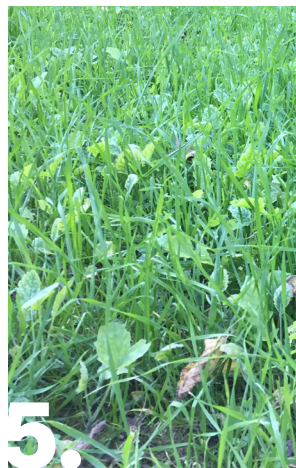
## 1. Synergy Ladino Clover

WILDLIFE | FORAGE

**Graze Persistent • Complements Existing Pasture**

A long-lived perennial and a must have for wildlife food plots. Synergy spreads by stolons and secondary roots making a dense green mat.

**Description pg. 8**



## 5. Fall Wildlife Mix

WILDLIFE

**Fast Growing**

This Missouri Southern mix is a diversity of small grains, legumes, and brassicas that give deer the option of selection. This mix contains 30% Bob Oats; 25% Winter Wheat; 25% Winter Rye; 15% Austrian Winter Peas; 5% Turnips and Rape. Good food for deer and other wildlife in the fall, winter and early spring.

**Seed Rate:** 50-100 lbs/acre

**Planting:** September - November

## 2. Korean Lespedeza

WILDLIFE | FORAGE

**Excellent Wildlife Cover • Drought Resistant**

A reseeding annual legume used for pasture or hay and makes excellent wildlife cover and feed. Especially good for quail, dove, ducks, rabbits, deer, and livestock. Drought resistant and will grow in a variety of soils. Offers value in 90-120 days.

**Seed Rate:** 10-15 lbs/acre

**Planting:** February - April or August - October



## 6. Stamina

WILDLIFE | FORAGE

**Graze Persistent • Large Leaf Size**

**Description pg 7**

## 7. Rape

WILDLIFE | COVER CROP

**Fast Growing • Heat & Cold Tolerant**

**Description pg 24**

## 3. Chufas

WILDLIFE

**Turkey Favorite • High Protein**

A perennial that grows like a peanut with no outer shell. One of the most popular foods for wild turkeys because of their underground tubers. One chufas tuber will produce a plant that can grow to 15-75 tubers when mature. High in protein and fat, which makes them especially nutritious. Also make an excellent food source for other wildlife including deer and ducks. Prefer fertile, sandy and loamy soils.

**Seed Rate:** 50 lbs/acre broadcast or 20-30 lbs/acre planted in rows

**Planting:** May - September



## 8. Deer Magic

WILDLIFE

**High Protein**

Deer love alfalfa, ladino clover, and chicory. We have combined Venus Alfalfa, Synergy Ladino Clover, and Chicory to make a long-living, high protein plot which not only gives deer a desirable and nutritious diet, but also spreads your food plot risk.

**Seed Rate:** 10 lbs/acre

**Planting:** March - April or August - September

## 4. Sugar Beet

WILDLIFE

**Adaptable to Most Soil Types**

Are a great addition to any wildlife plot. Deer love to eat both the foliage and the roots and the nutrition is excellent. Grow well in almost all soil types but do require moisture.

**Seeding Rate:** Broadcasting recommended 5 lbs/acre

**Planting:** April - May or August - September





## 9. Missouri Southern's Spring Mix

WILDLIFE | COVER CROP

### Highly Attractant for Wildlife

Our own mix attracts many wildlife species including deer, turkey, quail and more. This mix contains 50% soybeans; 20% hybrid grain sorghum; 20% German foxtail millet, and 10% perodovic sunflowers. The diversity of these different plants will provide food in spring, summer, fall, and early winter.

**Seed Rate:** 50 lbs/acre

**Planting:** Mid-May - July



## 10. WGF Grain Sorghum

WILDLIFE

### Wildlife Attractant

Makes for excellent wild game food. Open pollinated. A short Milo of 24" to 30", upright in growth with a full grain head. Ducks and geese love it. 100 day maturity.

**Seed Rate:** 20 lbs/acre broadcast, 15 lbs/acre drilled

**Planting:** May - July



## 10. Sorghum, HYB-Forage Silo 700D

WILDLIFE | FORAGE

### Highly Digestible

Grows tall, allowing for feed and excellent cover for wildlife. Upland game birds and songbirds love it, not to mention turkey, deer, and rabbits.

**Description pg. 19**



## 11. Cowpeas

WILDLIFE | COVER CROP | FORAGE

### Drought Tolerant - High Protein

This viney, summer legume will attract turkey and deer from seedling stage through maturity. Grows well on various soil types with very little preparation.

**Description pg 20**



## 12. Egyptian Wheat

WILDLIFE

### Great Height - Excellent Cover

This wheat is really a sorghum, very tall with a grain head. Provides excellent cover and feed for birds as it bends over.

**Seeding:** 10-15 lbs/acre

**Planting:** May - July



## 13. Rice

WILDLIFE

### Waterfowl Habitat

Makes a duck and goose hunter's dream wildlife plot. Create your own waterfowl habitat. Convert wetland into a living sanctuary. The reward will come from many hours of nature's association with hunting and waterfowl observations. 150 day maturity.

**Seed Rate:** 50-90 lbs/acre

**Planting:** June - July



## 14. Dove Proso Millet

WILDLIFE

### High Yields - Wild Bird Attractant

High appeal to doves, quail, pheasant, and other wildlife. Grows 3-4 feet tall in height producing higher seed yields than common white proso millet. Matures in 65-75 days. Later plantings are successful if there is adequate moisture.

**Seed Rate:** 20 lbs/acre

**Planting:** Late May - July



## 14. White Proso Millet

WILDLIFE

### Wild Bird Attractant

Highly appealing to doves by putting on small seeds, this millet grows 1-2 ft. Quail, pheasant and other wildlife are also attracted. Maturity 75 days.

**Seed Rate:** 30 lbs/acres

**Planting:** May - September



## 15. Brown Top Millet

WILDLIFE

### Quick Maturity

Favorite of quail, doves, turkey and ducks. Shorter maturity than Jap Millet. Grows 2-4 feet tall. Will produce seed in 60-70 days.

**Seed Rate:** 30-40 lbs/acre

**Planting:** May - August

## 16. German Foxtail Millet

WILDLIFE | COVER CROP | FORAGE

### Drought Tolerant - Excellent Vigor

A summer annual grass usually cultivated for cattle hay. Seed heads have a foxtail appearance, attracting to quail, dove, and other upland birds.

**Description pg 20**



# WILDLIFE

## 1. Chicory

WILDLIFE | FORAGE

### Great Protein Source

An extremely leafy perennial herb. Deer find chicory very desirable to browse and also highly nutritious. A basic in long living food plots.

Description pg 21



## 5. Vivant Hybrid Brassica

WILDLIFE | COVER CROP | FORAGE

### Quick Growing · High Feed Quality

Having a high protein content, this brassica is highly attractive to deer and other wildlife.

Description pg 14

## 2. Purple Top Turnip

WILDLIFE | COVER CROP | FORAGE

### Quick Emerging · High Protein

Description pg 21



## 6. Jackpot Forage Turnip

WILDLIFE | COVER CROP | FORAGE

### Excellent Palatability

Description pg 21

## 7. Bob Winter Oats

WILDLIFE | COVER CROP | FORAGE

### High in Nutrition

Attract deer, turkey, and rabbits. Although not as winter-hardy as other small grains, they are very compatible with winter annual legumes or brassicas

Seed Rate: 2-3 bushel/acre

Planting: July - September

## 3. Crimson Clover

WILDLIFE | COVER CROP | FORAGE

### Quick Starter

Promotes good insect production for quail and other birds.

Description pg 26

## 4. Winter Hairy Vetch

WILDLIFE | COVER CROP | FORAGE

### High Protein · Winter Hardy

Description pg 26



## 8. Austrian Winter Peas

WILDLIFE | COVER CROP | FORAGE

### Excellent Deer Attractant

Description pg 26

## Whitetail Institute Planting Guide for Zone 7



	IMPERIAL CLOVER, ALFA-RACK PLUS, EXTREME, NO-PLOW, FUSION, CHIC MAGNET AND EDGE	VISION, PURE ATTRACTION, SECRET SPOT, WINTER PEAS, BOWSTAND, AMBUSH, DESTINATION	WINTER-GREENS, TALL TINE TUBERS, BEETS & GREENS AND RAVISH RADISH	WHITETAIL OATS PLUS	POWERPLANT, CONCEAL AND TURKEY SELECT
NORTHERN MISSOURI	MARCH 15 - MAY 1 AUG 1 - SEPT 15	AUG 1 - SEPT 30	JULY 15 - SEPT 15	SEPT 1 - OCT 1	MAY 1 - JUNE 30
SOUTHERN MISSOURI	MARCH 1 - APRIL 15 AUG 15 - OCT 15	AUG 15 - OCT 15	AUG 1 - OCT 1	For best results, wait to plant until excessively hot droughty summer weather has passed.	Do not plant PowerPlant, Conceal until soil temps reach constant 65° F.



# WHITETAIL INSTITUTE



## Imperial Whitetail Clover

- Perennial 3-5 years longevity
- Genetically selected specifically for deer
- Up to 30% protein

## Imperial Whitetail Vision

- Perennial 3-5 years longevity
- Mix of Fusion plus kale
- Up to 44% protein

## Whitetail Turkey Select

- Annual best planted in spring
- Attracts and holds wild turkeys
- "Nut-like" tubers are scratched up by turkey

## Imperial Whitetail Alfa-Rack Plus

- Perennial 3-5 years longevity
- Mixture of alfalfa, chicory, & Imperial Clover
- Up to 44% protein

## Imperial Whitetail Ravish Radish

- Annual that should be planted in late summer or fall
- Quick development that improves compaction

## Imperial Whitetail Conceal

- Annual best planted in late spring
- Create thick cover and screen
- Grows at various heights

## Imperial Whitetail Fusion

- Includes WINA perennial forage chicory for max attraction, protein and variety
- Cold tolerant, and resistant to drought, heat and disease

## Imperial Whitetail Chic Magnet

- Perennial 3-5 years longevity
- Consists of chicory
- Up to 44% protein

## Imperial Whitetail Extreme

- Perennial 3-5 years longevity
- Mixture of burnet, chicory, and berseem
- Up to 44% protein
- Well drained soil suggested - works on thinner soils

## Whitetail Edge

- Perennial 3-5 years longevity
- Mixture of alfalfa, chicory, burnet, and sanfoin
- Up to 44% protein

## Imperial Whitetail Destination

- Best planted in late summer or early fall
- Mixture of oats, peas, radish, kale, and berseem

## Imperial Whitetail Secret Spot

- Annual that should be planted in late summer or early fall
- Designed for small food plots in hard to reach places
- Contains pH enhancer

## Imperial Bowstand

- Annual that should be planted in late summer or early fall
- Designed for small food plots in hard to reach places
- Mixture of secret spot, radish, and lettuce
- Contains pH enhancer







### Imperial Whitetail No-Plow

- Fast growing annual that can be planted in spring or fall
- Designed for areas hard to reach with big equipment
- Blend of clovers, brassicas, and other forages

### Imperial Whitetail Tall-Tine Tubers

- Annual that should be planted in late summer or fall
- Establishes and grows quickly
- Extremely cold tolerant
- Two food sources - foliage above ground, turnip bulb below

### Imperial Whitetail Ambush

- Annual that should be planted in late summer or early fall
- Mixture that consists of sweet lupines and sugar beets
- Cold tolerant and easy to plant

### Imperial Whitetail PowerPlant

- Annual that should be planted in late spring
- Mixture of forage beans, peas, sunflowers, and sunn hemp
- Up to 38% protein

### Imperial Whitetail Beets & Greens

- Annual that should be planted in late summer or fall
- Brassica blend of kale, radish, turnips, and sugar beets
- Extremely cold tolerant

### Imperial Whitetail Oats Plus

- Annual that should be planted in late summer or early fall
- Primarily Oats with addition of wheat and triticale
- Establishes quickly

### Imperial Whitetail Pure Attraction

- Annual that should be planted in late summer or early fall
- Mixture grains and brassica
- High sugar content
- Heat and cold tolerant to give full season attraction

### Imperial Whitetail Winter Peas Plus

- Annual best planted in late summer or early fall
- Peas, radish, kale and oats
- High in sugar and protein

### Imperial Whitetail Winter - Greens4

- Annual that should be planted in late summer or fall
- Blend of turnips and kale
- Extremely cold tolerant

### Imperial Whitetail Attractants

Apple Obsession  
Kraze Deer Attractant  
Magnet Mix Block

### Imperial Whitetail Herbicides

Arrest Max - A selective grass herbicide.  
Slay - field-tested selective broadleaf-weed herbicide..

### Imperial Whitetail Mineral & Vitamin Supplements

### Imperial Whitetail 30-06 Plus Protein

### Imperial Whitetail 30-06 Thrive

### Imperial Whitetail 30-06 Vitamin Block



TO LEARN MORE ABOUT THE WHITETAIL INSTITUTE PRODUCT LINE, SCAN THE QR CODE.





# NATIVE GRASS

## 1. Big Bluestem

NATIVE GRASS | FORAGE

### Prairie Restoration • Quality Forage

A warm season grass that is used for forage, prairie restoration, and highway right-a-ways. It is a high quality forage for all types of livestock. Prefers moist, well drained soil, but will work on many soil types.

**Seed Rate:** 10 PLS/acre

**Planting:** Late May - July or frost seed December - February



1.

## 2. Little Bluestem

NATIVE GRASS | FORAGE

### Prairie Restoration

A warm season grass used for forage, prairie restoration, highway right-a-ways, and wildlife habitat. Grows well on a wide range of well drained soils.

**Seed Rate:** 6 PLS/acre

**Planting:** Late May - July or frost seed December - February



2.

## 3. Sideoats Grama

NATIVE GRASS | FORAGE

### Prairie Restoration • Drought Tolerant

A long-lived warm season grass used for prairie restoration, highway right-a-ways, and some forage. Can produce lots of forage, but is not the most palatable native. Extremely drought tolerant, however, it needs moisture until it is established.

**Seed Rate:** 8-10 PLS/acre

**Planting:** Late May - July or frost seed December - February



3.

## 4. Indiangrass

NATIVE GRASS | FORAGE

### Prairie Restoration • Highly Palatable

A warm season grass used for forage and prairie restoration. When harvested before flowering, considered one of the most palatable native grasses for livestock. Adaptable on various soil types, but prefers well drained bottom land.

**Seed Rate:** 8-10 PLS per/acre

**Planting:** Late May - July or frost seed December - February



4.



5.

## 5. Crabgrass

NATIVE GRASS | FORAGE

### Easy Establishing • Self Seeding

A warm-season annual that is easy to establish. Most often used for forage, can produce on a variety of different soil types. Stands are maintained by allowing to re-seed.

**Seed Rate:** 4 - 6 PLS/acre

**Planting:** Late May - July

## 6. Eastern Gama

NATIVE GRASS | FORAGE

### Vigorous Regrowth • Highly Palatable

A warm season grass. Grows in 1-4 foot diameter clumps. Used primarily for forage. Has vigorous regrowth abilities and great palatability. Prefers moist, heavy soils for maximum production.

**Seed Rate:** 8-10 PLS/acre

**Planting:** December - February or plant stratified seed in late May



6.

## 7. Virginia Wild Rye

NATIVE GRASS | FORAGE

### Suitable for Hay

A unique native cool season grass. Mostly used for forage, this grass is beardless making it suitable for hay or pasture. Grows best in moist soils and can thrive in shade or full sun.

**Seed Rate:** Plant 10 PLS/acre

**Planting:** fall or spring



7.

## 8. Switchgrass

NATIVE GRASS | FORAGE

### Prairie Restoration • Drought Tolerant

A warm season grass used for forage, prairie restoration, and in some cases bio-energy production. Although it is very drought tolerant, switchgrass prefers low, moist ground. Due to its height and deep root system, it can be dominant over other natives over time.

**Seed Rate:** 5-6 PLS/acre

**Planting:** Late May - July or frost seed December - February



8.



# LAWN & TURF



## 1. Kentucky 31 Tall Fescue

### Drought Resistant • Durability

A cool season variety fescue known for its drought hardiness and durability to wear and tear. As the original tall fescue lawn grass variety, Kentucky 31 is lighter in color and is not as fine bladed as true turf type varieties.

**Seed Rate:** New lawn 8-10 lbs/1000 sq ft

**Planting:** March - early May or September - October



## 2. Rock Star Kentucky Bluegrass

### Fast Establishing • Winter Hardy

An improved variety of bluegrass that has excellent early spring green-up, fine leaves, and has the fastest establishing speed of Kentucky Bluegrass varieties. A cold hardy, persistent variety that makes for an excellent addition to turf blends throughout the transition zone.

**Seed Rate:** 3-5 lbs/1000 sq ft

**Planting:** March - early May or September - October



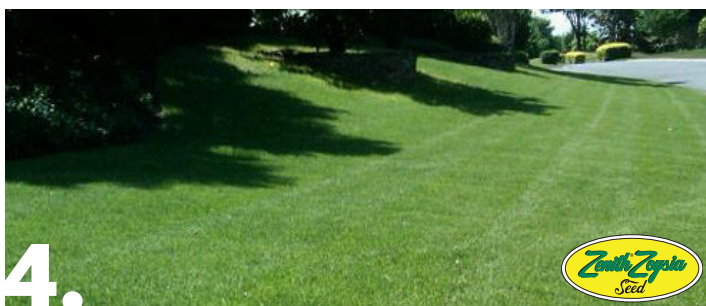
## 3. Creeping Red Fescue

### Low Maintenance • Erosion Control

A fine-bladed turf grass primarily used in the northern transition zone and northern United States. An easy, low-maintenance ground cover. It is beneficial for erosion control. Although it is classified as a Fescue, it does not have a deep root system when compared to KY31 Tall Fescue or turf-type varieties. Because of this trait, it is mostly used in shaded areas or in mixes.

**Seed Rate:** 3-5 lbs/1000 sq ft

**Planting:** March through May or September through October



## 4. Zenith Zoysia Grass

### AFFORDABLE • DENSE TURF

Makes for a true lifetime lawn. An affordable superior lawn seed. This dense turf requires low water. It is winter hardy, yet heat loving. Requires little fertilizer.

**Seed Rate:** 1 - 2 lbs/1000 sq ft

**Planting:** Late May - July



## 5. 5 Way Tall Fescue

### Excellent Early • Seedling Vigor

- Reduced Nitrogen Requirement
- Improved Turf Quality
- Improved Traffic Tolerance

A blend of five turf type tall fescues including Falcon IV and Renegade DT. With these two excellent varieties and three other highly rated fescues, it has become the choice lawn for many. Not only has excellent disease resistance, but has great heat and drought resistance. It also has a uniform appearance due to its turf type characteristics, meaning it will not be clumpy like KY31 Tall Fescue. Productive planted in full sun or partial shade.

**Seed Rate:** 8-10 lbs/1000 sq ft. If overseeding, plant 4-5 lbs/1000 sq ft.

**Planting:** March - early May or September - October



## Super Easy Turf 4

### Easy to Maintain • Drought Tolerance

Combines four of the best varieties to give you an exceptional looking, yet durable lawn. Capitalizing on the strengths of Falcon IV and Renegade DT turf-type tall fescues, makes them the core of this mixture. Also contains Double Time perennial ryegrass for fast establishment and improved drought tolerance. This along with the tall fescue and an elite Kentucky Bluegrass will quickly provide a lush, beautiful lawn all season long.

**Seed Rate:** 8 - 10 lbs/1000 sq ft for a new lawn or 4 - 5 lbs/1000 sq ft for overseeding

**Planting:** Marc - early May or September - October

## 6. Falcon IV Tall Fescue

### Top Ranked Turf • Heat & Drought Tolerant

An improved heat and disease resistant, semi dwarf variety with excellent turf-type qualities. As one of the top ranked varieties, it has fine leaves and great drought resistance making it an excellent choice for your lawn.

**Seed Rate:** 8-10 lbs/1000 sq ft for a new lawn or 4 - 5 lbs/1000 sq ft for overseeding

**Planting:** March - early May or September - October



## 9. Double Time Turf-Type Tetraploid Ryegrass

### Quick Establishing • Stays Green Longer

A new and improved variety of ryegrass that leaves all other ryegrasses behind. Establishing quickly, produces more turf in a two week time period than its competition. Also has a dark green color. Being a tetraploid, it has twice as many cell contents. This means when temperatures and moisture conditions aren't ideal it will have an amazing eye appeal. Additionally, it stays green longer than any other ryegrass.

**Seed Rate:** 5-6 lbs/1000 sq ft

**Planting:** March - April or September - October

## 7. Renegade DT Tall Fescue

### Top Ranked Turf • Heat & Drought Tolerant

An improved heat and disease resistant, semi-dwarf tall fescue variety with excellent wear tolerance, fine leaves, and a dark green color. With traits including short dwarf dense growth, improved turf quality, and improved resistance to brown patch, it makes for an excellent lawn.

**Seed Rate:** 8 - 10 lbs/1000 sq ft for a new lawn or 4 - 5 lbs/1000 sq ft for overseeding

**Planting:** March - early May or September - October



## Crown Vetch

### Perennial Ground Cover

A low growing legume used for ground cover and erosion control. Spreads by rhizomes and if not controlled, it can become invasive.

**Seed Rate:** 2-3 lb/1000 sq ft

**Planting:** March - April or August - mid-September

## 8. Tuff-Turf Brand Tall Fescue

### Durable • Drought Resistant

Missouri Southern Seed's own turf-type tall fescue. Reasonably priced, durable, and very attractive. Because Missouri Southern owns this brand, there are less royalties and better savings for the customer without sacrificing any quality. This turf-type fescue has excellent drought resistance and fine textured leaves making any lawn or durable playing field a suitable and beautiful sight.

**Seed Rate:** 8 - 10 lbs/1000 sq ft

**Planting:** March - early May or September - October





# MISSOURI SOUTHERN SEED MIXES

## Lawn Mixes

### Fancy

Perennial Ryegrass .....	34%
Annual Ryegrass .....	30%
Kentucky Bluegrass .....	18%
Creeping Red Fescue .....	18%

### Premium

Perennial Ryegrass .....	35%
Kentucky Bluegrass .....	25%
Creeping Red Fescue .....	20%
Annual Ryegrass .....	20%

### Supreme

Perennial Ryegrass .....	55%
Kentucky Bluegrass .....	30%
Creeping Red Fescue .....	15%

### Landscaper

Kentucky 31 Tall Fescue .....	80%
Perennial Ryegrass .....	20%

### Pretty-Tuff

Turf-Type Fescue .....	75%
Annual Ryegrass .....	25%

### Easy-Turf

Turf-Type Fescue .....	80%
Perennial Ryegrass .....	20%

### 5 Plus 10

5 Way Turf Fescue .....	90%
Kentucky Bluegrass .....	10%

### Playground

Kentucky 31 Tall Fescue .....	55%
Perennial Ryegrass .....	25%
Kentucky Bluegrass .....	10%
Annual Ryegrass .....	10%

### Super EZ Turf 4

Falcon IV Turf Fescue .....	40%
Finelawn Elite Turf Fescue .....	40%
Double Time Turf Ryegrass .....	15%
Rock star bluegrass .....	5%

### Shady

Turf-Type Fescue .....	70%
Creeping Red Fescue .....	30%

### Contractor

VNS Tall Fescue .....	75%
Annual Ryegrass .....	25%

## Pasture • Hay • Waterway Mixes

### Horse

Hallmark Orchardgrass .....	30%
Sierra Perennial Ryegrass .....	24%
Kentucky Bluegrass .....	20%
Timothy .....	15%
Red Clover CP .....	9%
Ladino Clover CP .....	2%

### Hardy

Cow★Pro Fescue .....	55%
Potomac Orchardgrass .....	20%
Timothy .....	12%
Red Clover CP .....	11%
Ladino Clover CP .....	2%

### Classic

Potomac Orchardgrass .....	40%
Sierra Perennial Ryegrass .....	25%
Timothy .....	15%
Red Clover CP .....	12%
Alfalfa CP .....	6%
Ladino Clover CP .....	2%

### Flex

Smooth Brome .....	25%
Bestfor Ryegrass .....	25%
Climax Timothy .....	25%
Potomac Orchardgrass .....	25%

### Elite

Warrior Orchardgrass .....	30%
Sugarcroft Festulolium .....	20%
Bestfor Ryegrass .....	20%
Solid Red Clover CP .....	18%
Cow★Pro Timothy .....	10%
Synergy Landino Clover CP .....	2%

### Fix-a-Lot

Bestfor Ryegrass .....	40%
Annual Ryegrass .....	25%
Cow★Pro Fescue .....	20%
Cow★Pro Timothy .....	10%
Medium Red Clover CP .....	5%

### Waterway

Kentucky 31 Tall Fescue .....	68%
Perennial Ryegrass .....	20%
Timothy .....	10%
Red Top .....	2%

## Midwest Wildflower Mix

KIND	TYPE	COLOR
CONEFLOWER, PURPLE	P	PURPLE
SCARLET FLAX	A	RED
MIXED CORN POPPY	A	RED/PINK
LANCE LEAVED COREOPSIS	P	YELLOW
DWARF BLUE CORNFLOWER	A	BLUE
POLKA DOT CORNFLOWER MIX	A	RED/BLUE
INDIAN BLANKET	A	RED/YELLOW
ALASKA SHASTA DAISY	P	WHITE
CLASPING CONEFLOWER	P	YELLOW
PURPLE PRAIRIE CLOVER	P	PURPLE
PLAINS COREOPSIS	P	YELLOW/RED
MEXICAN HAT	P	YELLOW/ORANGE
OX-EYE SUNFLOWER	P	YELLOW
DWARF EVENING PRIMROSE	P	YELLOW
PRAIRIE CONEFLOWER	P	YELLOW/ORANGE
BLACK-EYED SUSAN	BI	YELLOW
GREYHEADED CONEFLOWER	P	YELLOW
NEW ENGLAND ASTER	P	LAVENDER

