

Warm Greetings,

How is your farm business positioned for the future? This is an important question we need to ask ourselves on a regular basis. Whether we like it or not, agriculture is constantly changing. In the east, we have both opportunities and challenges before us. While there are many challenges, the opportunities are also abundant- but we must have the vision to capitalize on those opportunities. Many affluent consumers in our region desire food and other products to be local and/or produced how they want it to be produced. Some of these markets may be a fit for your farm, and many may not. Take time to explore and research market trends that fit your operation and set your direction. Whatever direction you choose to take your farm in, King's AgriSeeds and our dealer network hope to be a valuable partner with you to help reach your farm goals.

At our home research farm based in Christiana, PA, we had an excellent year of observation with our various forage plots, cover crop plots, and industrial hemp plots. Personally, the most enjoyable set of plots to observe was our complex cover crop research. In August of 2018, 25 cover crop strip plots were planted, followed by a spring planting of four different crops: tobacco, hemp, millet, & corn. The results were fascinating and very crop specific. This trial displayed wonderful opportunities for building soil health and increasing overall farm productivity. Soil health, no matter what your cropping goals are, needs to be a priority on your operation.

Our most recent addition to our product line is hemp seed. In 2019, we conducted several research projects on our farm to better understand this crop. Indeed, much needs to be learned as this historical crop which was banned for decades has many positive applications. If you are interested in learning more about this crop, please see page 31 or reach out to our office.

We hope that you trust our team to assist you in developing a cropping plan to meet your farm's needs and goals. There is great diversity in our products, customers, and markets- we are thankful for it all. Thank you for your business and the endless hours that you pour into your farm and your local community. We are grateful to our creator, our Heavenly Father, and give Him all the praise for the wonderful diversity in His creation! For He created it all.

~Tim Fritz, President



OUR MISSION

To serve the agricultural community by providing premium seed along with relevant information to our seed dealers and their customers to develop productive cropping systems. We strive for a God honoring workplace where the gifts and talents of each team member is used for His Kingdom.

TABLE OF CONTENTS

PRODUCTS

| COOL SEASON PERENNIALS | 4 |
|---------------------------------------|-------|
| Mixtures | |
| Adapted to good to drier soils | 5-6 |
| Adapted to good to wetter soils | 7 |
| Adapted to variable soils | |
| Seed Establishment | 11 |
| Legumes - Alfalfa | 12-13 |
| Legumes - Red, White Clover | 14 |
| Legumes - Clover, Misc | 15 |
| Grasses - Brome, Festulolium | 16 |
| Grasses - KY Bluegrass, Meadow Fescue | 17 |
| Grasses - Orchardgrass | 18 |
| Grasses - Ryegrass, Tall Fescue | 19 |
| Grasses - Timothy, Misc | 20 |
| SPRING COOL SEASON ANNUALS | 21 |
| Small Grain Based Mixtures | 22 |
| Grasses - Ryegrass, Spring Grains | 23 |
| Legumes - Clover, Peas | |
| | |

| WARM SEASON ANNUALS | 25 |
|---------------------------------------|-------|
| Mixtures | 26 |
| Forage Sorghum, Grain Sorghum | |
| Sudangrass, Sorghum Sudan, Soybeans | |
| Millet, Crabgrass, Teff | |
| Legumes, Brassicas | 30 |
| Industrial Hemp Seed | |
| FEEDING TYPE HYBRID CORN | 32-34 |
| SPRING & SUMMER COVER CROPS | 35 |
| Spring & Summer Cocktails | 36 |
| Legumes - Clover, Peas, Hemp, Trefoil | 37 |
| Non-Legumes | |
| ORGANIC | |
| KING'S DEALERS | 41.4 |
| Find A Ving's Dealer Near You | 711 |

NOTE:

Note: This guide focuses on Spring and Summer planted products.

Late summer and Fall planted products will be found in additional seasonal guides.



1828 Freedom Rd, Suite 101 Lancaster, PA 17601 (717) 687-6224 KingsAgriSeeds.com



COOL SEASON PERENNIALS



ADAPTED TO GOOD-TO-DRIER SOILS

ALFAMATE

An all grass mix that can be used either alone or with legumes such as alfalfa. This mix makes a very soft, palatable

Best Uses: Dry Hay, Fermented Forages

Seeding Rate: 25 to 35 lbs/acre without legumes

5 to 10 lbs/acre with legumes

Product Formula: 48% Late Heading Orchardgrass

42% Hakari Alaska Brome

10% European / Premium Timothy

HAYMASTER

A well balanced mixture of leafy, late heading grasses and alfalfa that makes soft hay that livestock, calves and horses love. Add it to dairy rations for a great source of high quality effective fiber to slow down rate of passage without sacrificing production. Easy drying mixture.

Best Uses: Dry Hay, Fermented Forages, Managed Grazing

Seeding Rate: 20 to 30 lbs/acre

Product Formula: 35% Kingfisher Alfalfas

35% Late Heading Orchardgrass

20% Hakari Alaska Brome

10% European / Premuim Timothy

HIGHLAND HAY CT

An excellent Mid-Atlantic alfalfa-grass mix that will also perform well in the northern climates. Will make a very nice mixed auction hay that will feed very well.

Best Uses: Dry Hay, Fermented Forages

Seeding Rate: 25 lbs/acre

Product Formula: 60% Kingfisher Alfalfas

25% STF and Kora Tall Fescues 15% Late Heading Orchardgrass

MADE FOR YOU

King's AgriSeeds, in conjunction with our dealer network and comments from many of you, has developed several premium perennial forage mixtures adapted to the Middle Atlantic and Northeast. All of these mixtures have great potential to make high quality forage. Selecting the best fit for your farm is primarily based on soil type and harvest methods. However, livestock needs, fertility inputs and other factors should also be considered.

KING'S HAY PRO

An alternative to King's Haymaster that includes soft-leaf tall fescue in place of Hakari Alaska Brome. Hay Pro is a well balanced mixture of leafy late heading grasses and traffic tolerant alfalfa that makes soft hay that livestock, calves and horses love. Add it to dairy rations for a great source of high quality effective fiber to slow down rate of passage without sacrificing production.

Best Uses: Dry Hay, Fermented Forages, Managed Grazing

Seeding Rate: 20 to 30 lbs/acre

Product Formula: 35% KingFisher Alfalfas

30% Late Heading Orchardgrasses

25% Soft Leaf Tall Fescue 10% High Yielding Timothy

NUTRAMAX HAY CT

This mix was balanced by a seasoned nutritionist for super high quality! It's an alfalfa, clover and highly digestible grass mix that is primarily adapted to central PA and north. Both protein and energy levels are superb.

Best Uses: Fermented Forages Seeding Rate: 20 to 30 lbs/acre Product Formula: 65% KF Alfalfa

> 8% Liherold Meadow Fescue 8% Perseus Festulolium 7% Fojtan Festulolium 6% Alice White Clover 6% Freedom Red Clover



HILLSIDE

A highly palatable mixture of drought tolerant species and varieties that tolerate managed grazing well. Contains three varieties of orchardgrass, meadow brome, and a touch of perennial ryegrass to act as a nurse crop as slower, more drought tolerant species establish. Also has a lot of grazing tolerant ladino clover and improved red clover.

Best Uses: Managed Grazing, Fermented Forages

Seeding Rate: 25 lbs/acre

Product Formula: 50% Grazing Tolerant Orchardgrasses

22% Montana Meadow Brome 18% Tetraploid Perennial Ryegrass 5% Freedom! MR Red Clover 5% Regalgraze Ladino Clover

NORTH STAR CT

This mixture contains strong alfalfa varieties with modest amounts of later maturing grass for improved nutrition. It's designed primarily for central PA and North, where grasses will provide consistent yield and quality for several years. Now with meadow fescue to increase energy fiber digestibility and quality. Meadow Fescue is both higher quality than Fojtan and less competitive, allowing the alfalfas to perform well.

Best Uses: Fermented Forages, Dry Hay **Seeding Rate:** 18 to 25 lbs/acre

Product Formula: 85% Kingfisher Alfalfas

8% Meadow Fescue7% Fojtan Festulolium

ORGANIC STAR

Organic Star is a well balanced grass-clover mixture that is excellent for both grazing and baleage. This mixture will handle soil variability very well, although it is designed more for good to drier soils.

Best Uses: Grazing, Fermented Forages

Seeding Rate: 25 to 30 lbs/acre

Product Formula: 37% Late Heading Orchardgrass

27% Perennial Ryegrass17% Meadow Fescue7% Red Clover6% Premium Timothy6% White Clover

PERFORMANCE MAX OC/CT

An alfalfa-tall fescue mixture that will excel in both agronomic and nutritional performance. The alfalfa adds drought productivity, protein, and high NSC. The tall fescue adds consistent high fiber digestibility, superb yields, traffic tolerance and wet soil tolerance.

Best Uses: Fermented Forages, Dry Hay **Seeding Rate:** 20 to 25 lbs/acre

Product Formula: 70% Kingfisher Alfalfas

30% Kora and STF 43 Tall Fescue

SALE TOPPER

This all grass mix is primarily designed to be seeded as a stand alone crop to be fed to horses, dry cows, heifers or even milking cows. Also a great complement for new alfalfa and/or clover seedings. Includes: two premium late heading orchardgrasses, one early timothy and a late timothy to throw a few timothy heads over multiple cuttings for hay marketing purposes. Works excellent seeded with legume in small box and this mix in the large box.

Also available in organic.

Best Uses: Dry Hay, Fermented Forages

Seeding Rate: 15 to 20 lbs/acre as a stand alone seeding.

5 to 10 lbs/acre with a new seeding of alfalfa and/or clover (reduce legume

seeding rate by 25 to 50%)

Product Formula: 80% Late Maturing Orchardgrass

20% Premium Timothy



ADAPTED TO GOOD-TO-WETTER SOILS

CREEKSIDE

A very palatable mixture of varieties and species designed for wetter soils and colder climates. Will form a nice sod to handle hoof traffic. Its quality will also hold well if conditions are too wet to graze or harvest. This mix is based on meadow fescue, which is both high quality and highly palatable. Meadow fescue does not contain detrimental endophytes. Now with Birdsfoot Trefoil added to the mix to improve protein efficiency in livestock. The high tannins in birdsfoot trefoil have a protein efficiency improvement in ruminants.

Best Uses: Managed Grazing, Fermented Forages

Seeding Rate: 25 lbs/acre

Product Formula: 33% Diploid Perennial Ryegrass

32% Meadow Fescue

10% Wellington Birdsfood Trefoil

10% Balin KY Bluegrass8% Barfleo Timothy7% Alice White Clover

GREENFAST

A fast starting mix that is of very high quality. This mix can be used for wet hay and/or managed grazing. The main component, Perseus Festulolium, is very fast starting, high yielding and of excellent forage quality, but is short lived (typically 3 years). Also contains longer lived species. Can be used to thicken weak alfalfa stands and thin pastures. Best used north of the Mason Dixon Line.

Best Uses: Fermented Forages, Managed Grazing

Seeding Rate: 30 to 40 lbs/acre

Product Formula: 38% Perseus Festulolium

World Dairy Expo Winner 27% Grazing Tolerant Orchardgrass22% Premium Perennial Ryegrass9% Freedom! MR Red Clover4% Alice White Clover

ORGANIC DAIRY GREEN

Superior winter hardiness along with high palatability and quality characterize this mix that will perform well on heavier soils. While best for wetter soils, it will also tolerate drought well.

Best Uses: Grazing, Fermented Forages

Seeding Rate: 25 to 35 lbs/acre

Product Formula: 42% Meadow Fescue 31% Perennial Ryegrass

13% Premium Timothy

8% Red Clover 6% White Clover



ADAPTED TO VARIABLE SOILS

BALANCER

With balanced energy and protein, this high end mixture of grasses and legumes is designed specifically to provide livestock the nutrition they need to maintain, gain and produce in the northeastern climate. From its base of Martin II Protek Novel Endophyte Fescue to its complementary blend of clovers, this mixture has the best interest of your herd in mind!

Best Uses: Fermented Forages, Grazing

Seeding Rate: 25-35 lbs/acre

Product Formula: 65% Martin II Protek

10% Inavale Orchardgrass10% Olathe Orchardgrass10% Freedom Red Clover OC5% RegalGraze Ladino Clover OC

BEEFMASTER

A premium pasture mix that consists of Barenbrug's best grazing tall fescues, orchardgrass, perennial ryegrass, and Alice White Clover. Excellent for beef grazing systems along with dairy heifers and dry cows.

Best Uses: Beef, Dairy Heifer, Dry Cow/Heifer Grazing

Seeding Rate: 30 to 35 lbs/acre

Product Formula: 50% Soft Leaf Tall Fescue

20% Perennial Ryegrass 20% Leafy Orchardgrass 10% Alice White Clover

BROWSEMASTER

A grazing mixture for small ruminants, complete with forbs. Makes a very attractive mixed stand. Yellow Jacket coated.

Best Uses: Grazing for goats, sheep - mixed species

grazing

Seeding Rate: 22 lbs/acre

Product Formula: 36% Freedom Red Clover

28% Soft Leaf Tall Fescue 22% Hybrid Alfalfa X42 8% White Clover 6% Chicory

CLEAN & GREEN

This mix is primarily designed for conservation, but it can be used for forage also. Clean & Green will typically contain two durable endophyte free tall fescue varieties and annual ryegrass to give it quick cover while the tall fescue establishes.

Best Uses: Exercise lots, waterways, filter strips, around farm structures, bank stabilization, and cow calf

operations. Can also be used as a forage.

Seeding Rate: 35 to 75 lbs/acre, depending on soil

erosion risk.

Product Formula: 80% Rugged, Endophyte Free Tall

Fescue

20% Annual Ryegrass

EQUINEMASTER PADDOCK

This mixture is designed specifically for exercise areas as it is rugged and will not get clumpy. EquineMaster is slower growing and is endophyte free.

Best Uses: Exercise lot

Seeding Rate: 30 to 100 lbs/acre

Product Formula: 50% Soft Leaf Tall Fescue

35% Kentucky Bluegrass 15% Perennial Ryegrass

EQUIFLEX FORAGE NEV

An easy-to-dry hay mix of high-quality species designed for horse hay product that both looks exceptional for resale and performs well in the feild.

Best Uses: Dry Hay, Managed Grazing. **Seeding Rate:** 25-30lbs/acre **Product Formula:** 53% Orchardgrass

30% Meadow Brome

10% Timothy

7% Kentucky Bluegrass

GRASSPRO

An easy to dry all grass mix that is great for stored forage. Similar to our popular Alfamate but based on premium endophyte free tall fescues as the dominant grass. Can be seeded alone or with the legume of your choice.

Best Uses: Fermented Forages, Dry Hay

Seeding Rate: 20 to 30 lbs/acre without a legume

3 to 8 lbs/acre with legumes.

Note: Reduce legume seeding rate by 25

to 50% from pure stand.

Product Formula: 50% Kora and Soft Leaf Tall Fescue

38% Premium Late Heading

Orchardgrass

12% European / Premium Timothy

GRASS MAXX

A rugged mix of Martin II novel endophyte tall fescue with early new-release orchardgrass. Grass Maxx provides the diversity you need in a hayfield or pasture while giving you the option of broadleaf weed control during the establishment year. After establishment, frost-seeding a clover or clover blend into the stand in late winter can be a great option to thicken the stand further and boost protein.

Best Uses: Fermented Forages, Dry Hay, Grazing

Seeding Rate: 20-30 lbs/acre

Product Formula: 60% Martin II Novel Endophyte Tall

Fescue

20% Inavale Orchardgrass 20% Olathe Orchardgrass

GRAZEALL

An all grass long lived mixture designed for grazing of multiple livestock species. If legumes are desired choose one from our selection that meets your needs.

Best Uses: Grazing

Seeding Rate: 25 lbs/acre **Product Formula:** 30% Ryegrass

30% HDR Meadow Fescue

25% Orchardgrass

15% Balin Kentucky Bluegrass

HORSE SUPREME

Horse Supreme is excellent for all classes of livestock. Forage type Kentucky Bluegrass gives this mix excellent longevity and dense cover. Meadow brome and grazing tolerant orchardgrass add drought productivity while the diploid ryegrass gives it a quick start and excellent spring and fall production. A touch of white clover has been added for nitrogen production.

Best Uses: Continuous & Managed Grazing

Seeding Rate: 25 lbs/acre

Product Formula: 37% Grazing Tolerant Orchardgrass

20% Montana Meadow Brome 20% Diploid Perennial Ryegrasses 15% Balin Kentucky Bluegrass 6% European / Premium Timothy

2% Dutch White Clover

KING'S GRAZING

A highly palatable mixture of late heading winter hardy perennial ryegrasses, orchardgrasses, clovers and forage chicory. Excellent for high producing livestock including dairy, grass finished beef, and goats. Ideal for good soils that have high fertility. Chicory is included for better mineral nutrition and other animal health benefits.

Best Uses: Managed Grazing, Fermented Forages

Seeding Rate: 25 to 35 lbs/acre

Product Formula: 34% Grazing Tolerant Orchardgrass

33% Perennial Ryegrass19% Meadow Fescue

7% Freedom MR! Red Clover

5% Alice White Clover

2% Chicory

LOWLAND HAY

A late heading mix that tolerates wetter soils and has a wide harvest window. Tall fescue adds consistent high fiber digestibility, superb yields and traffic tolerance. Barfleo, a very late heading timothy, dries easily and does not absorb high potassium levels. Freedom! MR Red Clover is easier to dry than other red clovers due to reduced stem hair. This mix can also be blended with alfalfa on marginal alfalfa soils.

Best Uses: Fermented Forages, Dry Hay **Seeding Rate:** 20 to 25 lbs/acre

Product Formula: 60% Kora and Soft Leaf Tall Fescue

20% European / Premium Timothy 20% Freedom! MR Red Clover

MILKWAY



A mix of meadow fescue and soft leaf tall fescue for high quality, highly digestible forage. Milkway is traffic tolerant and can sustain multiple manure or N applications. Excellent with or without legume. Superior for dairies!

Best Uses: Fermented Forages, Dry Hay, Possible Grazing

Seeding Rate: 35 to 40 lbs/acre

3 to 10 lbs with legumes.

Product Formula: 60% Meadow Fescue

40% Soft Leaf Tall Fescue

NORTHERN ENERGY

Northern Energy Mix is designed to maximize the energy, digestibility, and consistency available in a forage mix. It is ideal for grass-fed and grass-finished meats, and all dairies, including dairies feeding a minimal amount of grain.

Best Uses: Fermented Forages, Grazing

Seeding Rate: 30 to 35 lbs/acre

Product Formula: 37.5 % Meadow Fescue

37.5% Soft Leaf Tall Fescue 15% Perennial Ryegrass 5% Freedom RC OC

5% Regalgraze Ladino Clover

ORGANIC PARTNER

An all grass mixture that will give both high quality forage plus yield across many soils. Can be seeded alone or with the legumes of your choice. Use the large box for the grasses and the small box for the legumes.

Best Uses: Dry Hay, Fermented Forages

Seeding Rate: 20 to 30 lbs/acre without a legume

3 to 8 lbs/acre with legumes.

NOTE: Reduce legume seeding rate by 25

to 50% from pure stand.

Product Formula: 60% Kora Tall Fescue

25% Late Maturing Orchardgrass15% European / Premium Timothy

SOUTHERN BEEFMASTER

Our best grazing mixture for south of the Mason-Dixon line. This new mixture is designed specifically for the south and features 45% Baroptima Plus E34, Barenbrug's very palatable tall fescue with a beneficial endophyte that gives it more tolerance to heat and other stresses.

Best Uses: Grazing, Fermented Forages (hotter, drier climates)

Seeding Rate: 30 to 35 lbs/acre

Product Formula: 45% BarOptima Plus E34

30% HLR Orchardgrass

15% Remington NEA2 Ryegrass5% Regalgraze Ladino Clover

5% Freedom Clover

VERSA

An all grass mixture with very good drought and heat tolerance. Featuring Fojtan Festulolium, it maintains the durability of fescue, but is high in nutritional quality. Great for southern zones.

Best Uses: Dry Hay, Fermented Forages

Seeding Rate: 15 to 30 lbs/acre straight seeding,

2 to 10 lbs/acre with legumes.

Product Formula: 70% Fojtan Festulolium

30% Orchardgrass







The Highly Digestible Fiber for Dairy Rations

ORGANIC

NutriFiber was developed by Barenbrug for today's modern dairy farmer. Designated
NutriFiber forage grasses have been developed for on-farm nutritional performance. NutriFiber
provides the highly digestible effective fiber today's cows need. NutriFiber forages are ideal

components for balancing the rations of high producing dairy cows. Typically Total Mixed Ration diets that are designed for maximum milk production are high in Non Fiber Carbohydrates (starches and sugars) which can lead to Sub-Acute Rumen Acidosis. Look for NutriFiber products throughout our guide!

SEED ESTABLISHMENT

DRILL CALIBRATION

Calibration of equipment by trial and error over several acres into planting can be costly in many ways and quite often profitable for your seed supplier. Seed lots and species vary in their flowability. To calibrate your seeding equipment right, all you need is a calculator, measuring tape, a small accurate scale, and something to collect seed before it is planted. A postage scale or dietary scale are adequate. It really does not take a lot of time and pays off in the big picture. Call us with your row spacing and we can send you a calibration chart.



STEPS TO DROP SEEDER CALIBRATION

- 1. Place tray or Half PVC Pipe under seed dispenser.
- 2. Make sure the Tray or Half PVC is attached to the drill securely.
- 3. Engage seeder and drive 100 feet.
- 4. Measure the amount of seed dispensed in grams or oz. (convert grams or ounces to lbs.)
- 5. Using the chart to the right, calculate the acceptable amount of seed.
 - Ex. If you are using a 5.5" row spacing, with 16 rows and collect a total of 6.24oz, or .39oz/row, you are seeding between 20 and 25 lb / acre.
- 6. If depth or rate is off, make adjustments and redo until acceptable.
- 7. Check for seed to soil contact. Soil needs to be firm.

SMALL SEED ESTABLISHMENT TIPS

- I. Note soil types (droughty, wet, etc.)
- 2. Soil test and apply fertility before tillage. Lime should ideally be applied 6-12 months in advance.
- 3. Control perennial weeds prior to land preparation.
- 4. Select appropriate mixture for soil types, livestock and marketing needs and harvest management.
- 5. Determine ideal seeding time for your local area. (Late winter to early spring or late summer is usually ideal.)
- 6. Prepare a level, firm seedbed, or if using no-till, control vegetation prior to seeding with appropriate nonresidual herbicide.
- 7. Calibrate seeder for appropriate seeding rate and depth.
 - a. Our mixtures work best in the large box.
 - b. Call for a calibration sheet. Need to collect and weigh seed over a small distance to determine seeding rate.
 - c. Seed at 1/8 to 1/4" with about 10% of seed on surface.
 - d. Press wheels and/or cultipacking are critical to a good seeding. If conditions are dry, cultipacking twice is very beneficial.

| Exam | ple: 5.5" Row Space Drill |
|------------|---------------------------|
| Goal | Collection Per Row Needed |
| 10 lb/acre | 0.17 oz or 4.8 grams |
| 15 lb/acre | 0.25 oz or 7.2 grams |
| 20 lb/acre | 0.34 oz or 9.6 grams |
| 25 lb/acre | 0.42 oz or 11.9 grams |
| 30 lb/acre | 0.51 oz or 14.3 grams |

| Exa | mple: 7" Row Space Drill |
|------------|---------------------------|
| Goal | Collection Per Row Needed |
| 10 lb/acre | 0.21 oz or 6.1 grams |
| 20 lb/acre | 0.43 oz or 12.2 grams |
| 30 lb/acre | 0.64 oz or 18.2 grams |
| 40 lb/acre | 0.86 oz or 24.3 grams |

| Exam | nple: 7.5" Row Space Drill |
|------------|----------------------------|
| Goal | Collection Per Row Needed |
| 10 lb/acre | 0.23 oz or 6.5 grams |
| 20 lb/acre | 0.46 oz or 13 grams |
| 30 lb/acre | 0.69 oz or 19.5 grams |
| 40 lb/acre | 0.92 oz or 26.1 grams |

LEGUMES - ALFALFA



King's selects alfalfas for forage quality, persistence and yield. All of these listed have excellent leaf to stem ratios, impressive disease resistance, yield and winter hardiness. These products are the latest, superior varieties on the market. Let these

alfalfas work for you by choosing the product(s) that are most adapted to your management and soils. Our recommended seeding rate for straight stands of alfalfa is 18 to 22 lbs/acre.

KING'S ECONO ALFALFA CT/OC

A solid alfalfa that is priced very competitively. Good agronomics and quality.

KINGFISHER 406AP2 CT/OC

This variety is an exceptionally high yielding, persistent alfalfa with a branch root structure and excellent plant health. KF 406AP2 has an excellent agronomic package that has resistance to multiple strains of Aphanomyces Root Rot 2. Its forage quality is similar to other high quality varieties. The strong disease resistance in combination with its branch root characteristic will allow KF 406AP2 to establish and persist well in areas that are challenged by disease or soils that are a little wet.

- Fall Dormancy 4.0
- Winter hardiness 2.0
- Disease rating 35/35

KINGFISHER 425HD CT/OC

This multi-foliate alfalfa has high yield and exceptional quality including fiber digestibility. KF 425 HD (highly digestible) delivers high NDFD and TTNDFD values and has comparable lignin ratings to the non-GMO low lignin alfalfas. HD is a registered trademark of Legacy Seeds.

- Fall Dormancy 4.5
- Winter hardiness 2.0
- Disease rating 30/30



KINGFISHER 519 CT

NEW

A blend of 2 high yielding, fall dormancy 5 alfalfas. Both alfalfas feature mulifoliate leaf structures, which means a high leaf to stem ratio and a higher feed value for your livestock

- Fall Dormancy: 5
- Winter hardiness: 1.9
- Disease Rating: 30/30

KINGFISHER ENHANCER II CT/OC

A top yielder with excellent feed quality. This variety is eyecatching and is statistically equal to the highest yielder in the Penn State Alfalfa Trials.

- 4 Fall Dormancy
- 1.6 Winter Hardiness
- 30/30 Disease Rating

KINGFISHER PLH 422 oc NEW

A new high performing PLH resistant variety of alfalfa. In addition to the Potato Leaf Hopper resistance, PLH 422 features multifoliate leaf structures for a high leaf to stem ratio.

- Fall Dormancy: 4.2
- Winter hardiness: 2.4
- Desease rating: 30/30



LOW-LIGNIN FOR 2020?

KingFisher 425 HD is a highly digestible alfalfa that is marked by reduced lignin. Enhance your alfalfa production in 2020 by reducing lignin and improving quality.

- **☑** Reduced lignin
- **✓** Agronomic strength
- **☑** Non GMO
- **☑** No trait technology cost

LEGUMES - ALFALFA

KINGFISHER PROFUSION 2-HX CT/OC

As a third generation hybrid, Profusion 2 HX delivers the aggressiveness of the hybrid alfalfa with top end yield potential. deep set crown helps protect the plant from wheel and Later growth in plant cycle extends harvest window.

- 4.0 Fall Dormancy
- 1.6 Winter Hardiness
- 30/30 Disease Rating

KINGFISHER SECURE BR CT/OC

Combines high resistance to the pathogens that inhabit wet soils, which include Aphanomyces root rot

(Race 2), with the branch rooted feature. This feature helps keep more of the root system above the water table and better secures the plant in the ground when freezing and thawing occur. The branch-rooted trait will adjust as moisture stresses intensify.

- 3.8 Fall Dormancy
- 1.6 Winter Hardiness
- 34/35 Disease Rating

KINGFISHER STRONGHOLD 35-2 CT/OC

Stronghold brings a great defense to our alfalfa lineup. It features a sunken crown for great traffic toleance, and branched roots keep it firmly in the ground and keeps more roots above the water table.

> Fall Dormancy: 4.3 • Winter hardiness: 1.8 • Disease Resistance: 35/35

KINGFISHER TRAFFIC PRO CT/OC

Highly traffic tolerant with a deep set crown. The animal damage, as well as providing additional winter protection during conditions with lack of snow cover. Good aphanomyces resistance as well. Great for field edges.

- 3.7 Fall Dormancy
- 1.5 Winter Hardiness
- 34/35 Disease Rating



Consistent performance - KingFisher 425HD was crowned champion at the World Dairy Expo. In addition, KingFisher alfalfa performed very well in local and regional alfalfa trials. After all these years, KingFisher alfalfa is still hard to beat!

ASK US ABOUT ORGANIC ALFALFAS FOR 2020!

CT= Conventional Coating OC= OMRI Approved Organic Coating Coating includes inoculant.



LEGUMES - RED, WHITE CLOVER

WHITE CLOVER is the backbone legume of grazing systems and can be mixed with other species in wet hay systems. What makes our white clovers different? Focused on forage growth, these varieties grow larger, and recover quick. They are high quality and excel agronomically. Seed 2 to 4 lbs/acre.

ALICE

Alice is a tall, large-leafed clover developed for exceptional yields of palatable, high quality, high protein forage. Its vigorous spring and summer growth makes it a good choice for cutting or grazing management. Alice has greater stolon density than most ladino types, allowing for better persistence under intensive, continuous grazing. OC/YJ.

REGALGRAZE

A high yielding ladino clover that has been selected under tight grazing pressure by University of Georgia researchers. This clover will excel in the South but will also perform extremely well in Northern areas. OC.

RENOVATION

Renovation was bred for increased stolon density utilizing a combination of long-living Southern Plain ecotypes and disease resistant ladino types. The result is increased persistence, even under grazing. Increased stolon density also makes it ideal for erosion control and long term conservation. OC.

RIVENDEL

A shorter and small leaved white clover that is very persistent in pastures. Very suitable for both cattle and sheep grazing. OC. Only available in organic.

ALSIKE

Alsike clover is adapted to cool, moist, acidic soils and can tolerate more flooding than other clovers. Blooms continue throughout the season, making it suitable for hay over an extended window. Excellent winter-hardiness, intolerant of drought and extreme heat.

Not appropriate for equine feed.

RED CLOVER is more drought tolerant and productive than white clover, but not quite as high quality. Use some of each for grazing. Red clover is more tolerant of wet soils and lower pH than alfalfa. Seed 6 to 8 lbs/acre in mixtures, 20 lbs/acre alone.

COMMON MEDIUM

A short lived, lower cost red clover. Common Medium is good for cover crop programs or or frost-seeding into pastures. OC/CT.

FREEDOM!MR

Freedom!MR is bred for yield and persistence. It is a selection with exceptional resistance to mildew (MR). Great overall palatability and VILLOWIACKET forage quality. OC/YJ.

HARMONIE

A high yielding variety with good late season cuts. It's high in disease resistance and persistence.

OC. Only available in organic.

MAMMOTH

A taller, quick growing clover with a deep tap root. It grows aggressively and is good for boosting nitrogen in pastures. Two year clover. Great for cover crop use.

OC. Only available in organic.

RENEGADE

Renegade is an erect, early flowering, double cut red clover with improved resistance to southern anthracnose and downy mildew. Renegade is classified as semi-dormant in winter growth habit, and provides more grazing than Ladino clover during hot summer months.

OC. Only available in organic.



Within each species we have varieties available in Conventional Coating (CT) and Organic Coating (OC) form.

LEGUMES - CLOVER, MISC.

Our **CLOVER MIXTURES** combine species to create a balanced solution to perennial hay and grazing ground. By combining red and white clovers we get short term aggressive yield and a long term durability clover stand.

Seed 4 to 6 lbs/acre.

CLOVER POLLINATOR MIX

This mixture of clovers is purposefully designed to attract pollinators. The variable maturity/flowering within the mixture allows for a full season attractant.

Product Formula: 25% White Sweet Clover

25% Yellow Blossom Sweet Clover

16.7% Medium Red Clover

8.3% Crimson Clover 8.3% Balansa Clover

8.3% Dutch White Clover

8.3% Ladino Clover

PREMIUM CLOVER MIX

A mixture of our best perennial clovers. Red and white clovers combine to make a mixture that is great for interseeding into thinning alfalfa or grass stands, frost seeding or combining with your favorite grass mixture. Varieties utilized are hardy and long lived.

OC/CT. Also available in organic.



FORBS are broadleaf forages. Many farmers may consider them weeds, but forage quality can actually be quite high, including medicinal properties. Chicory, plantain and dandelion are a few examples of forbs that are good grazing species.

Because of its very high energy, chicory boosts milk production and is fantastic for fattening lambs and steers. It will not persist if it doesn't have a 25 day rest period between grazings. However, it really boosts first year production in new seedings of dryland pastures. It's very high in mineral content and digestibility, low in lignin, and high in protein.

FORB FEAST CHICORY

Forb Feast Chicory is a high quality, reduced bolting chicory blend. Reduced bolting means better feed value throughout the season. An excellent source of digestible energy, protein and minerals, with key anti-parasitic properties in small ruminants.

Available in OC.
Seed 2-5 lbs/acre.

Red Clover Improves Protein Utilization And Protection

If your rations have too much NPN (non protein nitrogen), consider adding red clover to your forage system. During ensiling, red clover has 30 to 90% less conversion of protein to NPN than alfalfa.



GRASSES - BROME, FESTULOLIUM

BROMEGRASS We carry 3 different types of brome, Smooth, Meadow and Alaska. They are all quite different from each other in their use and areas of adaption. Brome grasses have larger seed size than other grasses, so attention to drill calibration is important.

ARTILLERY SMOOTH

Artillery is a drought-tolerant, productive smooth bromegrass. It is rhizomatous and early-maturing, and was developed from selections from arid regions of Turkey, Iran, Spain and Mongolia. The developed population was then selected in Oklahoma high stress conditions that included no irrigation with low nitrogen input.

OC coated. Seed 30-40 lbs/acre.

ARSENAL MEADOW

A new release Barenbrug variety selected for YHLLOWIACKET drought tolerance. Arsenal's selection focused on plant vigor, seedling emergence from a deep planting depth, forage and seed yield, and seed mass under dryland environments.

OC/YI coated. Seed 35-45 Ibs/acre.

CARLTON SMOOTH

A leafy, slower starting, sod forming cool season grass that spreads by rhizomes (underground stems). It is commonly used for dry hay and once established produces a drought tolerant, long lasting stand. Smooth brome should not be harvested before early heading stage or stand loss will occur. Allowing smooth brome to mature to early heading before cutting allows the rhizomes to recharge its reserves for re-growth. Plan to harvest once in the spring, and with favorable summer weather, a fall harvest is possible.

OC coated. Seed 30 to 40 lbs/acre.

HAKARI ALASKA

A very fast starting brome that is short lived. It works well as a cool season grass mixed with other grasses and legumes like alfalfa. Hakari complements alfalfa because of its late heading; later than orchardgrass. It has excellent quality and holds its quality better than orchardgrass. It will not dominate stands when used in mixes.

Seed 35 to 45 lbs/acre.

MONTANA MEADOW

An early heading pasture grass with a slower establishment. But once established it is drought tolerant, persistent and has excellent quality. It does best as a component of mixes with other grasses and legumes. It is also very winter hardy and will persist well in northern climates. OC coated.

Seed 25 to 35 lbs/acre.

FESTULOLIUMS are crosses between

ryegrass and tall fescue or meadow fescue. The variety differences can range from short lived to perennial. They also range in their agronomic traits from ryegrass-like to fescue-like.

Seed 30 to 40 lbs/acre.

FOJTAN

A new long lived festulolium that tolerates heat and drought well. Fojtan is a tall fescue type festulolium with great nutritional qualities. The appearance of Fojtan is much like tall fescue and the two species share many properties: very high yield potential in combination with high persistence, drought resistance and tolerance to periodic flooding. The main difference is the higher feeding value in Fojtan.

PERSEUS

Perseus is a three year Italian Ryegrass type that is later maturing than Perun. Perseus is a cross between Italian ryegrass and meadow fescue and belongs to the Italian ryegrass type of festulolium. The result is a variety with a very vigorous growth during spring and fall, with quality similar to perennial ryegrass.

INTERMEDIATE RYEGRASSES

STORM

A 2-3 year intermediate that is similar to festulolium. Only available in organic.

ASTONCRUSADER

AstonCrusader is a certified organic, intermediate tetraploid variety that produces a very high total annual yield with extraordinary early spring growth. Combined with excellent disease resistance, Aston Crusader is a top ryegrass variety.

Also available in organic.



GRASSES - KY BLUEGRASS, MEADOW FESCUE

KENTUCKY BLUEGRASS is

a shorter-height, sod-forming grass that makes a nice, smooth-looking pasture. Bluegrass spreads by rhizomes and can survive very short grazing. The majority of its forage production is in the spring and fall, with its yields usually being relatively low compared to most other pasture species. Its persistence is excellent, but establishment is slow. Bluegrass seed is very fine, and a little seed goes a long way.

Seed 15 lbs/acre.

BALIN

Balin is a fast establishing, taller bluegrass. Balin is one of the few, true forage Kentucky blugrasses on the market.

MEADOW FESCUE, a very winter hardy species with forage quality similar to ryegrass. It is very palatable but lower yielding than tall fescue. It does very well in variable soil conditions. We only recommend it to be planted as part of a mixture. It will fit organic farms well in that it does not have as high of a nitrogen requirement, but is still of high quality. Less summer headiness than perennial ryegrass. Meadow fescue is best adapted to cooler climates. Seed 35 to 45 lbs/acre.

HDR BLEND

HDR stands for High Disease Resistance. The quality and palatability of HDR approaches that of ryegrass.

LAURA

LAURA establishes very quickly which makes it very competitive with perennial ryegrass. The first cut yields are very high combined with an excellent leafy regrowth in the aftermath. Therefore LAURA has high yields of very digestible drymatter in all cuts. Because of the very leafy regrowth of this variety it is also very suitable for grazing or a combination of cut and grazing managements.

Only available in organic.



LIHEROLD

A strong variety with exceptional spring yield. Liherold is an earlier meadow fescue, making it an ideal component for grazing mixtures. Liherold will be included in many of King's grazing mixtures.

TETRAX MEADOW FESCUE

A tetraploid variety that excels in digestibility and is less aggressive than traditional improved diploid varieties. It also has excellent winter hardiness and disease tolerance. These combined attributes make Tetrax ideal to seed with alfalfa in areas that many grasses compete too heavily with alfalfa. (Good summer rainfall areas that are north of I-80 or areas further south with high elevation).



GRASSES - ORCHARDGRASS

ORCHARDGRASS is more heat and drought tolerant than most cool season grasses, and thus produces more feed in the summer. Orchardgrass is sensitive to cutting height, so we recommend a residual cutting/grazing height of 4 inches. Our later heading orchardgrass varieties work great seeded with alfalfa. Seed 20 to 25 lbs/acre.

ECHELON

A very late heading and high yielding variety. This is a newer orchardgrass that is showing fantastic yields and good quality.

HLR BLEND

A mixture of Barenbrug leafy late maturing varieties. Stands for High Leaf Ratio.

OC and YJ Coated.

HUSAR

Husar is a mid-late maturity orchardgrass with great first cut yields. It is noted for rust resistance and standability.

INAVALE

A true medium-maturing leafy orchardgrass with strong disease resistance. Its summer heat tolerance makes it a great choice for grazing or hay. This orchardgrass was screened heavily in northern Kentucky and also looked strong in our Lancaster plots. It is a little too early-maturing to add with alfalfa, but a few days later than the old Pennlate.

NIVA

Niva is a medium late heading orchardgrass originating from a breeding pro-gram in Central Europe where the emphasis was on disease resistance and dry matter yield. The late heading date of Niva is very conducive to situa-tions where the fields are too wet to harvest early in the spring.

Only available in organic.

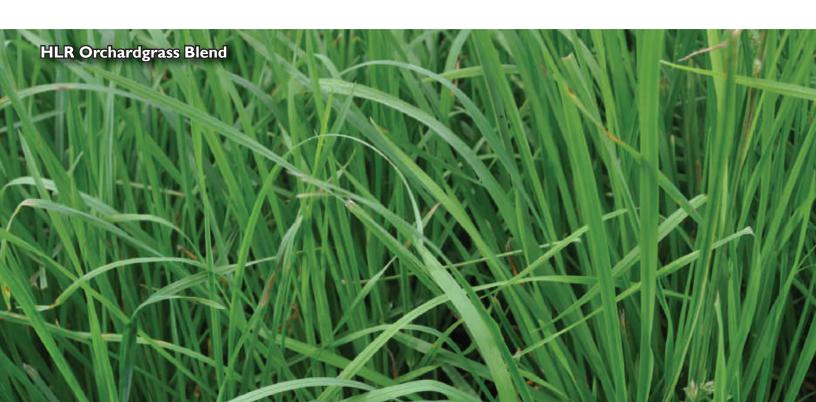
Only available in orgo

OLATHE

A new earlier orchardgrass that stands up well to disease and heat. Olathe has become our top choice orchardgrass for the south but will also do well in the north. Because of its early maturity, we do not recommend it to be seeded with alfalfa unless Ist cutting quality is less important on your farming operation. Olathe is now included in many of our grazing mixes.

PERSIST NP

A southern orchardgrass bred by University of Tennessee for persistence under hot, humid conditions and abusive grazing management. Its maturity is similar to Pennlate and is not recommended to be seeded with alfalfa. Its quality is similar to other US bred orchardgrasses. This year Persist will be offered with NitroNP.



GRASSES - RYEGRASS - TALL FESCUE

RYEGRASS is the highest quality grass, especially when it comes to digestibility and sugars. Cows maintain better body condition and make more milk or meat on ryegrass versus orchardgrass or even alfalfa. However, ryegrass is harder to dry and does not perform well in hot or dry weather. Perennial ryegrass, if seeded by itself, should be planted in cooler climates on fertile, moist soils. Ryegrass comes in many different forms: Perennial, Hybrid, Italian and Annual. Besides this, it can be either diploid or tetraploid. Seed 30 to 50 lbs/acre.

DIPLOID / TETRAPLOID BLEND **BG-24T**

A unique, innovative blend of early and intermediate maturing diploid and tetraploid varieties. Includes varieties that are both heat and cold tolerant.

TD Blend

A tetraploid-diploid blend of European bred Perennial Ryegrasses. An excellent choice for overseeding pastures as part of a regular maintenance program.

Only available in organic.



DIPLOID BG 34

A Barenbrug blend of late maturing European varieties of diploid ryegrasses. This blend produces a very dense sward; the yield is higher than it looks. Excellent winter hardiness is a key component in King's grazing blends. As newer, better varieties are developed, Barenbrug incorporates them into the blend.

PREMIUM

Premium is an excellent later diploid with superior winter and summer hardiness. Only available in organic.

TETRAPLOID **KENTAUR**

A high yielding tetraploid variety that has balanced productivity. Kentaur has excellent winter and summer hardiness, making it a very durable tetraploid variety. Kentaur has some summer headiness.

Also available in organic.



REMINGTON PLUS NEA2

The most durable perennial ryegrass in the lineup, Remington is complete with the NEA2 endophyte for improved longevity and stress tolerance. Also available this year without the NEA2 endophyte for regions where it is not necessary.

TALL FESCUE deserves more recognition as a stored forage. Over the lifetime of a stand, tall fescue will typically out yield orchardgrass by about one ton of dry matter per year. If you are grazing tall fescue, use more palatable varieties and do not allow the plant to get too tall. It is also ideal for fall stockpiling and outwintering. Many older varieties have given tall fescue a bad name as they have poor palatability and may contain a toxic endophyte. Our varieties do not contain toxic endophytes and have improved palatability. Varieties that do contain endophytes use novel endophytes that are beneficial to the plant and non harmful to the animal. Seed 35 to 40 lbs/acre.

BAROPTIMA PLUS E34



BarOptima is a soft leaf variety and E34 is a beneficial endophyte that improves the agronomics of the grass, but does not cause negative health effects of the harmful endophyte that is typically found in Kentucky 31 and many other older tall fescues. This product is ideal for long term grazing and hay swards in southern Pennsylvania and south.

CAJUN II



An endophyte free, earlier, very high yielding, hay type tall fescue with improved digestibility. Excellent for stockpiling for fall grazing. Adapted to both the south and the north.

KORA

A late, very high yielding hay type tall fescue with improved digestibility. Kora has impressed us with very high yields about everywhere we put it. Great on less than ideal soils. Kora works well mixed with alfalfa and helps it dry easier. Also available in organic.

MARTIN II PROTEK



A new novel endophyte fescue, combining the proven genetics of Martin II with the innovative Protek endophyte. Expect increased longevity and animal performance.

STF-43 BLEND



A blend of Barenbrug soft leaf, late heading varieties. Produces impressive dry matter yields with exceptional levels of digestible fiber. The varieties used have improved palatability for grazing and are also good for mixing with alfalfa or utilizing straight stands for stored forage.

GRASSES - TIMOTHY, MISC.

TIMOTHY is a very palatable grass and well adapted to heavy soils. Timothy usually has huge production in spring, but drops off in summer and fall. Sow in fall or very early spring. Plant shallow, no deeper than 1/4" in a firm seedbed.

Seed 10 to 15 lbs/acre.

BARFLEO

Barfleo has a later maturity and is leafier and higher yielding than other varieties. It has a good ability to compete with other species in a pasture and high resistance to diseases.

BARPENTA

A very late-heading variety that is a high dry matter yielder. Barpenta is a very persistent variety with high yields under grazing or when frequently cut. Best in Northern PA and farther north.

CLIMAX

The old standard variety.

Also available in organic.



DOLINA

A high yielding, persistent hay type European variety.

Only available in organic.

Seed 10-15 lbs/acre.

ZENYATTA

A new exciting hay product. We had this timothy in our research plots in Lancaster County and it was the standout in both early production and regrowth. Zenyatta was bred in the U.S. and is an improved Clair-type timothy. It is appropriately named after a thoroughbred champion race horse that won 29 of 30 major races.



TURF TYPE GRASS MIXTURES

COMPANION MIX



A slow growing red fescue mix for orchards, vineyards or around buildings that requires less mowing. Great for seeding between vegetable rows.

Seed 50 lbs/acre.

SUN & SHADE MIX

A multi purpose lawn grass for both sunny and shady areas.

Yellow Jacket Coated. Seed 175 lbs/acre.

TURF STAR

Turf Star[®] is the best quality three way perennial ryegrass blend available. Fast to germinate & quick to establish, Turf Star® is ideal for full sun & light shade.

Seed 300lbs/acre.

WATER SAVER PRO

Turf-type tall fescue blend. Excellent for durability and low maintenance.

Seed 300 lbs/acre.

MISCELLANEOUS

REED CANARYGRASS

Reed canarygrass is slow to establish. Once established, it is very productive in a wide range of conditions, including very wet soils to very droughty or low pH soils. It is suitable for silage, hay and grazing, but requires good management to get high quality. We only sell low alkaloid varieties.

Seed 12 to 18 lbs/acre.

WELLINGTONBIRDSFOOTTREFOIL

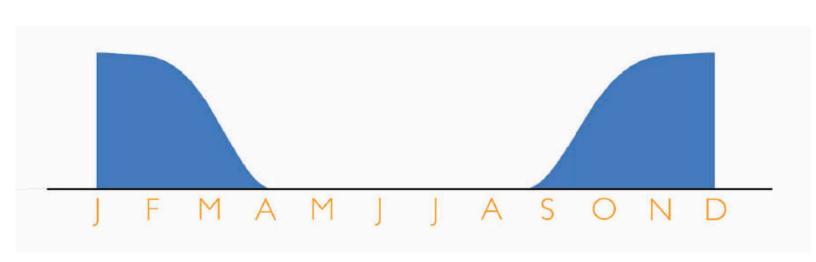
A high yielding hay-type trefoil variety. Tolerant of lower pH and wetter soils.

OC coated.

Seed 20 to 25 lbs/acre.



SPRING COOL SEASON ANNUALS



SPRING SMALL GRAIN BASED MIXTURES

CARGO

A mixture of crimson clover, annual ryegrass, and oats, CARGO makes a high quality, high sugar forage for grazing and baleage. It is a superb cover crop for southern Pennsylvania (south of I-78) and further south. The benefit of crimson clover is that it flowers early and will fix nitrogen earlier in the spring compared with other legumes. Annual ryegrass has very extensive root growth and improves soil structure better than cereal grains.

Pre Inoculated.

Seed 110 to 130 lbs/acre.

KINGS PEA OAT

50/50 mixture of peas and oats. Can be used for both forage and grain.

Seed 100 lbs/acre.

OATS PLUS

A mixture of a true forage oat (60%) and annual ryegrass (40%). This mix combines the strength of each product and can be planted in early spring and late summer. It will work well for machine harvest and grazing. Oats and annual ryegrass are quick growing annuals that will make high quality forage. Harvest prior to boot stage of both products for super quality. Harvest oats in fall and get two cuttings of annual ryegrass in spring.

Seed 75 to 90 lbs/acre.

RAY'S CRAZY SPRING

NEW

This new mixture is designed with the same goals as the summer and fall formulations - a dual purpose soil improving cover crop and high quality forage. this mix provides quick spring nitrogen for the following crop, recycles nutrients, builds soil health. This balanced mix contains a total of 8 species: grasses, legumes and brassicas.

Seed 120lb/acre.



GRASSES - RYEGRASS, SPRING GRAINS

ANNUAL RYEGRASS has a high

winter hardiness. Vigorous, extensive growth, both above and below ground. Scavenges and recycles soil nitrates, contributes fine root organic matter at deep soil levels. Can be seeded with crimson clover and with the winter annual small grains.

Seed 35 to 40 lbs/acre.

KODIAK

A new release diploid ryegrass. Kodiak showed very strong performance in the Penn State trials over the past few years.

LOWBOY

A low growing ryegrass that is easier to terminate. It's agressive root structure make it ideal for cover crop use, not for forage.

MCKINLEY

Another outstandind diploid from DLF. McKinley did very well int the Penn State trials. It's a high energy, winter hardy variety.

SPRING BARLEY

Seed 150 to 200 lbs/acre

A/C KINGS SPRING BARLEY

A 2 row spring barley that is excellent for quick forage and nurse crop.

SPRING TRITICALE

Seed 125 to 150 lbs/acre

VNS SPRING TRITICALE

Forage spring triticale. Tall-awned, forage type. Also available in organic

ITALIAN RYEGRASS is quite similar

to perennial ryegrass except it is an annual or biennial, depending on climate and/or length of growing season. Seed 35 to 45 lbs/acre.

KF ALLEGRO BLEND 🥍



A tetraploid-diploid blend of European bred Italian Ryegrasses. If seeded in the spring in cooler climates it will make several cuttings per year of very high quality forage. Avoid droughty and/or low fertility soils.

Also available in organic.



GREEN SPIRIT



This is a premium, late-maturing blend of tetraploid and diploid Italian Ryegrass. It Grand Champion benefits from the diversity of the two, and has performed well in our trials over the last 5 years. Less headiness in summer.



OATS are leafier and higher in forage quality than typical grain type oats. They are versatile in mixtures and add the option of a fall cutting to an otherwise spring only harvested mixture.

Seed 95 to 125 lbs/acre.

BADGER (GRAIN)

Badger is our earliest heading variety and our top grain oat. Badger is a yellow oat that has a very good groat percentage, high grain yield, decent grain quality and excellent test weight.

Also available in organic. 🕮

CANMORE (DUAL PURPOSE)

Canmore is a tall growing medium maturing oat with very good standability. Its grain yield should be very competitive in cooler climates. It is also an excellent straw producer along with a high forage yielder.

EVERLEAF 126 (FORAGE)

A true forage oat with delayed heading (about 2 weeks later). Everleaf is bushy and leafier and has a softer stem. Forage quality is exteremely high Our samples of Everleaf Oats have extremely high forage quality.

NIAGARA (FORAGE)

Niagara is a medium maturity Canadian forage oat with improved rust resistance. At boot stage, Niagara is high in crude protein and in percent digestible fiber

REEVES (FORAGE)

A medium-early maturity, high yielding oat variety. For forage it is best suited for late summer to early fall seeding as it gives fast fall forage growth.

Also available in organic. (📖



LEGUMES - CLOVER, PEAS, VETCH

With nitrogen prices going up in recent years, interest in Cool Season annual legumes has increased dramatically. Significant amounts of nitrogen can be produced for the following crops by the time these nitrogen fixing crops bloom. Maximum nitrogen is produced if the crop is left until flowering stage.

CLOVERS are an important part of crop rotations and cover cropping. Nitrogen fixation and quick cover are just a few of the many benefits they offer.

DIXIE CRIMSON CLOVER

A high quality cool season annual that can be used for both forage (usually mixed with a small grain or annual ryegrass) or as a nitrogen fixing cover crop. Ready to plow down 2 to 3 weeks earlier in spring than hairy vetch.

Available in CT/UT. Seed 15 to 25 lbs/acre.

BERSEEM CLOVER is a cool season annual clover that resembles alfalfa. It is capable of

producing 100-200lbs N.

Seed 15-20 lbs/acre.

BALADY-1 BERSEEM

Quick growth, single cut variety. Best used as a cover crop. Not winter hardy in the north. OC/CT.

FROSTY BERSEEM CLOVER

An improved late maturing berseem clover that was bred for cold tolerance and multi-cut systems. OC.

SPRING PEA

Seed 80-100lbs/acre.

4010 SPRING

A purple flower pea that can be planted in spring or fall. High-protein forage for grazing, haylage or baleage.

Also available in organic.

ARVIKA SPRING

A high yielding pea with lavender flowers. Very tall. Can be planted in spring or fall.

NETTE 2010 SPRING PEAS

NEW

A fast-starting, yellow spring grain pea. Small to medium size





WARM SEASON ANNUALS



MIXTURES

RAY'S CRAZY SUMMER

This diverse mixture was created for dual purpose grazing and soil health improvement. It contains 7-10 species including grasses, legumes and brassicas. There is also a cool season/winter version of this mix available. p.27. Seeding rate varies depending on use and goals.

Seed 40 to 60 lbs/acre.

SUMMER FEAST

This summer annual mix of Wonderleaf Millet and forage brassica will give your herds and flock lots of summer feasting. As with Wonderleaf there is no worry about prussic acid.

Seed 10 to 20 lbs/acre.

SUMMER SOLAR

A diverse legume-forb cover crop mix of aggressively growing summer annuals, with possible dual use for wildlife food plots. The mix includes four very different components - buckwheat, cowpeas, sunflower, and sunn hemp. Both conventional and organic growers will find this a useful break crop in between spring and fall crops that builds soil nitrogen levels and attracts pollinators and other beneficial insects. It can also be used in farmscaping strips to draw beneficials throughout the season.

Seed 50 to 70 lbs/acre.



KEEP IT COVERED ALL YEAR!



Whether you are farming conventionally, organically, or aiming for a no-till system, each field should have a living crop for as many months of the year as possible.

We have developed a variety of mixtures designed and tested to improve soil health. Multi species blends are far more beneficial at improving the life of your soil than monocultures. Cover crops are proven to help optimize your soil's long term productivity and profitability.

FORAGE SORGHUM, GRAIN SORGHUM

FORAGE SORGHUM warm season

annual that is an excellent choice for one direct cut systems (like corn silage) on marginal corn ground or after double crops. Uses 30 to 50% less water than corn and less nitrogen too. The BMR trait has improved the digestibility of forage sorghums dramatically, and they are now considered an excellent dairy feed. Energy levels are comparable to corn, and protein level is around 10 or 11%. Sugar levels are also very high. See page 60 for management information.

Seed 80 to 100K seeds/acre for soft dough harvest.

Seed 25 to 30 lbs/acre for boot stage harvest.

AF7201

A shorter season hybrid that has very good standability and drydown. Very sweet stalks. A good choice for seeding with corn. 85-89 days to soft dough stage.

ADV F7232 NEW

105-110 days to soft dough stage. A medium maturity brachytic dwarf hybrid.

AF7401

A full season brachytic dwarf forage sorghum with superior standability and great nutrition. As a later hybrid, it is best used for south of the Mason-Dixon line. I I 0 to I I 5 days to soft dough stage.

AF8301

A non-BMR forage sorghum that works very well on dry soils for the producer that needs a high starch, high tonnage silage for less than ideal soils. It has a very leafy, dwarf type plant structure with a tremendous grain head (white), providing a very high grain to stover silage. Approximately 100 days to soft dough stage.

ADV F8322



A sugar cane aphid resistant, non-BMR forage sorghum. 100 days to soft dough. Excellent for dry cows, heifers, beef production

Many of the Forage Sorghum, Grain Sorghum and Sorghum Sudans have the available option of Concep III treatment. Concep III is safener applied as a seed treatment to protect grain or forage sorghum to allow the use of alachlor, metolachlor and acetochlor herbicides. These are found in many common brands. Consult your herbicide specialist.

GRAIN SORGHUM is a starch source

for dry areas. It is a very low water use crop, but the starch is very vitreous. For livestock feeding, it should be taken as high moisture grain and fermented 6 months before feeding to ensure the starch is readily available. **Seed 80 to 100K seeds/acre.**

AG1201 NEW

A 60 day to mid-bloom hybrid with bronze grain 34-40 in

AG1203

63 day (mid bloom) hybrid with bronze grain and red plant color. Has very good aphid tolerance for high pressure areas. **Now offered in UT.**

AG1401

60 day (mid bloom) hybrid with white grain and tan plant color. **Now offered in UT.**

AG2103

65 day (mid bloom) hybrid with intense red grain and red plant color. **Now offered in UT.**



Pictured is Tyson Meador at our 25 year anniversary celebration. Kings is proud to partner with Alta Seeds to bring you industry leading genetics.

SUDANGRASS, SORGHUM SUDAN, SOYBEANS

SUDANGRASS has finer stalks, more tillers, and produces more leaves than forage sorghum. It has excellent regrowth potential and high yields. Can be harvested for dry hay, fermented forages or grazed. Seed 3/4" deep at 25 to 30 lbs/acre.

AS9301

A very exciting gene 6 BMR sudangrass that has great vigor and extremely high quality. Because of the dry stalk characteristic, AS9301 dries easier than sorghum sudangrass, which makes it possible to dry for hay. Excellent for grazing, baleage and dry hay.

Also available in organic.



AS9302

A gene 6 medium maturity sudangrass. It has the Brachytic dwarf trait which provides ideal standability and regrowth without sacrificing yield. Excellent for dry hay and rotational grazing. Like 9301, 9302 has the dry stalk characteristic for quick dry down.

SORGHUM SUDANS typically reach a

height of six to eight feet, have smaller stalks than forage sorghum and strong tillering. They have good re-growth potential but less than sudangrass. Should be harvested as haylage or baleage, or grazed.

Seed 50 to 70 lbs/acre.

ADV 6504

A new, photo-period sensitive variety with higher sugar content. Excellent drought tolerance, extended harvest window with improved regrowth after cutting.

AS5201

High yielding, non BMR sorghum sudan. Great agronomics, disease tolerance and drought tolerance.

AS6401

AS6401 has improved disease resistance and better regrowth. We have observed occasional fields of other hybrids where regrowth was a problem due to disease pressure (fusarium). This usually manifests only when cutting while soil conditions are moist and humidity is high. AS6401 has been developed with disease resistant tropical parentage, and our observations have been very positive.

KF SUGAR PRO 55



This new exclusive KingFisher hybrid is very quick growing and high yielding with a dry stalk for ease of drydown. Stems are finer and sweeter than many sorghum-sudans. The higher leaf to stem ratio ensures quality grazing or feed. Digestibility of this hybrid is increased due to the reduction in lignin from the BMR trait, increasing daily gains or milk production significantly. Seed 40-50 lbs/acre.

Also available in organic.

SOYBEANS (GRAIN)

360 SB (Untreated)

3.6 Maturity. High end conventional soybean with great agronomics and overall yield. Great performance throughout PA.

Also available in organic.



SOYBEANS (FORAGE)

are selected for late maturity and leafy tendancys. Seed 140-170K seeds/acre

DERRY FORAGE (Untreated)

Group 6 forage soybean for wildlife.

TITAN FORAGE RR

NFW

Group 7 Roundup Ready forage soybean for wildlife.



MILLET, CRABGRASS, TEFF

MILLET is a warm season annual, similar to sorghum sudans, with no prussic acid danger. Millet needs a soil temperature of 65°F or more to germinate, and growth slows down when cool weather comes. Frost kills it, but it can still be grazed with no fear of prussic acid. Will tolerate wetter years better than sudan. Like sorghum sudans, it can use lots of nitrogen. Safe for grazing horses and mules. Seed 10 to 20 lbs/acre.

Start grazing at 12 inches, but make sure the roots are not being pulled up. It should not be allowed to grow taller than 3 feet (or it will lose palatability), nor grazed lower than 6 inches.

JAPANESE

A millet that can be used for forage or summer cover crop. It does better in wet soils than many of the other summer annuals. Fast growth and a fibrous root system makes it an excellent cover crop. It has a finer stem than pearl millet and sorghum and makes high quality forage for grazing or hay.

KF PRIME 180M BMR

A compact and digestible forage for grazing, hay or silage. Improved staygreen for later harvests. As a dwarf, it has a high leaf-to-stem ratio, and its short stature means improved standability. More leafiness means better drydown and the BMR background improves digestibility and feed intake.

KF PRIME 360M BMR

A taller, leafy, digestible forage hybrid for grazing, hay, or silage. Improved staygreen for later harvests. As a dwarf, its short stature makes for excellent standability, but at maturity it is a little taller and leafier than Exceed.

WONDERLEAF PEARL

Wonderleaf will grow a little bushier and not as tall as sudangrass. Wonderleaf is a leafy forage millet that is well proven in the east.

CRABGRASS is a versatile summer forage

that tolerates a variety of soil conditions. Positioned appropriately it can provide good grazing or hay throughout the dry summer months. Crabgrass is self re-seeding if allowed to go to seed.

Seed 5 to 8 lbs/acre.

MOJO

An improved crabgrass variety coated for improved germination and seedling vigor. **Available in OC and Yellow Jacket.**



RED RIVER

An improved crabgrass varitey, coated for improved germinatio. **CT.**

NEW

has fine leaves and stems. This product is native to northern Africa (Ethiopia) and tolerates many soil conditions. Will make very palatable dry hay that livestock and horses love. **Seed 4 to 8 lbs/ acre.**

MOXIE

A blend of high yielding teff varieties that is coated with Yellow Jacket for improved germination and seedling vigor. **Available in OC and Yellow Jacket.**



LEGUMES, BRASSICAS

Summer annual **LEGUMES** provide a high protein source for grazing and are rapid nitrogen producers as cover crops.

IRON CLAY COWPEAS

A summer annual bean that is highly productive for forage. It can be seeded with a variety of summer annual grasses or seeded alone.

Seed 40 to 60 lbs/acre.

SUNN HEMP

Summer annual legume that is best for summer cover crop use, as it becomes lignified while still in the vegetative stage. Only recommended for vegetative grazing as seeds and pods may contain toxic alkaloids.

Seed 20 to 40 lbs/acre.



BRASSICAS are used to extend the grazing season into late fall/ early winter, or to provide very high quality summer or fall grazing, as they will not lignify in hot weather. They can be seeded in a variety of mixtures, and the seeding rate is quite low in both straight stands and mixtures, because their leafy growth habit can be very competitive in a stand. Brassicas' high forage quality helps cows pick up in milk. Sometimes cattle won't eat it the first day or two. Introduce them slowly and make sure to supplement with adequate effective fiber to slow the rate of passage. Brassicas are low in fiber. Typical forage analysis: 25% protein, 215 RFV.

Seed 4 to 8 lbs/acre.

BARKANT TURNIP

Barkant is a vigorous summer/autumn turnip from Holland. It is extremely high yielding and bred specifically for increased leaf growth. The highest concentration of protein and yield is in the leaf. The tankard shaped bulb offers good accessibility. It's suitable for milking, lamb fattening, ewe flushing or hog rearing. It can be grazed about 2 times.

BARSICA RAPE

A fast maturing, single or multiple-graze forage crop that can be sown for summer, autumn or winter feed. It has a higher protein content than typical turnips, and a greater degree of winter hardiness. This variety is intended to overwinter.

T-RAPTOR

A turnip like hybrid that is super for multiple grazings. No bulb! Improved regrowth after grazing.



INDUSTRIAL HEMP SEED

With the passage of the 2018 Farm Bill, industrial hemp has become a fast growing segment in agriculture. In 2019, we conducted several research projects on our farm to better understand the crop. While there are countless uses for hemp, there are 3 main categories: grain, fiber, and CBD. It has been said that a grain farmer would be most adapted for growing hemp for grain, a hay producer would be most adapted for growing hemp for fiber, and a vegetable or tobacco grower would be most adapted for growing hemp for CBD.

King's is partnering with industry leaders to bring high quality hemp products to the east coast. The grain and fiber varieties we are carrying, listed below come from Hemp Genetics International, a leader in Canada who have been working on developing the grain varieties since 1998 when it was re-introduced into Canada. For the CBD hemp, we are partnering with Phylos, a plant science company that has been the leader in DNA mapping and plant sex testing of the cannabis plant. Phylos is a strong proponent of cover crops and soil health.

GRAIN HEMP is a nutritious oilseed crop,

distinct from CBD oil. The grain can be consumed as "hemp hearts" and pressed for its oil. It contains many essential nutrients and vitamins. Hemp cake, like soy cake, shows potential for animal feed, but further research must be completed before it is approved for this use. Taller varieties help control weeds.

Equipment Needed: Grain drill, Combine, Grain drying equipment & Storage

Seeding Rate: 25-30lbs/A

CRS-1

The tallest grain variety in our offering. It grows to approximately 60 inches tall, and is a high yielding variety. It produces a large seed size. Can also be used for fiber.

CFX-2

This grain variety reaches approximately 55 inches tall. It is a high yielding variety with a large seed size. Can also used for fiber.

FIBER HEMPhas many potential applications including textiles, construction materials and animal bedding. *Equipment Needed:* Grain drill, mower, tedder, bailer *Seeding Rate: 35-40lb/A*

JOEY

This fiber variety reaches approximately 60 inches in height. It is monoecious, therefore the stand density and total fiber content per acre remains strong after pollen shed, unlike the dioecious grain varieties. Can also be used for grain.

CBD HEMP is grown for its flowers. CBD oil, which is extracted from the flowers, is reputed to have beneficial health effects including reduced inflammation, improved mental clarity, reduced anxiety and more. CBD is non-psychoactive and cannot cause a "high."

Equipment Needed: Precision seeder or transplanter, cultivation equipment, irrigation (recommended), harvest, drying, shucking/ bucking (may depend on processor)

AUTOCBD

This day-neutral (autoflower) variety is ready to harvest in approximately 75 days. Compared to photosensitive varieties, AutoCBD allows for efficient crop scheduling. By staggering plantings and planning harvest dates, bottlenecks at harvest and processing can be avoided. With 99.9% feminized seed and short, stocky plants, the ratio of flower to biomass is high to maximize yield per acre. AutoCBD plants grow uniformly and offer a reliable ~12% CBD content post-harvest in the flower.

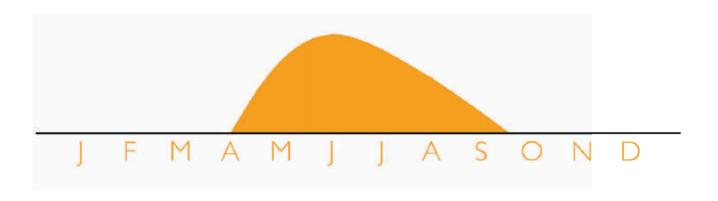
Plant Population: I 0K/A



CBD Variety Pollination Warning: When a hemp plant is pollinated, its CBD content is greatly diminished. It is important to cull all males (and hermaphrodites). Since Grain and Fiber varieties do not cull males, it is important to know if these varieties are growing nearby. Currently, hemp pollen is estimated to travel up to 3 miles. Further research is needed in the East.



FEEDING TYPE HYBRID CORN



KingFisher & Red Tail Corn Hybrids

When it comes to growing feed for livestock, your best return on investment is nutrient-dense forage. Good genetics are essential for the production of a high-quality forage, which is what we offer with our KingFisher and Red Tail program. We selected these quality hybrids for their above-average fiber and starch digestibility. We source the top genetics and make hybrid varieties available for a variety of soil conditions and regional climate differences and concerns. So you're sure to find a KingFisher or Red Tail corn hybrid that's just right for



Every KingFisher and Red Tail corn hybrid is ranked and rated using two key concepts to livestock feed efficiency: SofStarch™ and FiberGest™.



¬ SofStarch™:

SofStarch corn has 10-15% higher starch availability than normal flint corns, reducing fed starch in the diet for KingFisher producers. Studies have shown that SofStarch type corn stays twice as long in a cow's rumen as normal flint corns. Slower passage through the rumen and faster digestion combine to increase the efficiency of the starch and other nutrients.



¬ FiberGest™:

To make hybrid selection easier, our lineup is also ranked and rated for fiber digestibility, based on TTNDFD. FiberGest rates hybrids on a scale of 1 to 10, with 5 the industry average. Only selections with top tier fiber digestibility are advanced.





Bowl Standard Corn Silage category in both 2018 & 2019!



WHAT IS REAL SILAGE?

As the slogan for Masters Choices newest marketing campaign, you may see the tagline "Real Silage" associated with their hybrids. Masters Choice believes that as a livestock focused seed corn company Real Silage is representative of what they stand for. Through intense research and testing procedures they work tirelessly to ensure the products they offer are the best silage hybrids on the market, with both increased nutrition and agronomics. Each year we test dozens of new potential hybrids for our lineup but, on average, only I-2 make it in. Only the most elite hybrids are selected. So, when youre looking for your next silage hybrid, remember where you can get real silage genetics that can make a difference on your farm.

NUTRITION

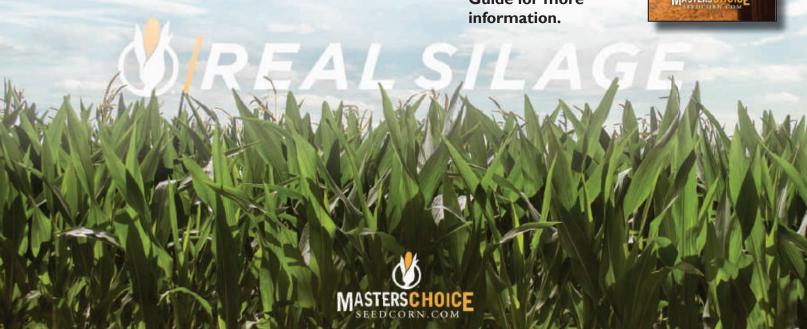
Often, the term "floury grain" is associated with products in a Masters Choice bag, but what exactly does that mean? In this context "floury" refers to the soft, white starch texture of the grain that is so different from the hard, flinty industry standard. To you, the producer, this means that these hybrids have greater starch availability and less indigestible, vitreous material that has become the norm for our competitors. When evaluating hybrids, especially those that could have a future in our commercial lineup, we look at many different layers of nutritional testing. There is no singular, magic test that suggests a hybrid will feed exceptionally. But when we look at and combine dozens of different tests, some proprietary, we can begin to gain an understanding of how that hybrid will feed to your animals.

CONVENTIONAL & ORGANICS

Masters Choice believes the key to both feed quality and yield is through plant genetics. We also believe genetic potential can be altered by a number of factors, like weather, disease, and insect pressure. As a seed corn provider, it is our job to provide growers with the highest quality genetics for their operation, with the greatest potential for yield and quality. This is why we make our best genetics available as conventional, and often certified organic, instead of offering those top genetics only as traited varieties. Our goal is to breed and select hybrids that will increase efficiency on any type of operation or management style, putting the tools for success in the hands of the farmer without limiting his available options. This has been our position from day one, and it will continue to be how we operate going forward.

RESOURCE GUIDE 2019-2020

Request a copy of the 2020 MC Hybrid Guide for more





SPRING & SUMMER COVER CROPS



Ask about our cover crop manual.



SPRING & SUMMER COCKTAILS

Our cover crop mixes build soil health and biodiversity in the field, and can also be grazed or harvested for feed (higher seeding rates needed).

3-WAY CLOVER

A red, ladino, and yellow blossom sweet clover mix that can be frost seeded, spring seeded, fall seeded, aerial seeded, broadcast after last cultivation of corn or seeded just before soybean leaf drop. With its diversity, it will grow in long cool springs and in the fall, and grows well in the summer or during drier spells.

Seed 10 to 15 lbs/acre.

CARGO

A mixture of crimson clover, annual ryegrass, and oats. It is a superb cover crop for southern Pennsylvania (south of I-78) and further south. The benefit of crimson clover is that it flowers early and will fix nitrogen earlier in the spring compared with other legumes. Annual ryegrass has very extensive root growth and improves soil structure better than cereal grains. *Pre Inoculated*.

Seed 60 lbs/acre.

RAY'S CRAZY SPRING NEW

This new mixture is designed with the same goals as the summer and fall formulations - a dual purpose soil improving cover crop and high quality forage. this mix provides quick spring nitrogen for the following crop, recycles nutrients, builds soil health. This balanced mix contains a total of 8 species: grasses, legumes and brassicas.

Pre Inoculated, Seed 120lb/acre

RAY'S CRAZY SUMMER

This diverse mixture was created for dual purpose grazing and soil health improvement. It contains 7-10 species including grasses, legumes and brassicas. There is also a spring and fall version of this mix available. Seeding rate varies depending on use and goals.

Seed 40 to 60 lbs/acre.

SUMMER SOLAR

A diverse legume-forb cover crop mix of aggressively growing summer annuals, with possible dual use for wildlife food plots. The mix includes four very different components - buckwheat, cowpeas, sunflower, and sunn hemp. Both conventional and organic growers will find this a useful break crop in between spring and fall crops that builds soil nitrogen levels and attracts pollinators and other beneficial insects. It can also be used in farmscaping strips to draw beneficials throughout the season.

Seed 35 to 60 lbs/acre.



LEGUMES - CLOVER, PEAS, HEMP, TREFOIL

PERENNIALS

BIRDSFOOT TREFOIL

A high yielding hay type trefoil that tolerates low pH and wet soils.

Seed 20 to 25 lbs/acre.

RED CLOVERS

Freedom!MR, Medium Red Clover "VNS", Mammoth Red, Renegade, Milvus, Barduro. Red clovers are perennial clovers that can be interseeded, used in mixes or straight stands. Flexible fit in the rotation, from over-wintering cover crop to 1-2 year conservation and soil builder.

Seed 4 to 20 lbs/acre.

WHITE CLOVERS

Alice White Clover, Liflex, RegalGraze Ladino Clover, Ladino White Clover "VNS", Dutch White, Alsike.

Seed 2 to 4 lbs/acre.

OTHER

Alsike Clover (hybrid of red and white clovers), Yellow Blossom Sweetclover.

COOL SEASON ANNUALS

CRIMSON CLOVER

Winter annual clover, in early spring faster biomass and nitrogen production than other clovers, beautiful deep crimson bloom. Flowers attract many beneficial insects. Works well in combination with a small grain or with annual ryegrass as a cover crop or high quality nutritious forage mix. Seed 15 to 25 lbs/acre.

BERSEEM CLOVER

An annual clover that resembles alfalfa. Summer annual in North. A high yielding summer annual clover that makes a great winter-killed cover crop. Under the right conditions it can produce 100-200 lbs of N/A as a stand alone crop. Works great in mixtures as well and can produce a very high protein forage for grazing or hay. **Now available in OC coated. Seed 15 to 20 lbs/acre.**

WHITE SWEET CLOVER

Annual white sweet clover has strong nectar flow. Ideal for pollinators and soil building.

BALANSA CLOVER

A cool season annual legume with similar winter hardiness to winter peas and crimson clover

WARM SEASON ANNUALS

COW PEAS

Productive heat tolerant vining summer-annual legume, excellent drought resistance combined with good tolerance of heat, low fertility and a range of soils. If left to bloom it attracts many beneficial insects that prey on other pests. Slow to start, it does well in mixes with other quicker growing species, especially those that are erect-growing that can serve as a trellis to support its growth. Works well as a forage, especially in a mix.

Plant early summer, seed 40 to 60 lbs/acre.

SUNN HEMP

Tall-growing summer annual legume, tolerates drier conditions, high biomass producer, and good smother crop. Use as a green manure/cover crop to provide both organic matter and to fix nitrogen during the period between summer and the winter cash crop. Produces significant biomass in 6-7 weeks. High lignin content; after 3 to 4 weeks of growth it gets too fibrous and lignified for forage use. Good in mixes to add varying heights to the cover, but keep seeding rate low.

Plant early to mid summer, seed 20 to 40 lbs/acre.



WARM SEASON

BUCKWHEAT

True "smother crop" since it grows a thick canopy quickly and outcompetes summer weeds. Good quick fill-in in rotation between spring and summer or early fall crop, reseeds itself, but easy to kill. Good addition of broadleaves, especially in a mostly grass-based rotation. Fibrous root system, soil conditioner loosens up soil, makes organic phosphorous available. If left through bloom, it will attract pollinators. Note: Plant late spring and anytime throughout summer. Seed 50 to 70 lbs/acre.

LIFAGO BUCKWHEAT

A small seeded buckwheat with larger leaves and later bloom than VNS buckwheat. Not good for attracting pollinators. Excellent smother crop with great root development. Very quick summer growth for brief planting windows in rotation. Note: Seed 25 to 35 lbs/acre. Also available in organic.

BROWN TOP MILLET

A fast starting/growing millet with a fibrous root system that makes for a great summer cover crop. Brown Top works well for a smother crop or added to a summer cover crop mixture. **Seed 10 to 20 lbs/acre.**

PEREDOVIK SUNFLOWERS

Sunflowers have many soil benefits that include: strong taproots penetrating vertically downward, widely spreading branch roots; enlarged taproot eventually grows many laterals. High biomass producer, tall growth and beautiful large blooms that attract pollinators and beneficial insects.

Note: Plant early summer. Seed 40 lbs/acre.

NON BMR SORGHUM SUDAN

Our 5201 is a low cost, fast-establishing, non-BMR sorghum-sudangrass. Higher-producing than most BMRs. Adds organic matter to worn-out soils. It is fast growing and loves heat along with having a strong ability to smother weeds, suppress nematodes and penetrate compacted soil. Note: Plant early to mid summer; late summer as a winter-killed soil-covering mulch. Beware of prussic acid. Seed 40 to 60 lbs/acre.

Individual species cover crop options are very extensive.

Contact your King's dealer if you are wondering what other options are available to to you.

COOL SEASON

ANNUAL RYEGRASS

High winter hardiness. Vigorous, extensive growth, both above and below ground. Scavenges and recycles soil nitrates, contributes fine root organic matter at deep soil levels. **Seed 35 to 40 lbs/acre.**

SPRING OATS

Quick grower in the cool weather, excellent pre-summer weed-suppressing cover. Oats can be planted in the spring or in late summer as a universal nurse crop in mixes with slower growing perennial legumes (clovers or alfalfas) or brassicas. They are a quick scavenger of soil nitrogen, will recycle soil nitrates quickly in late summer, allowing slower growing winter annual companions to get started. If fall planted, they winterkill in northern regions, leaving a soil-covering mulch that leaves the soil ready for an early spring no-till planting. *Plant early spring and late summer.* Seed 100 to 125 lbs/acre.

PHACELIA NEW

Excellent for beneficial insect and works well as a cool season soil builder. Planted in spring it will bloom in late spring. Planted in late summer it will bloom in the fall. 60 days to bloom. 4-6 weeks of bloom.

WARM OR COOL SEASON

DAIKON RADISH

Deep tap root growth, penetrates soil, improves tilth, scavenges and bio-accumulates nitrogen, calcium, sulfur and magnesium, from lower soil levels and moves them up to upper soil profile. Plant early spring as a quick weed suppressor or break crop. Great for mixing with small grains! Plant mid August to mid September for maximum root growth, nutrient recycling and soil benefit for compacted soils. Seed 12 to 15 lbs/acre.

KING'S AGRISEEDS' ORGANIC AVAILABLE!

King's AgriSeeds is committed to bringing you organic products that perform exceptionally well in the Northeast and Mid Atlantic. Our organic lineup is not an afterthought, but is made of carefully selected products that have been tested throughout our region and proven to perform on the farm. Whether you are growing organic grains and looking for an organic cover crop, grass finishing organic beef or marketing organic milk, we have high energy organic forage and cover crop seed available.

Our partnerships with industry leading suppliers allow us to offer a lineup of the top performing certified organic products in the world.

- Certified Organic Perennial Mixtures
- Certified Organic Grasses
- Certified Organic Alfalfas/Legumes
- Certified Organic Summer Annual Forages
- Certified Organic Winter Annual Forages
- Certified Organic Cover Crops



We offer a full line of organic products that are selected for quality. These are the same genetics as conventional versions, just produced organically.

| | Seed Rate | Comment | |
|-----------------------------------|--|---|--|
| King's Certified Organic Mixtures | Custom mixes are available but arrangements must be made in advance. | | |
| Dairy Green | 25 to 35 | A mix that will thrive on good to moist soil. | |
| Partner | 20 to 30 | Grass hay blend to seed with alfalfa or alone. Use lower seeding rate with legumes (3 to 8lbs). | |
| Sale Topper | 15 to 20 | Easy to dry. 80% late orchardgrass & 20% timothy. Lower seed rate with legumes (5 to 10lbs). | |
| Star | 25 to 30 | For dairy quality pasture on varying soil types. | |
| Alfalfa | | | |
| 429 Alfalfa | 18 to 22 | High-yielding, fast recovery. Deeper crown to tolerate hoof traffic. DRI 29/30, FD 4 | |
| Clovers | Best for grazi | ing & silage. For better establishment & more productive stands, inoculate before seeding. | |
| Premium Org. Clover Mix | 4 to 6 | A mixture of premium red, white and ladino clovers. Seed alone or with grass. | |
| Common Medium Red Clover | 4 to 8 | A short lived, lower cost red clover. | |
| Harmonie Red Clover | 4 to 8 | A European red clover. | |
| Klondike Ladino Clover | 2 to 4 | A quick growing, large leaf clover. Include with pasture seeding or overseed into pastures. | |
| Mammoth Red Clover | 4 to 8 | A single cut red clover that is best for cover cropping applications. | |
| Renegade Red Clover | 4 to 8 | An improved red clover. | |
| Rivendel White Clover | 2 to 5 | A very persistent, small leaf white clover. | |
| VNS White Clover | 4 to 8 | This lot is a blend of a ladino type & an intermediate type white clover. | |
| Yellow Blossom Sweet Clover | 15 to 25 | Deep tap root. Helps break up compacted soils. Not good for forage. | |
| Meadow Fescue | Looks similar to ryegrass and is palatable. Very cold tolerant. | | |
| Laura | 35 to 45 | High yielding and high quality. Doesn't get heady in the summer. | |

ORGANIC

| Orchardgrass | | |
|-----------------------------------|--------------|---|
| Echelon | 20 to 25 | A very late heading and high yielding orchardgrass variety. |
| Niva | 20 to 25 | An European leafy late-maturing variety. |
| Ryegrass - Italian & Intermediate | | |
| Kingfisher Allegro Blend | 35 to 45 | A Kingfisher tetraploid, diploid Italian ryegrass blend. |
| Astoncrusader | 35 to 45 | A high-yielding intermediate ryegrass. |
| Storm | 30 to 40 | A 2 to 3 year high yielding intermediate ryegrass, similar to a festulolium. |
| Ryegrass - Perennial | Highest ene | rgy grass. Great spring and fall production. Needs high fertility and moisture. |
| Romark | 40 to 50 | An intermediate heading diploid variety that does well under lower nitrogen fertility. |
| Kingfisher TD Blend | 35 to 45 | A Kingfisher blend of Eurpoean tetraploid and diploid varieties. |
| Polim | 40 to 50 | High sugar late maturing tetraploid with excellent productivity. |
| Tall Fescue | Tolerates dr | ought, heat, wet soil and traffic. Very long lived. |
| Kora Tall Fescue | 35 to 45 | Extremely productive, hay type, very digestible. |
| Timothy | | |
| Dolina Timothy | 10 to 15 | A high yielding, persistent hay type European variety. |
| U/C Climax Timothy | 10 to 15 | Uncertifed Climax timothy. |
| Seasonal Annuals | | |
| Badger Oats | 100 | A high yielding grain oat with high test weight. Also great for short season forage-@ 150lbs/acre |
| Deon Oats | 100 | A high yielding taller and later oat with high test weight. Can also be used for forage-@ 130lbs/acre |
| Jerry Oats | 100 | A taller oat. Can also be used for forage-@ 130lbs/acre |
| Reeves Oats | 95 to 130 | A dual purpose oat that is taller and earlier than Jerry oats for fast forage or grain. |
| Reins Oats | 100 | An early maturing, shorter oat. Excellent high yielding grain oat. |
| VNS Spring Triticale | 125-150 | Forage spring triticale. Tall-awned, forage type. |
| 40-10 Spring Peas + | 80 to 100 | A high quality purple flower forage pea. Can be planted Spring or Fall. Small seed size. |
| Grain Pea + | 75 to 100 | A semi-leafless, erect, yellow grain pea. Can also be used for forage. |
| Buckwheat 'VNS' | 50 to 70 | Cool season or summer quick soil cover, weed suppressor, nectar for pollinators, loosens topsoil. |
| Lifago Buckwheat | 25 to 35 | A small seeded buckwheat for cover crop programs. Not for grain or attracting pollinators. |
| 360 SB Soybeans + | 150 to 180 | Organic 3.6 maturity. |
| AS 9301 Sudangrass | 25 to 30 | Exciting sudangrass that dries down quickly with superb quality & yield. |
| KF Sugar-Pro 55 SS Sorg.Sudan | 40 to 50 | A dry stalk BMR sorghum sudan. |

T=Treated, CT=Conventional Coating, YJ=Yellow Jacket Coating, OC=OMRI-Listed Coating (Organic approved coating), UT=Untreated

See Masters Choice and KingFisher Hybrid Guides for complete listings of Organic Corn Hybrids.

FIND A KING'S DEALER NEAR YOU

| CONNECTICUT | | | SOMERSET COUNTY | | |
|-------------------------------|-----------------------------------|--------------------|--|--------------------------|---|
| NEW LONDON COUNTY | | | Lima Family Farms | Hillsborough | 267) 784-6999 |
| V-Town Ag Supply | Voluntown | (860) 564-5733 | SUSSEX COUNTY | (| , |
| TOLLAND COUNTY | VOIGITEOWIT | (000) 304-3733 | Vander Groef Family Farm | Sussex (8 | 862) 266-5843 |
| Pleasant View Farms, Inc | Somers | (860) 803-0675 | WARREN COUNTY | | |
| , | | (555) 555 | Cotton Cattle Company | Asbury (| 908) 413-2570 |
| DELAWARE | | | | | |
| KENT COUNTY | | | NEW YORK | | |
| *Dixon Seeds, LLC | Dover | (302) 632-6460 | ALLEGANY | | |
| SUSSEX COUNTY | Dover | (502) 032 0 100 | Country Crossroads Feed & Seed. | | |
| B & W Ag Enterprises, Inc | Greenwood | (302) 398-3059 | Enders Supply | Caneadea(| 716) 498-2616 |
| b a vv Ag Enter prises, me | 01 cc11W000 | (302) 370-3037 | CATTARAUGUS COUNTY | | |
| MAINE | | | *Wild Acres Family Farm | Great Valley(| 716) 969-4386 |
| KENNEBEC | | | CAYUGA COUNTY | A la | 215) 704 5025 |
| Fedco Seeds Inc | Clinton | (207) 424 9247 | Eldred Hay, Grain & Seed, LLC *Dwight Martin | | |
| OXFORD COUNTY | CIIIILOII | (207) 426-6247 | *Wilmer Horning Seeds | | |
| Paris Farmer's Union | 0.4 | (000) (20 2(02 | CHAUTAUQUA COUNTY | 1 OI C DY1 OI1 (. | 313) 770-7040 |
| | Oxtora | (800) 639-3603 | *NYP Ag Services, Inc | Cherry Creek | 716) 296-5555 |
| PENOBSCOT COUNTY *Keith Hines | D dfd | (207) 717 0550 | Raber Farm Supplies | | |
| | Вгадтогд | (207) /17-9558 | | Jamesto | wn, NY 14701 |
| WALDO COUNTY | | (207) 242 1444 | CHENANGO COUNTY | | |
| Edward Kulp | Unity | (207) 948-1444 | *John Kemmeren | Bainbridge (| 607) 967-7440 |
| MARYLAND | | | CORTLAND COUNTY | | |
| MARYLAND | _ | | Mara Seeds Inc | | |
| ANNE ARUNDEL COUNTY | | | Valley Seed | Iruxton (| 607) 745-9223 |
| Hopkins Family Farm, LLC | Lothian | (443) 871-5420 | DELAWARE COUNTY | Construction of | (07) 207 0505 |
| CARROLL COUNTY | | | Frank Albano Jr ERIE COUNTY | Stamford(| 507) 287-8505 |
| *Good Friday Farm | Westminster | (443) 277-8489 | Gramco, Inc | Springville (| 800) 724-1292 |
| FREDERICK COUNTY | | | FRANKLIN COUNTY | Spi iligville (| 500) 724-1272 |
| Rights of Man Farm, LLC | ljamsville | (240) 674-2733 | Jake G Stutzman III | Burke (| 518) 497-6075 |
| GARRETT COUNTY | | | Jacob Hershberger431 | | |
| Blue Ribbon Seed & Supply | Oakland | (301) 616-9663 | GENESEE COUNTY | | , |
| KENT COUNTY | | | *Carolina Eastern Crocker, LLC | Pavilion (| 585) 584-3036 |
| C. Prickett Farms | Kennedyville | (443) 480-1977 | GREENE COUNTY | , | , |
| GVF, LLC | Forest Hill | (443) 619-1119 | *James Van Orden | Catskill (| 518) 943-2894 |
| ST. MARY'S COUNTY | | | LEWIS COUNTY | | |
| Millwood Seeds36680 | Millwood Lane, Mechan | icsville, MD 20659 | Andrew Roggie | Lowville | 315) 376-3298 |
| WASHINGTON COUNTY | | | LIVINGSTON COUNTY | | |
| Travis Divelbiss | Clear Spring | (240) 291-8130 | Maxwell Farms | Geneseo (| 585) 447-8430 |
| | · · · · · · · · · · · · · · · · · | (= ++) =+ + ++++ | MADISON COUNTY | C | 315) 407 0500 |
| MASSACHUSSET | ΓS | | Meadow Springs Farm MONTGOMERY COUNTY | Canastota(| 315) 697-9589 |
| BARNSTABLE COUNTY | | | Argersinger Road Seeds568 | Argareinger Pd Fulton | illa NIY 12072 |
| Southcoast Agri Services | Cataumet | (774) 263-0017 | ONEIDA COUNTY | Argersinger Iva, ruitoni | mie, 141 12072 |
| ESSEX COUNTY | | , | *Harold Schrock | Deanshoro (| 315) 723-1681 |
| Seaview Farm Boarding | Rockport | (904) 753-0342 | Locust Grove Seeds5770 A | | |
| FRANKLIN COUNTY | | | Vernon Farm Supply | | |
| Greenfield Farmers Coop | Greenfield | (413) 773-9639 | ONONDAGA COUNTY | (| , |
| PLYMOUTH COUNTY | | | Tully Ag Center, LLC | Tully | 315) 696-6400 |
| Progressive Grower Inc | West Wareham | (774) 678-0097 | ONTARIO COUNTY | , | , |
| | | | *Marlin Horst | Stanley (| 585) 509-6487 |
| NEW HAMPSHIRE | : | | ORANGE COUNTY | | |
| CHESHIRE COUNTY | | / | Robert Stap | Pine Bush(| 845) 744-5734 |
| Thomas Beaudry | Wapole | (603) 504-5991 | ORLEANS COUNTY | | |
| NEW IEDSEY | | | Roy Zimmerman | | |
| NEW JERSEY | | | Reg Overholt Farm Seed | Medina (| 585) /98-3490 |
| BURLINGTON COUNTY | C. d | ((00) 410 4007 | OTSEGO COUNTY | Charmy Valley (1 | 070) (10 2150 |
| Summer Harvest Farms | Soutnampton | (607) 410-482/ | West Wind Farm* *David Yoder | | |
| MONMOUTH COUNTY Jon Pinhas | Milletone | (732) 990 1942 | RENSSELAER COUNTY | raciniera obi ings (| 177-050 (616 |
| SALEM COUNTY | r iiiistone | (132) 070-1863 | *Scott Michel | Valley Falls | 518) 269-2222 |
| Timothy Bradway | Salem | (856) 498-6250 | SCHENECTADY COUNTY | | , 20, 2222 |
| Turkey Creek Farm | | | *Profitable Ag Concepts, LLC | Schenectady | 518) 929-1734 |
| | | | J, | , | , |

FIND A KING'S DEALER NEAR YOU

| NEW YORK (continued) | | DAUPHIN COUNTY | |
|---------------------------|---|--|--|
| SENECA COUNTY | | | Elizabethville (717) 362-9038 |
| | Romulus (315) 952-7461 | | Grantville (717) 571-3711 |
| | Trumansburg (607) 227-0836 | FAYETTE COUNTY | |
| | Whiskey Hill Road, Waterloo NY 13165 | | Vanderbilt (724) 366-0199 |
| ST. LAWRENCE COUNTY | | FOREST COUNTY | |
| | I Snell Rd. North Lawerence, NY 12967 | 3 | Tionesta (814) 744-8454 |
| | Winthrop (315) 328-5808 | FRANKLIN COUNTY | (717) 507 5151 |
| STUEBEN COUNTY | | *Horstdale Farm Supply HUNTINGDON COUNTY | Greencastle (717) 597-5151 |
| 11 / | Hornell (717) 991-4516 | | Todd (609) 760-3030 |
| TIOGA COUNTY | ((07) 707 4051 | INDIANA COUNTY | 10dd (607) 760-3030 |
| | Owego (607) 727-405 I | | Cherry Tree (814) 659-4708 |
| TOMPKINS COUNTY | T | JEFFERSON COUNTY | Cherry free (011) 037-1700 |
| WYOMING COUNTY | Trumansburg (607) 227-0836 | | Punxsutawney (814) 952-9732 |
| | Attica (716)-697-5728 | JUNIATA COUNTY | (, , |
| | Perry (585)-237-0420 | | Liverpool (570) 765-6131 |
| | Varysburg (585) 322-0694 | LANCASTER COUNTY | , |
| YATES COUNTY | var ysburg (303) 322 007 1 | | Ephrata (717) 468-7799 |
| | Branchport (315)414-6693 | | New Holland(717) 354-4398 |
| | 5. u (5. 5) | | Gap (717) 278-9237 |
| PENNSYLVANIA | | | Kirkwood (717) 529-2609 |
| ADAMS COUNTY | | | Lancaster (717) 285-5738 |
| *Bruce Detweiler | East Berlin (717) 259-7361 | | Leola (717) 656-7993 |
| Profitable Forage Systems | Littlestown | | Manheim (717) 314-4006 |
| ALLEGHANY COUNTY | | | New Providence (717) 468-0542 |
| Janoski Farms, Inc | Clinton (724) 321-4725 | | Quarryville (717) 284-3867 |
| BEAVER COUNTY | | | Quarryville (717) 548-2373 |
| | Hopewell (315) 515-8484 | | Quarryville (717) 587-4640 |
| BEDFORD COUNTY | | LEBANON COUNTY | Myerstown (717) 949-2486 |
| | Osterberg (814) 310-1595 | MERCER COUNTY | Pryerstown (717) 343-2466 |
| | ing IncBedford (814) 624-0776 | | Sandy Lake (724) 376-3615 |
| BERKS COUNTY | Malara (717) 314 3300 | MIFFLIN COUNTY | Jandy Lake (721) 370-3013 |
| | Mohnton | | Mill Creek (717) 348-1264 |
| BERKS COUNTY (EASTERN) | Sinking Springs (610) 603-6031 | MONTGOMERY COUNTY | (, |
| *Charles Marsch | Green Lane (267) 718-0601 | *Charles Marsch | Green Lane (267) 718-0601 |
| BLAIR COUNTY | Green Lane (207) 710-0001 | NORTHUMBERLAND COUNT | |
| | Williamsburg (814) 832-3458 | *Norm's Farm Store | Watsontown (570) 649-6765 |
| BRADFORD COUNTY | (********************************* | PERRY COUNTY | , , |
| | Towanda (570) 265-0470 | *Green Park Seeds | Loysville (717) 829-1579 |
| BUTLER COUNTY | , | SCHUYLKILL COUNTY | |
| Kevin Colteryahn | Prospect (724) 822-2493 | | Pine Grove (717) 943-0457 |
| CAMBRIA COUNTY | . , | | Schuykill Haven (717) 222-4116 |
| | Cresson (814) 886-4171 | SNYDER COUNTY | D T (570) 074 2450 |
| CARBON COUNTY | | • | Port Trevorton (570) 274-3650 |
| | Lehighton (570) 401-6106 | SOMERSET COUNTY | F. d. d |
| | Lehighton (610) 392-8685 | | Friedens |
| CENTRE COUNTY | | | Salisbury (814) 662-4183 C. Hollsopple (814) 242-5428 |
| | Howard(814) 383-4529 | UNION COUNTY | .с. г юпзорріе (614) 242-3426 |
| | Rebersburg (814) 349-8386 | | Lewisburg (570) 412-3250 |
| CHESTER COUNTY | Andre (404) (70 F707 | | Millmont (570) 898-0382 |
| | Atglen (484) 678-5707 Coatesville (610) 656-7327 | WARREN COUNTY | (373) 373 332 |
| | Coatesville (610) 636-7327 Cochranville (610) 869-9640 | | Sugar Grove (814) 489-7818 |
| CLARION COUNTY | Cociii arivine (610) 867-7640 | WASHINGTON COUNTY | , |
| | New Bethlehem (814) 229-2096 | Contractors Connection | Washington (725) 228-8865 |
| CRAWFORD COUNTY | (01 1) 227-2070 | WESTMORELAND COUNTY | _ |
| | Titusville (814) 827-3371 | | Ruffsdale (724) 972-8301 |
| | Centerville | Lone Maple Ag Services, Inc | New Alexandria (724) 668-7358 |
| | Cochranton (814) 425-2087 | YORK COUNTY | |
| | Westford (724) 927-2221 | Hakes Farm & Seed Service | Red Lion (717) 244-2754 |
| CUMBERLAND/FRANKLIN CO | DUNTY | | |
| *Sensenig Seeds | Shippensburg (717) 729-8098 | | |
| | | 42 | |

FIND A KING'S DEALER NEAR YOU

| VERMONT ADDISON COUNTY Severy Farm, LLC |
|---|
| Severy Farm, LLC |
| *Stillwater Farm |
| *G. Boucher Fertilizer Inc Highgate Center (802) 868-3939 WINDHAM COUNTY |
| *G. Boucher Fertilizer Inc Highgate Center (802) 868-3939 WINDHAM COUNTY |
| WINDHAM COUNTY |
| Miller Farm, Inc Vernon (802) 380-3862 |
| |
| VIRGINIA |
| AUGUSTA COUNTY |
| Augusta Cooperative Staunton (540) 885-1265 |
| CAMPBELL COUNTY |
| Long's Farm Supply Brookneal (434) 376-5901 CLARKE COUNTY |
| *CFC Farm & Home Center Marshall (540) 364-1533 |
| CULPEPER COUNTY *CFC Farm % Have Carren Calcas and (F40) 935 3300 |
| *CFC Farm & Home Center Culpeper (540) 825-2200 DINWIDDIE COUNTY |
| B.T. Hargrave & Co Dinwiddie (804) 469-3221 |
| FAUQUIER COUNTY |
| *CFC Farm & Home Center Warrenton (540) 347-7100 FLOYD COUNTY |
| Seven Springs Farm Check (800) 540-9181 |
| FRANKLIN COUNTY |
| *Green Sprig Ag Services Rocky Mount (540) 420-1639 FREDERICK COUNTY |
| Shenandoah Seed |
| Clearbrook Feed and Supply Inc Clearbrook (540) 662-2749 |
| HENRICO COUNTY James River Seed Company, LLC Sandston (804) 357-8184 |
| KING & QUEEN COUNTY |
| PA Country EquipmentSt. Stephens Church (804) 769-4137 PULASKI COUNTY |
| Blair Sanders |
| RAPPAHANNOCK COUNTY |
| *CFC Farm & Home Center Washington (540) 987-8555 ROCKBRIDGE COUNTY |
| *Rockbridge Farmers Coop, Inc. Lexington (540) 463-7381 |
| ROCKINGHAM COUNTY |
| *Sunny Ridge Supply |
| South Fork Ag Supply |
| STAFFORD COUNTY |
| Agri Service LLC |
| TAZEWELL COUNTY |
| Burkes Garden Ag Supply Tazewell (276) 472-2166 |
| WARREN COUNTY SS Front Royal Coop, IncFront Royal |
| WASHINGTON COUNTY |
| Clayton Thompson Abingdon (423) 335-8265 |
| WESTVIDGINIA |
| WEST VIRGINIA GREENBRIER COUNTY |
| Perk Farm Organic Dairy Frankford (304) 667-3529 |
| HARDY COUNTY |
| Mountainview Veterinary Services IncMoorefield(304) 530-5757 TAYLOR COUNTY |
| Triple L Farms |

Northern Region
Cayuga Ag Enterprises - Rod Porter
(607) 227-0836
rodporter@kingsagriseeds.com

Central Region
David Hunsberger
(814) 880-5186
davidhunsberger@kingsagriseeds.com

Joy Beam (484) 524-3481 joybeam@kingsagriseeds.com

For additional support, please contact King's AgriSeeds Office at (717) 687-6224 or Info@KingsAgriSeeds.com

Search online by address: www.kingsagriseeds.com/locate-a-dealer/

Dealers marked with a * are KAS certified. These dealers have been throughly trained in agronomic principles and deliver superior customer service and technical support.

