King's AgriSeeds Inc.

High Energy Forages and Soil-Building Cover Crops

Newsletter

Late Summer 2014

What's Inside

Why Care About Sugars?

Chad Hale, Forage Grass Specialist

"All things in moderation" is a mantra that applies to many things in life. Most of us like sugar but we probably shouldn't let it be the majority of our diet. Ruminants are no different. They like sugar too and dairy nutritionists have a rule of thumb that sugar should not exceed 5% of the total ration. But should it be included at all? Can't we get the same energy out of starch? Research shows that sugar has some benefits in ruminant diets. Sugar is more rapidly fermentable in the rumen than starch, which is a good thing if there is ammonia in the rumen from the breakdown of rumen degradable protein. Without sugar, this valuable nitrogen would be lost and excreted. **(Continued on Page 6)**

Choose Your Fall Cover Crop Scenario

Dave Wilson and Genevieve Slocum, King's AgriSeeds

Winter is one of the most flexible seasons for cover crop use; you just have to consider what's most appropriate: an over-wintering cover crop or a winter-killed mulch, as well as the timing to get it established.

Winter-Killed Mulch

This is the easiest option to work with in a no-till situation. Spring/fall and summer crops cannot tolerate hard frosts. Plant them in late summer and they will mature and winterkill, providing a thick mulch residue that keeps soil covered and allows you to plant into the residue early in the spring if you desire.

Sorghum Sudan matted down after freeze

Eliminating the window of time in the spring that is usually for spring growth of a winter cover crop adds flexibility in the rotation to plant an earlier spring crop.

This approach is popular with produce growers who want a cover crop over winter but also want to be able to plant early spring vegetables as soon as the ground can be worked in the spring. It is applicable in many operations and can work well in most regions.

It is also useful in the north where the growing season is short and spring planting considerations, such as wet soils, may not always favor the early timing needed to kill an over-wintering cover crop.

This type of cover crop takes up and retains many nutrients in its tissues, even after it winterkills. Potassium may start to leach, but phosphorus and other nutrients will be mostly retained until the material starts to break down in the spring. Nitrogen is intermediate and may start leaching out as the plant tissue dies and breaks down depending on C:N ratios of the material.

Residue from the killed cover crop provides weed suppression over the winter, which may continue early into the growing season if the spring crop is planted directly into the residue (this depends on the species and how much biomass it produces before it winterkills). Oats planted late, for example, will kill before they have a chance to grow much biomass, which means less organic matter and weed control.

A crop like Spring Pea-Oat Mix could also be planted in late summer with the intended use as a fall forage. Planted at a slightly higher seeding rate, it can be grazed or cut for forage in late fall, or this same option can be used as a winter-killed cover crop mulch.

King's AgriSeeds reps get many calls about this method of winter-killed cover cropping, and university researchers look at this in the context of nutrient cycling.

Spring and Warm Season Crops to Use for a Winter Killed Mulch

<u>For planting at oats planting date, late summer</u>

Spring oats, Pea-oat mix (contains spring peas; everything in mix will winterkill)

<u>For planting mid to late summer</u>

Sunn hemp, Cowpea (best mixed with oats), SSX

Summer crops like sorghum-sudan won't grow as profusely as they would during their usual growing period, since temperatures begin to drop and days get shorter, but they can grow quickly and produce significant biomass if there is enough moisture.

Moving north, this approach is often favored because of increased time constraints, but planting date also becomes even more critical than in a more southern location. In a region with a very compressed growing season, following an early summer small grain harvest may be the perfect opportunity to get this crop established.

Create a Relay Effect

If you want a cover crop that overwinters, try mixing a winter-killed component, such as spring Pea-Oat mix, which will grow quickly in the fall, scavenge left-over nutrients, and provide early ground cover and weed control, with a winter annual from the list below. The overwintering component grows more slowly, and as the winter-killed crop dies, it provides nutrients to the living crop, as well as some weed control.

This type of combination also provides an opportunity for a fall grazing, as well as regrowth that will overwinter.

Even if the mix contains a winter annual with a later planting date, use the late summer planting date for the whole mix to maximize growth of the warm-season crop.

<u>Winter Annuals that survive and make good companions for winter-killed crops</u>

Annual ryegrass
Small grains - rye, barley, triticale, wheat, spelt
Crimson clover
Hairy vetch
Winter peas

Winter Annual Highlights

The selections below are not reflective of the entire line-up. These are products/concepts that we feel should be highlighted for the 2014 winter annual forage season.

TRITICALE PLUS

Triticale & Annual Ryegrass. Designed for one or two cuts of spring haylage. This mixture will have excellent NDFd when harvested prior to boot stage (flag leaf stage preferred). Even more tonnage than triticale by itself! It's also great to thicken alfalfa fields in the fall for one big cutting in the spring. We consider this to be one of our premier winter forage options.

- *Great double crop forage*
- *Utilizes a lot of nutrients*
- *Great for baleage or grazing*
- *High sugars for better fermentation & VFA*
- *More energy than triticale by itself*

TRITICALE PLUS with CRIMSON CLOVER

Many of our producers have tried an exciting combination of our Triticale Plus and Crimson Clover. The trick is to seed the Crimson through the small box and the Triticale Plus through the large box. Mixing in Crimson Clover adds one more soil building component and can increase protein in the forage.

OATS PLUS

Mixture of forage oats and annual ryegrass. This mix combines the strengths of each product and can be planted in early spring and late summer. Planted at a heavy rate it will yield one fall cut, plus up to two spring cuts.

C.A.R.G.O.

A combination of Crimson Clover, annual ryegrass and oats works well as a late summer/early fall planted cover crop or as a forage mix. The oats provide the early cover mentioned, and the crimson clover and annual ryegrass overwinter as a grass-legume cover. If using this as a forage combination, target a planting date in late summer and increase the seeding rate from 60#/acre (as recommended for cover crop use) to 120#/acre. This will give you a nice harvest of oats in the fall, and then the grass-legume mix can overwinter to provide a soil cover and produce a spring forage harvest.

BARLEY with CRIMSON CLOVER

This is an early cover crop that produces high yielding quality forage if proper planting dates are available. Put barley in the big box and crimson clover in the small box. Seed at 100#/acre of barley with 25#/acre of crimson clover. With the earlier planting date, the winter barley will tiller earlier compared to the later planted small grains. The high leaf to stem ratio of barley and its high digestibility contribute to a high NDFd analysis, while the addition of the crimson clover increases the dry matter yield and quality components, including the protein value of the mix.

TriCal® 815 TRITICALE

This leafy winter triticale was bred for high forage yield and quality. 815 consistently has superior NDF di-gestibility in our test plots! See the Penn State Data on the next page. Its maturity date is similar to most winter wheats. Very wide harvest window allows you flexibility in attaining both forage quantity and quality.

"It (Triticale 815) gets repeat sales and higher yields, close to 4 tons of dry matter. That's good for something that grows over the winter. The combination of yield and quality makes it a win-win. When we add ryegrass to it, we've seen better soil conditioning from the ryegrass roots for coming back into the spring with corn. 815 Triticale all the way! Can't beat it, all-around star."
Lynn Martin
Agronomist & Kings Dealer , Union County, PA

CRIMSON CLOVER

A high quality winter annual that can be used for both forage or as a nitrogen fixing cover crop. Adapted to warmer parts of Pennsylvania and south. Ready to plow down 2 to 3 weeks earlier in spring than hairy vetch. Good for forage.

MO-1 ANNUAL RYEGRASS

This is an excellent annual ryegrass that was bred in Missouri and selected for improved winter hardiness and high forage yields. In addition to MO-1, we will have other ryegrass varieties available.

Kings PEA OAT MIXTURE

50/50 mixture of forage peas and forage oats.

HAIRY VETCH

Great nitrogen producing annual cover crop.

Penn State Short Lived Trials

The trial below shows TriCal 815 at a clear advantage nutritionally. It continues to be the superior forage variety in Kings research as well. Topping the nutritional charts in our trials for multiple years in a row.

Penn State	**2012-13**						
Short Lived Annual Grass Trial	**Dm Yield tons/acre**			**First Cutting**			
Cereals	**Total**	**Stand**	**CP %**	**ADF %**	**NDF %**	**NDFd 30**	**RFV**
Trical 141	**2.98**	97	14.1	34.1	55.7	75.9	104.0
Trical 815	**2.90**	**97**	**18.0**	**27.5**	**49.3**	**79.8**	**127.0**
Trical 336	**2.82**	96	16.4	31.3	53.8	75.4	112.0
Fridge	**2.64**	94	16.6	29.8	51.0	78.8	120.0
Thunder Cal (EXP 2T)	**2.56**	98	15.0	33.1	56.9	71.3	103.0
Fridge (EXP 1F)	**2.40**	98	15.5	32.8	55.0	75.3	107.0
Mean	**2.69**	**96**	**16.0**	**32.4**	**54.8**	**74.6**	**108.7**
LSD (.05)	**0.28**	5.8					
CV (%)	**7.20**	4.3					

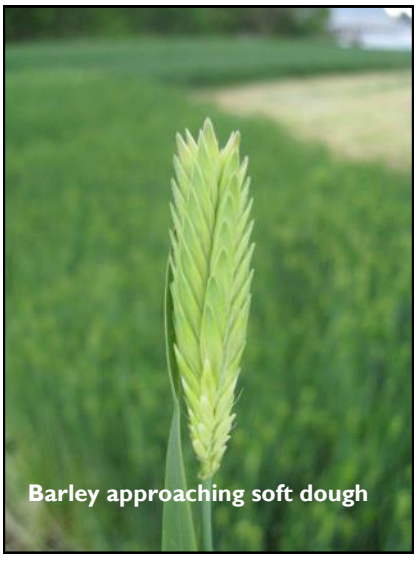
Soft Dough Small Grain Forage Harvest

David Hunsberger, King's AgriSeeds

While in many cases we recommend harvesting small grains at flag leaf stage, in some situations soft dough harvest may be best. Soft dough is a very different stage of maturity from the Feekes scale stage 9 (flag leaf) preferred for high producing dairy cows. The Feekes scale stops at 11 which is the ripening stage; 10.5 is the flowering stage; 10.1 is head emergence. Soft dough refers to the time at which the fully developed grain kernels are moving from the "milk" stage into the hard grain (Feekes 11). If you squeeze a kernel in the milk stage the white starchy liquid will squirt out. However, in soft dough stage the starchy substance will be doughy. At this stage, the plant is assumed to have dried to a point that allows for direct chopping to produce a high starch silage-like feed.

Many producers successfully take small grains at this stage and use it to stretch supplies of corn silage or in some cases to replace corn silage. Barley specifically is attractive under this management because the stover to grain ratio is smaller (more grain less straw) than most other small grains. Additionally, the cell walls are not as thick, making it more digestible. Taller growing species such as wheat and triticale can also be harvested at the soft dough stage, however they have a much larger stover: grain ratio. Also, these grains tend to be much drier at this maturity so proper ensiling is more difficult.

The success here is in direct cut chopping and fast packing. Target 800lbs of tractor weight/ton of silage delivered per hour. If you do not have the packing weight, then consider upright silo storage or Ag bags. (Uprights may benefit from some wet hay crop material on top of small grain silage to assist with packing and air elimination of the last few loads) If you do not have access to a direct cut head for your chopper you can swath the material and then gather it up with your pickup head. If you do this, chase the swather with the chopper so that the material doesn't dry too fast.



Barley approaching soft dough

The Ryegrass Difference; A Farmer's Success

"I grew a Green Spirit Italian Ryegrass cover crop and planted corn behind the ryegrass in different fields. One field had no ryegrass, one field had ryegrass for one winter, and one field had ryegrass for two winters in a row. I planted the ryegrass in the fall and chopped it and burned it down in the spring before the corn. The PSNT test [Pre-Sidedress Nitrate Test for corn] came back that the field without the ryegrass had 26 ppm, the field planted one time in ryegrass had 34 ppm, and the field planted twice in ryegrass had 44 ppm.

No synthetic nitrogen was applied to any of these fields. The field that tested the highest only had poultry litter applied, and the first field that tested the lowest had both poultry litter and dairy effluent applied.

In the fields that were in ryegrass, the corn looked some better. Where the ryegrass had been two years in a row, it looks even better. The corn in those fields was planted late, but by now it almost caught up to the early-planted corn. It's been on the dry side this year, but the corn is doing well.

The fields that had the ryegrass cover crop appear to be holding moisture better, or else the corn is able to root down deeper. When it gets dry around here, the effects on the corn usually show up in a hurry, but not this year.

I'm thinking that the ryegrass is rooting down deep, and also has a very fibrous root system, and it's bringing up some nitrogen and making it available to the corn."

- Jared Cupp (Jared is a producer in Dayton, VA)

Attend a Field Day in 2014

One great source of education is our field days. Our goal at field days is to bring you educational speakers, allow you to hear any updates from our research team and showcase various products. If you would like to attend one of our upcoming field days, please contact your local King's dealer to find out about a field day close to you. Also, take a look at the website calendar to access information about upcoming field days and other educational events. (Find the Calendar at www.kingsagriseeds.com Bottom of Page)


King's Dealer, Jim Biddle, speaks at a field day in Mill Hill, PA


Spring Field Day in Central, PA


Field Day in Central, VA


Tracy Neff, King's Agronomist showcases MasterGraze at a

Why Care About Sugars?.... Continued

Everyone knows that sugar tastes good, including ruminants! There is a popular video from Idaho showing cows fighting over hay that was cut in the afternoon versus hay cut in the morning (more on that later). What they were actually fighting over was the higher sugar in the forage from the afternoon cutting. Grazing livestock almost always prefer grasses to legumes if given the choice. When it comes to making silage, bacteria that ferment the forage also need sugar. High sugar forages ferment faster and more completely than low sugar forages.

So there are compelling reasons to have high sugar forages, but how do you get them? It's important to realize that different forage species have different sugar levels. Also sugar levels vary in the plants throughout the day in a predictable, diurnal pattern. Addressing the species issue first, Grasses and members of the sorghum family are among the forages highest in sugar content. Legumes are generally the lowest in sugar. An easy way to incorporate more sugar into your livestock's diet is grow grass with alfalfa or put in some forage sorghum in place of corn for silage harvest.

Management is ultimately the key to harvesting high sugar forages. Many of you have probably heard of the AM/PM hay research done in Idaho. We get many calls each year in the Midwest from producers who tried to cut hay in the afternoon but when the feed test came back it was no better than morning cut hay. Producers out west believe that afternoon cut hay is definitely better. Who is right? They both are! The key is understanding how sugar levels fluctuate in plants and in understanding plant respiration (or breathing).

Photosynthesis uses sunlight to build sugars in the plant all day. So sugar levels are highest in the afternoon when the sun has been out for a long time. Conversely, sugar is lowest in the early morning before the sun is up because the plants have been burning sugar all night long without being able to make any. Respiration is the process of burning sugar. If you cut any forage plants, they will continue to respire until they dry down to about 40% moisture. Respiration rate is faster at high temperatures and lower in colder temperatures.

So applying this to our hay scenario: out west, hay is cut in the afternoon when the level is highest. It still may be above 40% moisture when night comes but the temperatures drop drastically at night, which slows respiration. Humidity is low, so hay may actually dry slightly at night. In the morning, the hay cut the previous afternoon is still higher in sugar than the forage that is still standing uncut. That is the only reason afternoon cut hay is higher in sugar out west. In the humid east, hay cut in the afternoon is almost always still above 40% moisture by nightfall but the higher temperatures and humidity keep respiration cranking all night. Forage harvested in the afternoon is no higher in sugar than standing forage by morning. Soon after the sun comes up, the standing forage may be higher than the afternoon cut hay. In addition, dry matter losses overnight can exceed 10% and the worst part is almost all of that dry matter loss is sugar that the plants burned during the night. Figure 1 shows the relationship between temperature and dry matter loss overnight.

Forage Sorghum Stalks are Loaded with Sugar

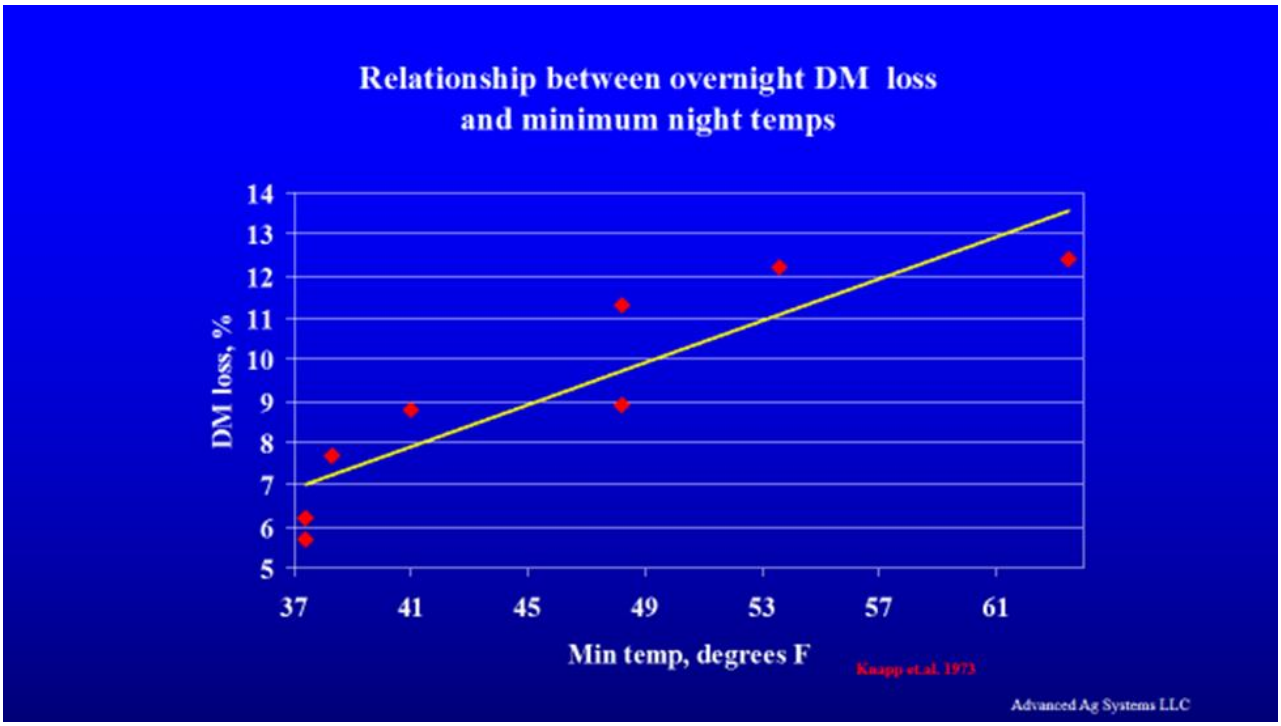
So what can producers in the east do to harvest forage that retains high sugar levels? Tom Kilcer of Advanced Ag systems in New York set out to answer that question when he served as an extension agent for Cornell University. The answer came in another system you may have heard of called "haylage in a day". Tom was one of the pioneering researchers of this system. He found that in the east, the key was wide swathing defined as laying windrows as wide as at least 85% of the cutting width. Do this in the morning and ted the hay when the top is dry, which will only take a few hours on a sunny day. In a few hours after tedding, the haylage is at the proper moisture (60-65%) often by mid afternoon on the same day it was cut. The sugar levels in this forage can rival western afternoon cut hay if the sun is shining throughout the whole process. Certainly this will be the highest sugar forage possible in that environment.

What if you graze livestock rather than make hay? There are still some ways you can manage to capitalize on high sugar forage for your animals as well. Some interesting work done by Dr. Gregorini in the US and South America showed that there is a benefit to rotating beef cattle daily to new pasture in the afternoon rather than the morning. Simply changing the time of day cattle were rotated to new pasture resulted in a significant increase in average daily gain. Two things are in play here. First, the sugar content is highest in the afternoon, which translates to the forage being higher in energy.

Secondly, most animals graze longer in the evening than any other time of day. So giving cattle fresh pasture when it is highest in energy and when they are naturally inclined to eat more can result in higher intakes and higher gains.

Remember, if you want high sugar forage, swath it wide and don't leave it on the ground overnight if possible. When it comes to making haylage, nearly all the drydown is occurring through the leaves and the leaves must be exposed to sunlight for the process to work. In a dry hay situation, try to get the hay down to 40% moisture in a single day if possible. And give afternoon pasture rotation a try to see if you can pick up some extra gains. Sugar can do things in the rumen that starch cannot and it does not contribute to acidosis as badly as starch does. In the end, diets formulated with some sugars can provide the energy without the negative effects of too much starch.

This chart shows the dry matter loss through respiration ($C_6H_{12}O_6$ (Sugar)+ $6O_2$ ——> $6CO_2$ + $6H_2O$ + Energy) throughout the nighttime . Greater temperatures lead to greater DM losses. Chart courtesy of Tom Kilcer at Advantage Ag Systems, LLC.



Perennial Forage Features

Mixtures– Mechanical Harvest

HIGHLAND HAY CT– *Dried, Wrapped, Chopped*
An Alfalfa/Grass mixture that will handle heat and drought very well. Great Mid-Atlantic mix that also works well farther north. The grass provides great fiber digestibility and adds to yield.

"I have used Kora Tall Fescue for a few years now. Great yields, good quality and hardy. In an alfalfa mix most years we cut 4 times. I leave 3-4" when I cut and it keeps coming back. I especially enjoy the literature that allows me to customize plantings to what works best on our farm. Excellent company to work with."
Nathan Yousey, Producer in NY (On King's/Products)

LOWLAND HAY– *Dried, Wrapped, Chopped*
A late heading Grass/Clover mixture that tolerates wetter soils very well and has a wide harvest window. The Tall Fescue adds consistent high fiber digestibility, superb yields and traffic tolerance. The mix also contains timothy and Freedom MR Red Clover (a fast drying clover).

GREENFAST– *Wrapped, Chopped, Grazed*
A fast starting mix with very high quality. The mix contains, festulolium, orchardgrass, ryegrass and clovers, can be used for wet hay or managed grazing.

NORTH STAR MIXTURE–*Dried, Wrapped, Chopped*
This mixture contains strong alfalfa varieties with modest amounts of later maturing grass added for improved nutrition. It's designed primarily for central PA and North, where the grasses will provide consistent yield and quality for several years.

Mixtures– Grazing/Mechanical Harvest

KING'S GRAZING-*Grazed, Wrapped, Chopped*
Mixture of meadow fescue, orchardgrasses, clovers and forage chicory. Designed for high production livestock. Chicory is included for better mineral nutrition and other animal health benefits.

HILLSIDE– *Grazed, Wrapped, Chopped*
Mixture of drought tolerant species and varieties that thrive under grazing. Contains multiple orchardgrasses, meadow brome, and a touch of perennial ryegrass as a nurse crop. Also includes Freedom Red Clover and Regalgraze Ladino Clover.

CREEKSIDE- *Grazed, Wrapped, Chopped*
Mixture of varieties and species designed for wetter soils and colder climates. Forms a nice sod that is tolerant to traffic. The mix is based on meadow fescue and includes ryegrass, timothy, bluegrass and clover.

TRI-STAR– *Wrapped, Chopped*
This all grass mix is primarily designed to be seeded into established alfalfa and clover stands where more yield and more digestible fiber is desired. Also a great complement for new alfalfa and/or clover seedings. The Perun is a very aggressive starter with very high quality; whereas the premium tall fescues and orchardgrasses are very shade tolerant. Put your legume in the small box and this grass mix in the large box.

BEEFMASTER/SOUTHERN BEEFMASTER– *Grazing*
A premium pasture mix that consists of Barenbrug's best grazing tall fescue, orchardgrass, perennial ryegrass and white clover. The Southern Beefmaster includes the BarOptima +E34 Tall Fescue for improved longevity in the heat.

Beef cattle grazing Summer Feast at a field day.

Alfalfa Features

KINGFISHER ENHANCER II

Enhancer has been a strong alfalfa for many years. It continues to show solid yields in a variety of geographies and soil types. It's a nice, showy plant and has solid nutritional characteristics.

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

KINGFISHER PLH 322

A newer leaf hopper resistant variety that has exceptional quality. PLH also maintains high forage quality in a delayed harvest regime.

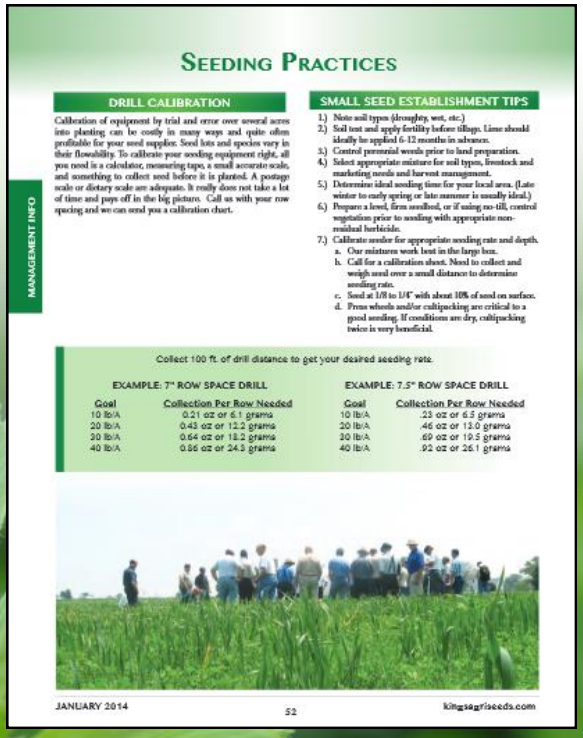
Fall Dormancy– 3
Winter Hardiness– 2.2
Disease Rating– 30/30

"King's puts the research behind their products and I could always trust that they would provide the best seeds available for my customers in my area."
Terry Ingram
Dairyman & Kings Dealer, Brandy Station, VA

Establishment Tips

1.) 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.
6.) Prepare a level, firm seedbed, or if using no-till, control vegetation prior to seeding (appropriate non- residual herbicide)
7.) Calibrate seeder for appropriate seeding rate and depth.
a. Most of our mixtures work best in the large box.
b. For calibration, see page 52 in the 2014 Product Guide or download from kingsagriseeds.com
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.

See our management section in the PIG



SEEDING PRACTICES

MANAGEMENT INFO

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.

SMALL SEED ESTABLISHMENT TIPS

1.) 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 non-residual 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.

Collect 100 ft. of drill distance to get your desired seeding rate.

EXAMPLE: 7" ROW SPACE DRILL

Goal	Collection Per Row Needed
10 lb/A	0.21 oz or 6.1 grams
20 lb/A	0.43 oz or 12.2 grams
30 lb/A	0.64 oz or 18.2 grams
40 lb/A	0.86 oz or 24.3 grams

EXAMPLE: 7.5" ROW SPACE DRILL

Goal	Collection Per Row Needed
10 lb/A	.23 oz or 6.5 grams
20 lb/A	.46 oz or 13.0 grams
30 lb/A	.69 oz or 19.5 grams
40 lb/A	.92 oz or 26.1 grams

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PLH 322 pictured– Stem and leaf contain pubescence to reduce pressure from leaf hopers

Farm Feature: Greyrock Farms & Dairy

FARM: GREYROCK FARMS & DAIRY
OWNER: JAMES ANDERSON
LOCATION: MOORE, SOUTH CAROLINA
CROP: AS 6402 SORGHUM SUDAN

Through our dealer in Asheville, NC (AgCare Products) we have been working with James Anderson for the past few years providing sorghums and other products to help increase the drought tolerance of his crop rotation. James' main goal is to produce as much high quality feed as possible for his milking heard and drought is his main concern given his climate and soil types. Located in central South Carolina, James' farm sees hot, humid weather throughout much of the summer. In many years, rainfall through the summer is limited and corn crops struggle.

In 2013 James Anderson planted the AS 6402 sorghum sudan pictured to the right. He placed a post in the field so he could see how it was growing as he passed by each day and he said it seemed to grow as much as 4" in a day at its peak. In addition to the 6402, last year James planted multiple varieties of sorghum sudan and was happy with the tonnage and feed quality. This year he transitioned all of his corn ground to either direct chop forage sorghum (AF7202, AF7401, AF7201) or sorghum sudan (AS 6501). He plants his forage sorghum on 30 inch rows for direct chopping at soft dough on over 300 acres and is relying on this as his main source of forage for his milk cows. He expects these products to perform well on his drought-prone soils and to produce high tonnage of high quality BMR forage.

Internet Resources

We are committed to providing the best on-farm service possible. Our foundation is based on education both on the farm and through various media forms; newsletters, ads, web, etc. We hope you find that we are accessible and that the information we provide delivers value on your farm. Feel free to reach out to us at any time with questions or suggestions about how we can better serve you. **Website-** While we have maintained an extensive website for years, we have added the following to the site recently:

- **Resources Tab**– Helpful crop management tools. (Under About Us Tab)
- **Pressroom Tab–** Current articles on innovative forage concepts. (Bottom of Home Page)
- **Events Calendar–** Upcoming events related to forage in the northeast, mid-atlantic and southeast.
- **Blog–** Find news and info from the forage industry
- **Tech Sheets-** All product tech sheets are now online to download. If you would like hard copies of any tech sheets, please give us a call. (Link Paired with Product)
- **E-Mail Blasts-** We strive to send periodic forage updates through our email network so that you have access to timely information and can make appropriate management adjustments. If you would like to be added to this E-Mail list, send an email titled "E-Blast" to info@kingsagriseeds.com and let us know what state you are in so that our updates are more geographically relevant.

Perennial Forage Research Plots

Evaluate & Plan Forward for Success

Joshua Baker, King's AgriSeeds

-Loyal Martin, Producer in Philadelphia, NY
"As an organic dairy farmer, I have appreciated King's AgriSeeds' commitment to excellence in selecting, testing, and providing some of the best seed varieties today, along with much helpful agriculture information."

While our current focus is on preperation for the fall, we also should take time to evaluate the our summer crops. NOW is the best time to complete full evaluations and reviews of your current summer crops so that you can begin to think about planning for next year. Keeping an accurate log book of successes and failures of crops will help make your 2015 purchasing decisions much easier. Call your King's dealer or King's representative and have them walk fields with you to determine what caused any crop damage and whether or not it can be prevented next year.

For the past few weeks, we have been busy answering calls about issues including stand failures, bug damage, herbicide carryover damage, and many more. The important thing is that we get out in the fields with the producers and talk about what to do with the current crop as well as what to do in the future as preventative measures. In traveling, I have seen that this year rain was extremely spotty and crops in some areas suffered from this while others thrived.

What we can't do is control the rain. What we can do is diversify our cropping system so that we have an insurance policy. A balanced system of perennials and annuals is consistently the best approach to producing balanced sustainable yields. Forage sorghum is a crop that has emerged as a drought resistant summer annual that thrives in conditions where corn struggles. This, among other considerations may mean the difference in a few tons of overall productivity per acre.

Don't forget to take notes on the good fields. It does us no good to focus only on the bad, but instead mix in both the successes and failures, write down a synopsis and review when you are making your purchases for 2015.

Scout and take notes on:

Eric Young (Agronomist at Miner Institute) snapped this photo of his son standing in a nice field of Masters Choice corn at the Miner. Miner Institute will evaluate the Masters Choice floury corn as they feed it to their herd later this fall/winter.

Weed Pressure

Pest Pressure

Reduced Stand

This field was evaluated in mid July after a few weeks of drought resulted in reduced germination. The recommendation from King's agronomist was to interplant forage sorghum into week areas to improve the stand.

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High Energy Forages and Soil Building Cover Crops