

NEW TECHNOLOGIES COSTLY BUT PROVE PROFITABLE ON FARMS

"WHY ARE SEED SO EXPENSIVE?"

Throughout history, the agricultural industry has evolved with technological advancements. Early on, cutting edge developments in mechanization, cultural practices, weed control and plant breeding led to ever increasing efficiency and production capacity of U.S. farmers. More recently, the breakthrough and use of transgenic technology has further increased production capability making American agriculture the envy of the world.

Admittedly, many of these technological advances have carried with them steep costs, but yet have proven to be so-called "game changers" and profitable for farmers. Such is the case with technology advances in forages. For example, technology fees for Roundup Ready alfalfa varieties can add \$100 or more to the cost of a 50 lb. bag of seed. The new non-toxic, novel endophyte-infected tall fescue technology can increase seed cost as much as 3 times that of toxic KY 31 or endophyte-free tall fescue seed. Yet, knowledgeable and progressive farmers are willing to pay the higher cost. Why? Because they know that the use of these technologically advanced forages is profitable. They have seen research data like the stocker cattle study at the University of Arkansas that showed per acre returns to be \$180 - \$230 per year more for stockers grazing MaxQ pastures than those on KY 31 pastures. Or, they have experienced their own successes like South Carolina cow-calf producer Joe Davis who has seen weaning weights average up to 100 lbs. more for calves raised on his MaxQ pastures compared to those reared on KY 31.

But the questions are still asked. Why are seed so expensive? Aren't seed companies just trying to make huge profits at the expense of the farmer? As the leading supplier of non-toxic novel endophyte-infected tall fescue varieties (**Jesup MaxQ** and **Texoma MaxQ II**) in the country, Pennington forage specialists and sales professionals face these questions often. Pennington's senior forage agronomist Chris Agee confronts them frequently. "When I get this question, I try to explain that our cost of producing and marketing these new fescue varieties far exceed that of traditional varieties like KY 31," relates Agee. "As a company, we invested large amounts of money in the development of these new varieties," explains the forage expert.

"We pay ongoing royalties for both the Jesup and Texoma fescue varieties plus royalties on the particular novel endophyte contained in each variety," adds Agee. "These royalties alone approach or exceed the retail price of KY 31."

Adding additional production costs to these technology advanced forages are added measures taken for quality assurance. "When farmers purchase a novel endophyte variety of tall fescue like Jesup MaxQ or Texoma MaxQ II, they are paying a premium primarily for the non-toxic endophyte contained in these varieties," explains Agee. "So, we take added steps to insure the survivability of the endophyte." That begins at the farm level with more stringent production and harvest requirements placed on the cooperating seed growers. "Farmers who grow our MaxQ tall fescue varieties are paid a healthy premium over what would be paid for their KY 31 seed harvest", says Agee. Special packaging and strict storage and shipping techniques are also employed to prevent seed desiccation and endophyte loss. "Every lot of seed is tested for endophyte level," explains the forage expert. "Seed lots that fail to meet minimum endophyte levels are not sold as novel endophyte varieties." He further emphasizes that unlike KY 31 and other tall fescue varieties, MaxQ seed are not carried over from year to year. Agee says these addition steps further increase production costs.

According to John Carpenter, Director of Independent Sales for Pennington's parent company - Central Garden and Pet, "Seed prices – like prices for all products – are determined based on cost of production, manufacturing and marketing plus a reasonable profit margin for the company. Stiff competition among seed companies keeps input cost and profit margins in check," emphasizes Carpenter.



GIVE DEER WHAT THEY NEED AND WANT WITH BUCKMASTERS FEEDING FRENZY FOOD PLOT MIXTURE MORE SEED – MORE FEED – MORE DEER

Providing meals for the family that are nutritious, healthy AND palatable can often be challenging. The same is true for wildlife. Establishing food plots that meet the nutritional needs of deer and are pleasing to their palate can be a challenge - especially if landowners and deer hunting enthusiasts are overly seed cost conscious.

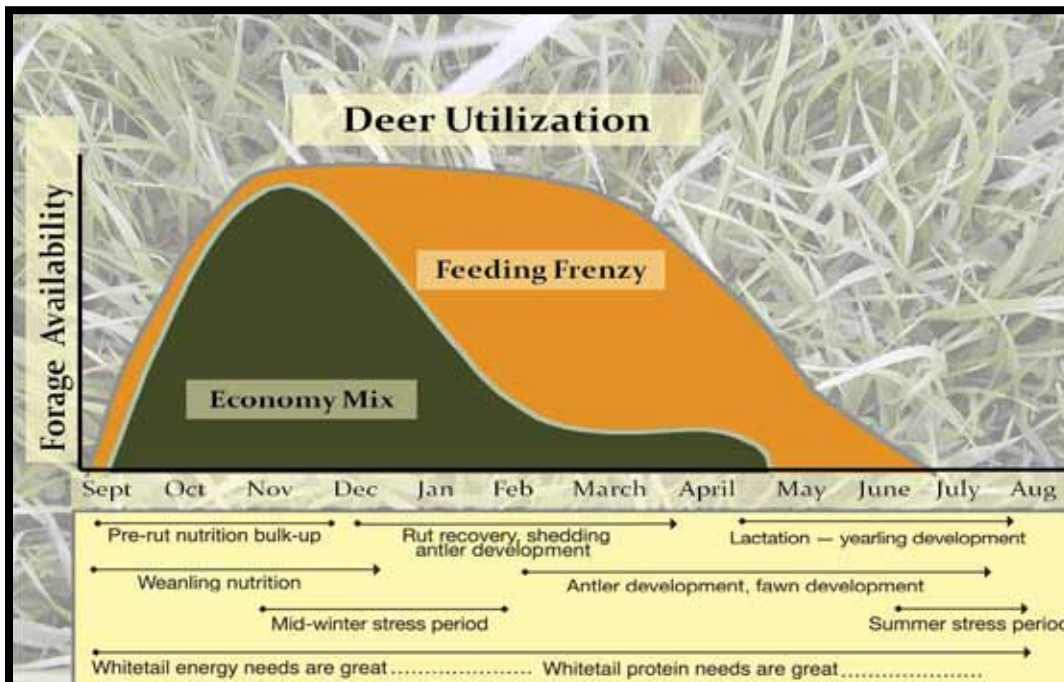
If the goal is to maintain a deer herd that is big and healthy, the cheap food plot mixes can't measure up to higher quality mixes like Pennington's **BUCKMASTERS Feeding Frenzy**. For as little as \$15 more per acre, hunters can plant a food plot that deer can't resist and one that provides the critical nutrition needed by the deer herd for up to eight months.

Feeding Frenzy is a combination of small grains, brassicas, sweet winter peas and clovers specifically formulated in the precise percentages to ensure that deer are attracted to and can utilize each plot to its maximum nutritional potential. This mixture remains attractive every week of the season to consistently bring deer into the food plot. The oats in the mixture germinate first and quickly grow to lure deer into the food plot. Sweet winter peas then establish to provide a source of high protein and desirable forage. As winter arrives, the carbohydrates in the brassica leaves are converted to sugars, making the plants highly palatable and providing energy and nutrition during the coldest months following the rut. The clovers grow throughout the winter into spring providing high quality nutrition for post-rut bucks and pregnant does.



With a combination of small grains, brassica, winter peas and clovers, BUCKMASTERS Feeding Frenzy provides nutrition deer need and desire.

Compared to an economy food plot mix, Feeding Frenzy provides **more seed** (42 seeds/sq.ft. vs. 25 seeds/sq.ft.) which equals **more feed** with greater plant diversity and 70% more high protein legumes leading to **more deer** that are bigger and healthier. Also, seed contained in the Feeding Frenzy mixture are treated with Pennington's exclusive GermMax seed treatment to maximize germination and get plants off to a strong and healthy start.



When trying to meet the critical nutritional needs of the deer herd, economy food plot mixes can't measure up to higher quality mixes like Pennington's BUCKMASTERS Feeding Frenzy.

FIELD GUARD™ COVER CROP MIXTURES ADDED TO FORAGE LINE

To help meet the growing demand for cover crop seed products to protect and improve soil resources and to improve profitability, Pennington Seed is bringing three new cover crop seed mixtures to the market in fall 2015. Sold under the Field Guard™ label, each distinct mixture is formulated to match the specific goal of the user whether it is to provide general ground cover, build fertility, improve soil structure or a combination of all three. Larger producers will have the opportunity to purchase custom blends for their specific needs. The Field Guard™ base mixes include:

Cover Star™ All Purpose Mixture

This mixture contains Wintergrazer 70 rye and AU Sunrise crimson clover. Wintergrazer 70 can scavenge up to 100 lbs/A of nitrogen from the previous cash crop and AU Sunrise will also scavenge excess nutrients while producing up to 75 lbs/A of nitrogen. Together these two cover crops enrich the soil with nitrogen and other nutrients while increasing soil tilth for the next cash crop. Plant this product at ½” depth at a rate of 50 lbs/acre.



rye crimson clover

YieldUp™ Green Manure Mixture

This mixture contains Wintergrazer 70 Rye, AU Sunrise Crimson Clover and red clover. Our YieldUp mix gives you all the benefits of our Cover Star All Purpose Mixture plus the added boost of nitrogen from the top N producing red clover plant. The crimson and red clovers work overtime to add nitrogen to your soil, reducing input costs and providing superior yield results. YieldUp Cover Crop mix will fix up to 125 lbs per acre of free nitrogen. Plant at ½” depth at a rate of 50 lbs/acre.



rye crimson clover red clover

Pan Buster™ Soil Penetrating Mixture

This mixture contains Root Plow radish and Pennington ARG-1. Root Plow radish is a seriously deep rooted plant that breaks up hard packed soil and creates pores for water and air. It is mixed with our proprietary ryegrass, ARG-1, our best extended root variety to add even more root penetrating capability to this mix. ARG-1 has excellent winter hardiness and is a uniform and late maturing variety for a longer termination window. Plant this product at ½” depth at a rate of 12.5 lbs/acre.



Root Plow™ Radish ryegrass

WINTERIZING BERMUDA HAYFIELDS

Giving some attention to properly winterizing bermuda hayfields in the fall can pay handsomely in the spring with healthier, thicker and more productive stands. Key factors included in the winterization of bermuda hayfields are fertilization and cutting management. The last nitrogen fertilizer application each year should be applied a minimum of 6 to 8 weeks before the expected date of a killing frost. This allows growth to “harden off” and be less susceptible to winter injury. Maintaining medium to high levels of phosphorus and potassium in the soil throughout the growing season significantly enhances disease prevention and bermuda stand survival. If season ending levels are low, apply phosphorus and/or potassium fertilizer per soil test recommendations in late summer/early fall to build up root energy reserves going into the winter. Leave at least 3 - 4” of bermuda forage growth entering winter. This growth serves as a blanket to help insulate and protect the plant stolons from freezing temperatures. Fall is also a good time to apply lime if needed. This will allow time for the liming material to move down into the soil with moisture and begin amending soil pH during the winter months.



Properly winterizing forage bermudagrass helps insure healthier, thicker and more productive stands.

INTERSEEDING ALFALFA INTO BERMUDAGRASS GAINING POPULARITY

“ADVANTAGES ARE NUMEROUS...”

Alalfa has long been a staple of the Upper South and northern areas of the U.S. as a premium livestock forage for livestock. More recently, its popularity is gaining ground in the more southern areas of the county, but not in the traditional sense. A novel concept of interseeding the “queen” of forages into “workhorse” bermudagrass pastures and hayfields is catching on and gaining popularity in areas of the country where both forages are adapted. Touted advantages of using these two forages together as a mixture are numerous and include:

Little or no purchased nitrogen needed - As a legume, alfalfa captures up to 200 lbs/A of nitrogen annually from the atmosphere which it uses to supply its own N needs and much of what is needed by the bermuda.

Improves forage quality - Properly managed and harvested alfalfa can average 30-50 points (or more) higher in Relative Feed Quality (RFQ) value than bermudagrass. In summarizing forage sample results in Georgia over an 8 year period, UGA Extension Forage Specialist Dennis Hancock found that the average RFQ value for alfalfa averaged 150 points versus 95 points for bermuda samples.

Enhances alfalfa hay drydown time – When harvested for hay, controlled research and on farm demonstrations have shown that the coarseness of the bermudagrass forage and stubble density enhances air movement throughout the forage allowing faster crop drydown than with alfalfa alone. This improves alfalfa leaf retention and reduces the risk of yield and quality loss due to adverse weather.

Reduces foreign matter content of hay – The mixture of alfalfa and bermudagrass provides more complete ground cover and less bare ground exposure. The result is a reduction in the amount of foreign matter collected during the tedding, raking and baling operations.

Earlier spring production - As a cool season forage, alfalfa initiates growth several weeks earlier in late winter/early spring allowing for earlier forage utilization as grazing or hay/balage production.

Can be use as supplemental feed or hay production – Alfalfa-bermuda mixed fields can be used dual purpose as supplemental grazing for livestock and/or as a cash hay crop.

Less fall-off in production - Alfalfa is a short-lived perennial forage with a normal stand life of 4-7 years. Over time, alfalfa stands begin to thin causing a loss of production. In mixed stands, the bermudagrass fills in the open spaces created as the alfalfa stand thins resulting in little or no drop-off in forage production.

ALFALFA VARIETIES AVAILABLE FROM PENNINGTON

Pennington is partnering with America's Alfalfa to offer growers two of their premium alfalfa varieties – AmeriStand 403T Plus and AmeriStand 803T. Both varieties produce high yields and offer high resistance to Phytophthora root rot and other yield robbing diseases. **AmeriStand 403T Plus** is a fall dormancy 4 variety that has widespread adaptation across the northern three-fourths of the U.S. **AmeriStand 803T** is a fall dormancy 8.3 selection that is primarily adapted to the southern one-fourth of the country. Both varieties are **Traffic Tested™** for fast recovery and persistence.

Guide to Interseeding Alfalfa into Bermudagrass

- **Plant on well drained, fertile soils with a pH of 6.5 – 6.8.**
- **No long residual herbicides should be used in the previous 12 months.**
- **Graze or clip bermuda down to a height of 1-2 inches.**
- **Spray with Glyphosate (Roundup WeatherMax) at 9 oz/acre(5.5 lb. ai.)**
A higher rate of 16-22 oz/acre can be used if bermudagrass is completely dormant. Okay to burn off with fire after the chemical burn down.
- **Seed alfalfa at a rate of 25 lbs/acre on 7-9 inch rows.**
- **Seed no deeper than ½ inch deep with a no-till drill.**
- **After emergence, spray to control seedling insect pests if needed.**

Source: America's Alfalfa Seed Company

NEW FORAGE SPECIALIST JOINS FORAGE & WILDLIFE SEED TEAM

FOCUS AREA INCLUDES MS, LA, AR, TX, MO, & OK

Raymond, Mississippi native Al Hubbard has joined the Pennington forage & wildlife seed team as Regional Forage Specialist. In his new position, Al will assist the independent sales team in growing Pennington's proprietary forage, wildlife and cover crop seed sales.

Hubbard holds Bachelor and Masters Degrees from Mississippi State University. "Al comes to Pennington with a wealth of forage, wildlife and farm service knowledge," says John Carpenter, Manager of Independent Sales for the eastern U.S. "He has firsthand knowledge of numerous forages from his studies at Mississippi State and his previous experience as a grasslands conservationist with the Natural Resources Conservation Service," adds Carpenter. "Having worked as a department manager with Southern States Cooperative and as a territorial sales manager for an herbicide distribution company, Al also has a full understanding of the business and sales side of the ag industry."

While Hubbard will assist with proprietary seed promotion throughout the eastern half of the U.S., his primary focus area will be in Mississippi, Louisiana, Arkansas, Texas, Missouri and Oklahoma. He currently resides in Starkville, MS with his wife, Kristin and eleven month old daughter. Al's hobbies include playing golf and deer hunting with family and friends.



Al Hubbard

MaxQ Myth: MaxQ will be contaminated and revert to toxic fescue.

The endophyte in MaxQ is a pure strain and can never become toxic. Fescue endophytes cannot be taken up from the soil by roots nor can they be transferred or hybridized by cross pollination. However, fields can become contaminated with toxic fescue varieties if seed are introduced via mechanical movement (feeding toxic hay, piles of seed on mower decks, etc.) back into a MaxQ pasture. Pennington forage experts discourage the feeding of toxic fescue hay in MaxQ pastures and recommend cleaning any toxic fescue seed from farm machinery prior to its use in MaxQ pastures.

RACKMASTER® TROPHY RADISHES PLUS

NEW WILDLIFE FOOD PLOT PRODUCT FOR FALL 2015

Rackmaster® Trophy Radishes™ Plus has been added to the Pennington wildlife food plot product line and will be available this fall. This new product features a combination of Pennington's ultra popular Trophy Radishes™ and Pennington's new AU Sunrise crimson clover. Trophy Radishes™ Plus can be planted alone or in combination with oats or other small grains.

The combination of radish and crimson clover compliments each other well. Trophy Radish™ grow fast to provide high yields of lush green tops loaded with protein. They also produce huge roots that deer find highly attractive during and after hunting season. Both tops and roots of Trophy Radish™ contain significant amounts of copper, zinc, manganese and boron – essential trace minerals needed by deer. AU Sunrise crimson clover boosts food plot yield and protein content and provides nitrogen for the radish. The lush, tender leaves produced by the combination of radish and clover make the Rackmaster Trophy Radishes Plus food plot mix a highly attractive and high quality food source for deer beginning with bow season and continuing on through the fall and into spring.

In addition to its nutritive qualities, Trophy Radish™ Plus improves soil quality and tilth. As the clover matures and dies and the huge radish tubers deteriorate in the ground, the soil is conditioned by the addition of organic matter and nutrients leading to improved water holding capacity and soil texture.

