



# Forage News

## Keeping Forage-Livestock Producers in Kentucky Informed

Dr. Ray Smith and Krista Lea, editors

February 2023

### Kentucky has two winners at the American Forage and Grassland Council Annual Conference

The AFGC annual conference was held in Winston-Salem, NC in early January and featured two contest winners from Kentucky. On Monday, The Forage Spokesperson contest was won by Bracken county's Bart Hamilton. On Tuesday, UK Graduate student Echo Gotsick won the Emerging Scientist Contest while presenting part of her master's research, Warm Season Grass Encroachment over time in KY Cattle Pastures.

### KY Alfalfa and Stored Forage Conference-Feb. 21

If you produce hay for sale or for your own livestock, make plans to attend the KY Alfalfa and Stored Forage Conference in Cave City, KY Feb. 21, 2022. Simply go to the Forage Website under events to register or call 513-470-8171. The theme of this years conference is **Hay Production, Marketing and Mechanization**. The topics and speakers include:

- National Producer and Consumer Survey: Increasing Alfalfa Hay Sales to Horse Owners-Krista Lea, UK
- Hay Production in the Deep South: Bermudagrass and Alfalfa-A Perfect Combination! – Dr. Jennifer Tucker, University of Georgia
- Options for Hay Mechanization: Producer Perspective-Dennis Wright
- Hay Mechanization and Equipment Update: Industry – Noah Pendry, CNH Industrial (New Holland)
- Fall Armyworm Research -Dr. Chris Teutsch, UK
- Attacking the Yield Plateau: Assessing the Nutrient Status of Kentucky Alfalfa Stands – Will Fleming, UK
- One Big Idea that has Helped Improve My Haying Operation-Winners of the KDA Hay Contest
- Update on Options for managing thinning alfalfa stands-Dr. Jimmy Henning, UK

### Pub of the Month: Fertilizer Value of Supplemental Feed for Cattle on Pasture, Univ. of Missouri

The value of commodity feeds is well established in the beef cattle industry. An often-overlooked aspect of supplementing grazing cattle with hay is the additional mineral nutrients that pass through the animal to the pasture in the manure and urine. The objective of this guide is to help calculate the value of supplemental feeds as a fertilizer for pastures.

With manure nutrients, cattle are the fertilizer spreader. Urine typically contains more than 50 percent of the total nitrogen and potassium excreted by cattle.

### Forage Timely Tips: February

- ✓ Continue grazing stockpiled tall fescue if available.
- ✓ Assess grass stands. If thin, consider adding legumes.
- ✓ Begin frost seeding with 6-8 lb/A red and 1-2 lb/A ladino white clover on closely grazed pastures.
- ✓ On pastures with lower fertility, consider also adding 10-15 lb/A annual lespedeza.
- ✓ Consider applying 40 lb/A nitrogen in mid- to late-February on some pastures to promote early growth.
- ✓ Sign up for shared use drills for spring renovation.
- ✓ Service and calibrate no-till drills.
- ✓ Apply lime and fertilizer according to soil test if not done in fall.

Conversely, feces contain 80 percent of the total phosphorus excreted by cattle.

The nutrients in supplemental feed are only valuable as a fertilizer if you take steps to ensure that they are spread evenly around the whole field. Animals typically do a poor job of distributing nutrients around a pasture; nutrients tend to concentrate near feeders, water and shade areas. The bulk of the pasture often gets only limited benefits from manure nutrients unless steps are taken to improve manure distribution by grazing animals. Download from Univ. of Missouri Extension website: <https://extension.missouri.edu/publications/g2083>

### Closing Date for Forage Seeding Insurance Coverage Fast Approaching—March 15

Farmers invest a significant amount of time, energy, and money in new seedings of alfalfa and forage crops each year. In order to protect that investment, farmers are reminded of the fast-approaching deadline to apply for forage seeding coverage for many areas of the country. Current policyholders and uninsured farmers must make all of their decisions regarding crop insurance coverage for spring-seeded crops before the sales closing date of March 15, the last day to buy federal crop insurance (coverage for fall-seeded crops is July 31).

Kentucky is not one of the officially approved states for this insurance, but fortunately KY producers can apply through a local agent who sells other crop protection policies with a 'written agreement.' Written agreements are more cumbersome and labor intensive, but still an option for those who are interested in obtaining coverage

in non-covered states. Check with the agent you normally work with to find out the records you'll need to provide in order to apply for coverage.

Forage seeding coverage is a dollar value policy which establishes a set price per acre for the forage seeding. This value is dependent upon the level of coverage selected and it changes every year. The policy varies slightly among states. Coverage protects against adverse weather conditions, such as hail, frost, freeze, wind, drought and excess moisture; failure of irrigation water supply; fire, if due to natural causes; plant disease and insects; or wildlife. ~ published in National Alfalfa and Forage Alliance January Newsletter.

### How to Select the Best Clover Varieties

Although there are not a lot of new red clover varieties, several companies and Universities have active red clover breeding programs. In some ways, red clover is the easiest species to make variety recommendations for. Simply put, "only plant certified seed of improved varieties, never plant common seed." Bags of certified seed always have a blue certified seed tag. That is still great advice, especially with public varieties like Kenland, but some improved varieties from seed companies are not officially certified. If the seed bag does not have a blue tag then make sure you are dealing with a reputable forage seed company that you trust and make sure the variety has shown good performance in UK trials.

University of Kentucky research has shown that the difference between improved varieties and common seed can be over 6000 lb/acre higher yield over the life of the stand and 1 to 1 ½ years longer stand life. Sometimes you may "luck up" and find that the bag of cheap common seed you purchased was actually an overstock of an improved variety, but UK variety trials show that 9 times out of 10 certified seed of improved varieties showed higher yield and longer stand life. Most red clover breeders continue to make small steady improvements in stand persistence through improved resistance to root and crown diseases, but no variety yet has the ability to dependably survive more than 3 growing seasons.

Additional benefits of red clover in pastures was recently summarized by Dr. Michael Flythe from the USDA-ARS-FAPRU research lab in Lexington, KY. Our research is providing evidence that isoflavones in red clover can inhibit wasteful Hyper Ammonia-Producing Bacteria (HAB) in the rumens of cattle that are responsible for breaking down amino acids. As a result, the utilization of protein is improved for more efficient weight gain. In addition, the isoflavone biochanin A was determined to improve blood flow in ruminants exposed to toxic ergot alkaloids and, therefore, mitigate the effects of fescue toxicosis. In short, biochanin A causes vasodilation which opens up the constricted blood vessels of cattle grazing KY-31 tall fescue.

It is getting a little hard to make sense of new white clover varieties. In the past, the recommendation was to plant an improved variety of ladino white clover. Ladino types are closely related to the common Dutch types that seem to grow everywhere, but ladino white clover is taller with larger leaves than Dutch white. Therefore, larger plants and larger leaves produce higher yields.

While that is true, ladino types typically do not

live as long as Dutch whites. In recent years, many producers have stated that they could sacrifice some yield for longer persistence. Therefore, companies are now starting to release intermediate types that are hybrids between ladino and Dutch whites. For the most part, these intermediates look to be a good compromise between their two parents. Make sure though that you review yield and stand persistence information from variety trial publications before planting new intermediate

UK has an additional publication that is a summary of all forage variety testing. All the forage species and all forage varieties that have been tested in Kentucky over the last 20 years are included in the summary document entitled "Long Term Summary of Forage Variety Trials." Just as with the regular reports the summary report is updated every year. This summary publication also includes a listing of the companies that have developed or are distributing each variety. In the summary document variety yield is listed as a percentage based on the mean yield for a particular trial. In other words, a variety with 100 produced the same yield as the average or mean for the trial; below 100 designates below average yield; and above 100 above average yield. The take home message is that the best varieties are those that performed close to or above average.

One of the most useful parts of each summary table is the right hand column where the average performance over multiple locations and years is listed. The number in parentheses designates the number of the trials that a specific variety has been tested in KY and those varieties that don't have an overall average listed were only planted at one test location. For example, certified Kenland has been in 28 trials in Kentucky over the last 18 years and its performance is 110% of the average of all the varieties entered in these trials. And there are several proprietary company varieties that show similar high yields. Conversely, when we planted seed from a bag that had Kenland stamped on the bag but did not have a certified seed blue tag it only yielded 70% of average. Paying a little more for improved forage varieties can make a huge difference over time.

Check out the University of Kentucky Forage Website (<https://forages.ca.uky.edu/>) for more information on variety choices by clicking on "Variety Trials." Or ask for recent reports from your county Agriculture agent. ~from Forages at KCA Proceedings, Ray Smith, Gene Olson, Jimmy Henning and Chris Teutsch.

### Upcoming Events (see Forage website for details and to register, click on EVENTS)

Feb. 6-Pasture Please Equine Conf., Lexington

Feb. 21 —KY Alfalfa /Stored Forage Conf. Cave City, KY

Feb. 20-21—Heart of Amer. Grazing Conf. Ferdinand, IN

April 11-KY Fencing School, Allen Co.

April 13-KY Fencing School, Madison Co.

April 25-26-KY Grazing School, Princeton, KY

May 14-19—International Grassland Congress, Covington, KY

Sept. 21 - National Hay Association Convention, Bowling Green, KY

**Subscribe or access full articles at the UK Forage Website [www.forages.ca.uky.edu](http://www.forages.ca.uky.edu).**

see blue.

## Press Release—KY Farmer Wins the National Forage Spokesperson Award at AFGC

Bracken County farmer Bart Hamilton recently won the National Forage Spokesperson Contest at the American Forage and Grassland Council's Annual Meeting in Winton-Salem, North Carolina. Contestants from across the nation told their farm's story in 15-minute presentations highlighting their operation's forage utilization, quality and overall forage management.

State affiliate councils nominate individual farmers to present at the national conference. In October, Hamilton won the Kentucky Forage and Grassland Council's Forage Spokesperson Contest to qualify for the national contest.

"Bart learned quickly that you cannot manage what you do not measure," said David Appelman, University of Kentucky College of Agriculture, Food and Environment agriculture and natural resources extension agent in Bracken County--Hamilton's home county--who has worked with Hamilton on multiple projects. "I enrolled him in a genetic improvement program with UK Department of Animal and Food Sciences extension professor Les Anderson. In addition to forage management, Bart also focused on improving his genetics, reducing the physical size of his cattle and shortening his calving season. This made it easier for him to manage his forage resources."

Hamilton has participated in numerous UK programs over the years, including Master Cattleman, Grazing School and Fencing School and collaborated with Anderson on the East Kentucky Integrated Reproductive Management Program. Hamilton said his successes and failures along his farming journey and UK programs helped him improve grazing management. When he began his journey, Hamilton said the farm was managing him, not the other way around.

Together with his family, Hamilton raises beef cattle and Broadleaf Wrapper tobacco in the Berlin community. [His presentation](#) is available on the [KY Forages YouTube channel](#) from the KY Grazing Conference.

## Red Clover to the Rescue

If ever there were an animal in trouble with toxic endophyte-infected tall fescue, red clover would likely have been able to help prevent the issue. This legume can remedy vasoconstriction in cattle, and new research suggests it has other superpower-like properties as well. Vasoconstriction is a condition caused by toxic endophytes that grow between tall fescue's cell walls. Affected animals' blood vessels constrict, and they can have difficulty regulating their body temperature, which leads to heat stress in the summer and cold stress in the winter. Jimmy Henning with University of Kentucky (UK) Extension says red clover can help combat these negative consequences.

"Red clover has been found to contain a natural compound that actually causes these constricted blood vessels to dilate, restoring blood flow and relieving temperature stress," the extension forage specialist explains. "These compounds, called isoflavones, are also present in white clover and alfalfa, but at lower levels than red clover."

Cattle do not need to consume large quantities of red clover to realize the benefit. Work by the USDA-ARS Forage-Animal Production Research Unit in Lexington, Ky., showed improved growth and vasodilation in steers grazing toxic tall fescue by supplementing hay with 15% red clover. Other studies found feeding mineral that contains 20% ground red clover leaves can reduce symptoms of toxic fescue in cattle fed toxic fescue seed.

Although isoflavones safeguard against vasoconstriction, they are phytoestrogens, which have been suspected to suppress livestock reproduction rates. To test this hypothesis, Brittany Harlow with the USDA-ARS in collaboration with UK researcher Les Anderson, the Kentucky Beef Network, and Burkmann Nutrition are conducting a study to compare the reproductive efficiency in heifers fed mineral containing 20% red clover versus mineral without.

Preliminary results suggest that the red clover mineral has no effect on heifers' reproduction. Further, the animals receiving this treatment appeared to shed their winter coats faster and experienced less heat stress in the summer as a result. A second year of data collection is planned.

Red clover can be introduced to pastures of tall fescue this time of year by frost seeding. Henning says the freeze-thaw cycles that occur in the winter create enough seed-soil contact for red clover to germinate in late spring. ~Jimmy Henning, Farmer's Pride.

Kentucky winners at AFGC Echo Gotsick (left) and Bart Hamilton (right)

