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Forage News

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## Forage News [2012-10]

Department of Plant and Soil Sciences, University of Kentucky

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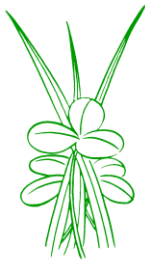
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# FORAGE NEWS

For more forage information, visit our UK Forage Extension Website at: <http://www.uky.edu/Ag/Forage>

## October 2012

*Garry D. Lacefield and S. Ray Smith, Extension Forage Specialists • Christi Forsythe, Secretary*

### 13<sup>TH</sup> KENTUCKY GRAZING CONFERENCE

Our 13<sup>th</sup> Kentucky Grazing Conference will be held at the U.K. Research and Education Center in Princeton on October 30, 2012. The committee has an excellent program with leading speakers discussing the most relevant topics pertaining to grazing. No pre-registration is required. Cost is \$15.00 at the door (\$5.00 for students) and includes all materials, proceedings, coffee breaks and a delicious meal.

The program gets underway at 8:30 CST and includes:

- 8:00 am CST Registration, Visit Exhibits, Silent Auction
- 8:30 Welcome
- 8:40 Forages on my Farm – Brent White
- 9:00 Novel Endophyte Tall Fescues – Garry Lacefield
- 9:20 Winter Annuals for Grazing – Ray Smith
- 9:40 Pastures for Horses – Bob Coleman
- 10:00 Cost of Pasture vs. Hay – Kenny Burdine
- 10:30 Break, Visit Exhibits, Silent Auction
- 11:00 Grassfed Beef from a Global Perspective – Glen Aiken
- 11:30 Strategies to Manage the Effects of Drought – Gary Bates
- 12:00 pm Lunch
- 1:00 KFGC Business Meeting and Awards
- 1:30 Silent Auction Results
- 1:45 Forage Spokesman Contest

For additional information and a copy of the program visit [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage) or call Garry (270-365-7541, Ext. 202) or Christi (270-365-7541, Ext. 221).

### AFGC RETURNS TO KENTUCKY – REGISTER SOON

Make sure to register for the AFGC conference in Covington, KY Jan 6-8, 2013. Registration and the full program is now available at [www.AFGC.org](http://www.AFGC.org). Please encourage others in your county to attend as well. We are fortunate to once again have our National Forage Meeting in Kentucky.

### 33<sup>RD</sup> KENTUCKY ALFALFA CONFERENCE

Our 33<sup>rd</sup> Kentucky Alfalfa Conference will be held February 21 at the Fayette County Extension Office in Lexington. The program will feature three farmers along with University Forage Scientists from University of Kentucky and University of Georgia. Program highlights include:

- Alfalfa for Grazing – Garry Lacefield
- Keys to Success When Harvesting Alfalfa as Baleage – Ray Smith
- Our Experience with Roundup Ready Alfalfa – Clayton Gerald
- Fertilizer: How much is in each Bale? – Dennis Hancock
- Making and Marketing Hay for the Horse Industry – Todd Clark
- Finishing Beef on Alfalfa – Todd Powell

Mark your calendars and plan to attend.

### HEART OF AMERICA GRAZING CONFERENCE

For the past eleven years a regional grazing conference has been organized by representatives from five states (Kentucky, Illinois, Indiana, Missouri and Ohio). The conference has rotated among the five states with Kentucky hosting two conferences. This year's Conference will be held in Springfield, Missouri February 25-26. The program committee is hard at work and details will be available soon.

### HAY TESTING – A WISE INVESTMENT

The Kentucky Department of Agriculture has an excellent hay and haylage testing program. The program has been improved and expanded. A toll free call to the Kentucky Department of Agriculture Forage Testing Program 1-800-248-4628 will get quick results. A trained individual will come to your farm, take samples of your hay/haylage and get the test results back in a short period of time. The results can be used to accurately, efficiently and economically determine your feeding and supplementation program. The cost is \$10.00 per "lot". A "lot" of hay/haylage is hay/haylage taken from the same harvest, the same field, same type of harvest conditions, and with the same method of storage and same weather conditions during harvest.

The testing program can also aid in marketing hay. When your hay is tested, you can list that hay for sale on the Department of Agriculture's computer hay listing service. There is no additional charge for the listing. If you want to buy hay, call the toll free number (1-800-248-4628) for a list of tested hay for sale in Kentucky.

Our thanks to Kentucky Commissioner of Agriculture James Comer along with Kim Field and Jim Wade from the Forage Testing Program for providing this valuable service to Kentucky producers.

### UK BEEF COW FORAGE SUPPLEMENT TOOL – A WEB BASED APP

The UK Beef Cow Forage Supplement Tool is a newly developed web-based app that uses forage analysis results to estimate forage intake and supplementation rates for beef cows. The app, which was produced by Kevin Laurent, Jeff Lehmkuhler and Roy Burris in the University of Kentucky Department of Animal and Food Sciences, can be accessed on the web at <http://apps.ca.uky.edu/forage-supplement-tool/> or downloaded on smart phones for offline use.

Users are reminded that this is not a ration balancing program, but simply a tool that estimates the nutritional needs of a 1250 pound mature beef cow in adequate body condition in three stages of production: mid-gestation, late gestation and lactation. Many variables such as weather conditions, body condition, animal health, palatability of feedstuffs, etc can affect actual intake and animal response to a feeding program and actual feed/forage intake and body condition should be monitored throughout the feeding program.

### KFGC FIELD DAY

The 2012 KFGC Field Day was held September 6 on the Gerald's Farm in Hart County. Clayton, Christopher and all those associated with the farm were wonderful hosts treating us to excellent tours, exhibits and displays. The Hart County Cattlemen served ribeye steak with all the trimmings topped off with homemade cookies, brownies and cobblers made by the host families. On behalf of KFGC and the 295 plus who attended, I want to say a special thanks to Clayton, Christopher and the entire Gerald's farm family. THANK YOU for going the extra mile to make this year's field day a most special, enjoyable, fun experience.

### KENTUCKY GRAZING SCHOOL

Fifty-four individuals from three states attended the Fall Grazing School held in Woodford County September 11-12. Participants were involved in a combination of classroom and field activities. Our thanks to the Woodford County Cattlemen for preparing delicious lunches and

to Woodford County Agriculture and Natural Resources Agent Adam Probst for hosting the school and taking care of the local arrangements.

## BALE WEIGHT, NUTRIENT REMOVAL, AND FEED VALUE OF HAY: AN ON-FARM PERSPECTIVE

Many hay producers commonly have questions about bale weight, pricing and feed value, especially since the dramatic increase in production costs. This past summer, Extension Agriculture Intern Mr. Mat Thomas and I set out to help Madison County hay producers gather information for those questions and others. We asked 30 hay producers to participate in our project. Using a set of portable scales, we weighed three bales from each hay lot. Forage samples were collected using a hay probe and sent to the Kentucky Department of Agriculture (KDA) for nutrient analysis. Plant nutrients, mostly N, P, and K, are removed from the soil after each hay cutting and we know a significant portion of our hay production costs are related to nutrient replacement as fertilizer. Using the forage test analyses, nutrient removal values per ton were calculated and nutrient replacement costs were determined. Average nutrient removal values per ton of fescue hay were: 35 lbs of N, 18 lbs of P<sub>2</sub>O<sub>5</sub>, and 50 lbs of K<sub>2</sub>O. The average bale weight and nutrient replacement cost is listed in the following table.

**Table 1. Cool Season Grass Hay Values**

Bale Size	Bale Weight Range Min-Max (lbs.)	Avg. Bale Weight (lbs.)	Nutrient Replacement Cost
4'x5'	601-1129	863	\$25.79
5'x5'	785-1450	1045	\$31.30
5'x6'	1449-1550	1505	\$43.82
Small Squares	36-42	39	\$1.11

In my opinion, the most important information collected came from the hay feed value. Average test values for crude protein (CP), total digestible nutrients (TDN) and relative feed value (RFV) are listed in the table below.

**Table 2. Forage Nutrient Values**

Hay Type	CP Range Min-Max (%)	CP % Avg.	TDN Range Min-Max (%)	TDN % Avg.	RFV Range Min-Max (%)	RFV % Avg.
Grass	4.9-15.4	10.7	37.0-57.0	51.8	70.8-114.0	94.5
Grass/Legume Mix	8.8-19.8	15.2	47.6-65.5	55.5	71.2-160.4	107.4
Alfalfa	19.8-24.5	21.5	57.0-58.0	56.7	100-125	116.7

\*full bloom alfalfa has a RFV of 100%.

The importance of forage testing cannot be overstated. Simply guessing based on smell, color, and texture may give you a general idea, but many times the actual values vary greatly from our "best guess". In order to balance an accurate feed ration for livestock consuming forage, we must have a good account of nutrients supplied by the forage.

Values from our hay testing data indicate that our average grass hay will supply adequate nutrition for dry cows in their middle third of gestation. Grass-legume mix hay will support dry cows in their last third of gestation, and our alfalfa would supply almost enough nutrition for nursing cows with average milk. None of these forages alone will meet the nutrient needs of growing 400 to 600 pound calves gaining at 2.5 lbs/hd/day and would require supplementation. As you can see, depending on the type of cattle being fed, some of our forages in this sample set will need to be supplemented in order to meet nutrient requirements. Performance, growth, and body condition are the final indicators of a cattle feeding program, but the basis of a balanced ration begins with forage testing. (SOURCE: Brandon Sears, Madison County Agriculture and Natural Resources Agent and Mat Thomas, Madison County Agriculture Intern)

## BEWARE OF CYANIDE (PRUSSIC ACID) POISONING

With the start of fall comes the risk of cyanide poisoning in ruminants. Cyanide, prussic acid, hydrogen cyanide or hydrocyanic acid poisoning are all terms describing the same condition. A number of common plants, including sudangrass, johnsongrass, sorghums and sorghum-sudangrass hybrids contain cyanogenic glycosides in the outer cells of the plant. Further inside the leaf tissue are the enzymes needed to convert these compounds to the cyanide poison. When the

plant undergoes a stressful event such as cutting, wilting, freezing, drought, crushing, trampling, chewing or chopping, the plant cells rupture which allows the cyanogenic compounds and the enzymes to combine and produce hydrogen cyanide gas. Ruminants also have enzymes in the rumen capable of converting the cyanogenic compounds in the plant into cyanide. The toxic gas goes to the bloodstream and blocks a necessary step in the release of oxygen from red blood cells. The animal essentially dies from lack of oxygen. Clinical signs of cyanide poisoning can occur within minutes to hours after consuming the toxic forage. Usually the affected animals are found dead but, if observed early, may show rapid, difficult breathing, frothing at the mouth, muscle tremors, staggering and then collapse. The mucous membranes (such as the gums) are bright pink and the blood can be a bright cherry red color.

It is important to recognize and avoid situations in which these forages pose a danger to livestock. Cattle and other ruminants should only graze sorghum, sorghum hybrids, or johnsongrass when the plants have reached at least 18-24 inches in height. Do not graze plants with young tillers. Do not graze these plants during drought periods when growth is severely reduced or the plant is wilted or twisted and wait at least one week after rainfall to resume grazing. Do not graze at night when frost is likely. Frost allows conversion to hydrogen cyanide within the plant. Do not graze for two weeks after a non-killing (>28 degrees) frost. It is best not to allow ruminants to graze after a light frost as this is an extremely dangerous time and it may be several weeks before the cyanide potential subsides. Do not graze after a killing frost until plant material is completely dry and brown.

If a high cyanide is suspected in forages, do not graze or feed as green chop. If cut for hay, allow at least 72 hours or longer before baling so that the cyanide will dissipate. Allow thorough drying because toxicity can be retained in cool or moist weather. Delay feeding silage 6 to 8 weeks following ensiling.

If you have questions concerning testing for cyanide in forages, call your county Agricultural Extension Agent for further information. (SOURCE: Michelle Arnold, Cindy Gaskill, and Ray Smith, University of Kentucky)

## NITRATE RUMORS CAN KILL CATTLE

Neighbors, friends, and coffee shops can give great advice, but lately some of the information being spread about nitrates in corn stalks is wrong and could prove deadly. More in a moment.

Watch for rumors about nitrates in corn stalks. Some rumors I've heard lately might mislead you into losing some of your cattle.

For example, some people say that after a freeze the nitrates will leave the stalk. So it should be safe to bale or graze corn stalks after it freezes even if the stalks currently contain high nitrates. In real life, though, a freeze probably will have no effect at all on nitrate levels. Almost all our corn plants will be mature and dead before it freezes this fall. And if some plants are still green and alive, a freeze might actually cause a brief increase in nitrate levels.

Other folks assume it will be safe to graze stalks after grain harvest. And in most situations they are correct, but not all the time. Nitrates do tend to decline as plants mature, and plants that produce grain tend to have lower nitrate concentrations. Also, the husks and leaves that cattle prefer only rarely have high nitrate concentrations.

But notice that I didn't say always. I used the words tend and rarely. This has been a stressful year. Dryland fields still may have high nitrates, especially in that lower stalk. You may be tempted to force animals to graze stalks a bit harder than usual this year. Cattle may start out selecting safe husks and leaves, but as that supply declines they will graze more of the lower stalks with potentially dangerous nitrate concentrations.

Play it safe. Before grazing, sample your stalks. Check nitrates in the lower foot of stalk. Check nitrates in the upper portion along with leaves and husks. What you discover could save your animals' lives. (SOURCE: Bruce Anderson, University of Nebraska)

## UPCOMING EVENTS

OCT 30 Kentucky Grazing Conference, U.K. REC, Princeton

2013

JAN 6-8 AFGC Annual Conference, Marriott River Center Covington, KY

FEB 21 33<sup>rd</sup> Kentucky Alfalfa Conference, Fayette County Extension Office, Lexington



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October 2012