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Forage News [2011-10]

Department of Plant and Soil Sciences, University of Kentucky

COOPERATIVE EXTENSION SERVICE • UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE • LEXINGTON, KY, 40546

FORAGE NEWS

UNIVERSITY OF KENTUCKY College of Agriculture

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

October 2011

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12TH KENTUCKY GRAZING CONFERENCE

The 12th Kentucky Grazing Conference will be held at the WKU Expo Center October 13, 2011. The morning program will feature Garry Lacefield, Ray Smith, Greg Halich, Kevin Laurent, and Russell Hackley. Our keynote speaker is Ed Ballard from the University of Illinois. The afternoon program will feature our Kentucky Forage & Grassland Forage Spokesman Contest and Forage Bowl playoff.

Program and topics include:

8:45 Welcome
9:00 Benefits of Grazing: More Important Now than Ever - *Garry Lacefield*
9:15 RyzUp Smartgrass: Growth Promotion for Forages - *Ray Smith*
9:30 Stockpiling Tall Fescue: Cost & Return - *Greg Halich*
10:00 Options for Getting Water in every Paddock - *Kevin Laurent*
10:30 Break
11:00 My Grazing Experience: Reflections & Observations - *Russell Hackley*
11:30 Taking "Grazing" to the next Level - *Ed Ballard*
12:00 Lunch, KFGC Business Meeting and Awards
1:30 KFGC Forage Spokesman Contest
2:45 Forage Bowl Competition – State Payoff
3:45 Adjourn

We are expecting a full house of exhibits. They will be set up and ready to visit at 8:00 CDT.

The registration fee is $15.00 ($5.00 students) and includes refreshments, meal, proceedings and entrance into the meeting and exhibits. It is not necessary to pre-register.

If you have any questions, contact Garry at 270-365-7541, Ext. 202 glacefie@uky.edu or Christi at 270-365-7541, Ext. 221 cforsyth@uky.edu

FROST APPROACHING: BEWARE OF PRUSSIC ACID!

Prussic Acid: Naturally occurring glycosides may form prussic acid, also called hydrocyanic acid or HCN, which can build up to toxic levels in a number of plants including Johnsongrass, sorghum, sudangrass, sorghum-sudan hybrids, and wild cherry. Pearl millet does not produce prussic acid. Prussic acid is most likely to build up to dangerous levels immediately after a killing frost. Also, tender young growth occurring immediately after a long drought can be potentially toxic. Young, tender fast-growing plants are more likely to be toxic than older, more mature plants.

Prussic acid causes death by interfering with the oxygen-transferring ability of the red blood cells, causing animals to suffocate. Symptoms include excessive salivation, rapid breathing, and muscle spasms, and may occur within 10 to 15 minutes after the animal consumes prussic acid-containing forage. Animals may stagger, collapse, and eventually die.

Prussic acid and nitrate poisoning are **not** the same. Toxic levels of nitrates result from heavy N fertilization followed by severe drought stress. Unlike nitrates, prussic acid deteriorates with time. Forage with high levels of prussic acid which is ensiled is usually safe to feed after the ensiling process is completed within 3 weeks after silo fill. Hay which has dried enough to be safely baled (18 to 20 percent moisture) will not contain toxic levels of prussic acid. Standing plants killed by frost are normally safe after about one week. However, in some instances only plants in certain portions of a field are initially killed and subsequent frosts create danger spots in other areas.

Prussic Acid Poisoning can be reduced by:

1. Grazing sorghum or sorghum cross plants only when they are at least 15 inches tall.
2. Do not graze plants during and shortly after drought periods when growth is severely reduced.
3. Do not graze wilted plants or plants with young tillers.
4. **Do not graze for two weeks after a non-killing frost.**
5. **Do not graze after a killing frost until plant material is dry (the toxin is usually dissipated within 48 hours).**
6. **Do not graze at night when frost is likely.**
7. Delay feeding silage 6 to 8 weeks following ensiling.
8. Do not allow access to wild cherry leaves whether they are wilted or not. After storms always check pastures for fallen limbs.
9. When in doubt DON'T.

Losses from Prussic Acid is mostly preventable when we understand the cause-effect-weather relationship and take necessary steps to prevent.

KFGC FIELD DAY

Neither rain nor cold temperatures stopped the program at the KFGC Field Day held at the C. Oran Little Research Center in Woodford County on September 8. Over 100 braved the conditions and learned about the latest forage-related research being conducted. A delicious steak dinner was prepared and served by the Woodford County Cattlemen. Our thanks to Woodford County Agricultural Agent Adam Probst and all the staff at the C. Oran Little Research Center.

DON'T OVERGRAZE WARM-SEASON GRASSES

Remember the old grazing adage "take half and leave half"? In a moment we'll learn how it applies to your pastures this fall.

"Take half and leave half" was the grazing management recommended for many years on rangeland and for planted warm-season grasses. And in many cases it still is. But today, much emphasis is on grazing techniques that use cross-fences to form multiple paddocks. These techniques are known by many names like management intensive grazing, controlled grazing, even mob grazing. Used correctly, they permit increased stocking rates and produce excellent animal performance.

How we graze our pastures, though, does not affect the basic growth processes of our grasses. If we severely graze a pasture short, plants in that pasture need extra time to recover before they are grazed again. And warm-season grasses are particularly sensitive to recovery periods that are too short. This is true regardless of whether the plants are in a continuously grazed pasture or the plants are separated into many rotationally grazed paddocks.

Recovery time is particularly important as we approach winter. Extra rain on many grasslands this summer allowed grass to thrive. You still may have enough growth to provide grazing for another month or two. But plants grazed earlier may not have fully recovered yet despite the rain. Severe grazing now, before full recovery from earlier grazing, will weaken plants as they go into winter. Plants probably will survive, but next spring they will green-up later, early growth will be slow, and they'll compete poorly with weeds.

As we approach winter, "take half and leave half" still is a good management technique. It helps assure that your pastures will be healthy and grow vigorously again next year. *(SOURCE: Bruce Anderson, University of Nebraska)*

Freeze tolerance of forage bermudagrasses

Abstract - The ability to survive harsh winters is one of the primary factors limiting bermudagrass (Cynodon spp.) distribution, especially those used for forage. Consequently, improved stress tolerance has been a goal of programmes for breeding bermudagrasses. While significant progress has been made in developing and evaluating freeze tolerance of turfgrasses, information on forage bermudagrasses is limited. Our objective was to evaluate freeze tolerance of recently released forage bermudagrasses compared with standard cultivars. Plants were established and acclimated in growth chambers and exposed to sub-freezing temperatures in a programmable freeze chamber. Plant responses to low-temperature exposures were quantified by regrowth mass. Freeze tolerance of Tifton 44 and Coastal was not significantly different from Midland, the reference cultivar. Coastcross, Tifton 85 and Tifton 68 were more susceptible to low-temperature injury than Midland, while Hardie, Goodwell, Midland 99 and Ozark were more freeze tolerant than Midland. Ozark, Midland 99, Goodwell and Hardie are less likely to sustain winterkill than Coastcross, Tifton 85 and Tifton 68 in areas that frequently experience low temperatures. Cultivars with one or more parents originating in Kenya had poor freeze tolerance, while germplasm from Yugoslavia and Afghanistan produced plants that were more freeze tolerant. *(SOURCE: J. A. Anderson and Y. Q. Wu, Oklahoma State University, Stillwater, OK IN 2011 Grass and Forage Science The Journal of the British Grassland Society)*

Performance by Spring and Fall-Calving Cows Grazing with Full Access, or no Access to Toxic, Wild-Type Endophyte-Infected Tall Fescue – 3-Year Summary

Abstract - Replacing *Neotyphodium coenophialum*-infected tall fescue (**E+**) with a non-toxic endophyte-infected fescue (**NE+**) improved cow performance. However, producer acceptance of NE+ has been slow, and even producers willing to convert to NE+ will likely convert smaller areas to NE+ and evaluate it before conversion of their entire E+ acreage to NE+. Our objective was to compare performance by spring (**S**) and fall-calving (**F**) cows grazing either E+ or NE+ at different percentages of the total pasture area. Gelbvieh × Angus crossbred cows (n = 178) were stratified by weight and age within calving season and allocated randomly to 1 of 14 groups representing 5 treatments: 1) F on 100% E+ (**F100**); 2) S on 100% E+ (**S100**); 3) F on 75% E+ and 25% NE+ (**F75**); 4) S on 75% E+ and 25% NE+ (**S75**); and 5) S on 100% NE+ (**SNE100**). The F100, S100 and SNE100 groups rotationally-grazed their respective pastures throughout the year. The F75 and S75 groups rotationally-grazed E+ until approximately 28 d prior to breeding and weaning and were then moved to their respective NE+ areas until available forage was limiting (< 900 lb/acre). Hay offered, cow BW and BCS at breeding, end of breeding, and at weaning, and calving rates were greater ($P \leq 0.05$) from F vs. S. Cow BW at weaning, and calving rates were greater ($P \leq 0.05$) from F75 and S75 vs. F100 and S100. A calving season by NE+% interaction ($P \leq 0.05$) occurred for calving rates. Calf gain, actual weaning weight, ADG, adjusted weaning weight, sale price ($/100 lb), and calf value at weaning were greater ($P \leq 0.05$) from F vs. S and from SNE100 vs. S75 except for sale price which was greater ($P \leq 0.05$) from S75 vs. SNE100. Therefore, a fall-calving season may be more desirable for cows grazing E+, resulting in greater calving rates, cow performance, and calf BW at weaning, whereas limited access to NE+ may increase calving rates, particularly by spring-calving cows. *(SOURCE: K. Coffey, et al., Univ. of Arkansas IN 2011 AFGC Proceedings & Abstracts, French Lick, IN, June 13-15)*

The Determination of Switchgrass Growth Curves

Abstract - Switchgrass is a native warm-season perennial grass that can be used as forage for cattle, grown as biomass to be burned for energy, converted into ethanol through cellulosic ethanol conversion, and planted to improve soil and wildlife conservation. Although annual production of switchgrass is high, it can be difficult for farmers to manage switchgrass due to limited information on variance of growth over time. The objective of this research was to develop a growth curve for switchgrass to help farmers predict optimal harvest times and better manage their stands. Two stands of different cultivars, “Alamo” and “Cave-in-Rock,” were harvested for this research. Small plots within these stands were divided into four replicates of fourteen randomly numbered plots each. A plot from each replicate was harvested every two weeks, and the harvested material was dried and weighed. The dry matter at each harvest date represented the accumulated biomass over the entire growing season up to the date of harvest. Growth curves were developed from each cultivar that showed approximate times of peak biomass and periods of maximum growth. Cave-in-Rock showed peak production in late July, but then accumulated biomass declined through the end of the growing season. Alamo showed continued accumulation of biomass throughout the growing season, with a final season long production of almost 8 tons/acre in mid-September. These growth curves provide a useful tool for predicting switchgrass biomass production at any given point during the growing season. In conclusion, these growth curves are a first step in developing useful and reliable prediction tools for farmers and researchers on seasonality of switchgrass production. (SOURCE: Kenton L. Sena, David Davis, S. Ray Smith, Univ. of Kentucky IN 2011 AFGC Proceedings & Abstracts, French Lick, IN, June 13-15)

Chemical Suppression of Seedhead Emergence in Toxic Endophyte-Infected Tall Fescue for Improving Cattle Weight Gain and Physiology

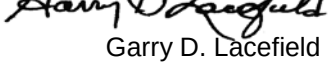
Abstract - A two-yr grazing experiment was conducted with steers grazed on endophyte-infected tall fescue pastures that were either treated or untreated with Chaparral® herbicide to determine if suppression of seedhead emergence and maturity can increase average daily gain (ADG) and alleviate fescue toxicosis. Herbicide treatments were assigned to six, 7.5-acre pastures of endophyte-infected tall fescue pastures in a randomized complete block design with 3 replications. Pastures were grazed with 48 steers (8 per pasture) from 9 April to 1 July, 2009 and 6 April to 7 July, 2010. Treated pastures were practically void of seedheads, whereas untreated pastures had 94 and 57 reproductive tillers/yd2 in 2009 and 2010, respectively. Ergovaline plus ergovalinine concentrations were 4-fold greater in seed than in leaf blades. Ergovaline concentrations in vegetative blades were similar between treated and untreated pastures in 2009, and greater in treated than in untreated pastures in 2010. Average daily gain on treated pastures was 39% greater ($P < 0.05$) than on untreated pastures. Steers on treated pastures had lower rectal temperatures and greater serum prolactin concentrations. Results indicated that Chaparral® herbicide treatment suppressed seedhead emergence and maturity of tall fescue pastures to increase weight gain and reduce the severity of fescue toxicosis. (SOURCE: G. E. Aiken, W. W. Witt, B. M. Goff, and I. A. Kagan, IN 2011 AFGC Proceedings & Abstracts, French Lick, IN, June 13-15)

Reducing Feed Costs with Grazing Management

Abstract - The largest single expense in most livestock operations is feed cost. Feed costs typically make up 60% of the cost of production. The typical producer in much of the Midwest feeds hay 120 days or more. Grazing management throughout the year can help budget forage supplies to meet animal needs and reduce the need for stored or purchased feed. Pasture is the cheapest feed source for ruminant livestock. Management of forage during the winter to reduce hay feeding can improve profitability of livestock operations. The goals of profitable grazing management are to: 1) Meet the needs of livestock from standing pasture as many days as possible; and 2) Harvest forage from pastures with animals as efficiently as possible. To meet these goals one must implement three primary strategies: 1) Proper Stocking Rate; 2) Efficient Utilization of Forage Produce; and 3) Stockpiling and Stripgrazing Forages for Winter Feed. (SOURCE: M. Kennedy, State Grazinglands Specialist, USDA-NRCS, Houston, MO, IN 2011 AFGC Proceedings & Abstracts, French Lick, IN, June 13-15)

Upcoming Events

OCT 13	Kentucky Grazing Conference, Western Kentucky University Expo Center
2012	
JAN 9-11	American Forage & Grassland Council Annual Conference, Crowne Plaza Hotel, Louisville
JAN 13	Forages at KCA, Lexington
FEB 23	32nd Kentucky Alfalfa Conference, Cave City Convention Center, Cave City



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