



FORAGE NEWS

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

AUGUST 2005

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

INTERNATIONAL GRASSLAND CONGRESS

Over fifteen hundred forage workers from ninety-one countries attend and participated in the XX International Grassland Congress held in Dublin, Ireland with satellite conferences in England, Wales or Scotland. One hundred eighty eight attended from the USA and eighteen from Kentucky. Several from Kentucky presented invited and/or volunteered papers. The next Congress will be held in June 2008 in China.

GRAZING SCHOOL

Dates of October 26-27, 2005 have been set for the Kentucky Fall Grazing School. The two-day event will be held at the Scott County Extension Office in Georgetown. A copy of the complete program is on our website at www.uky.edu/Ag/Forage

HEART OF AMERICA GRAZING CONFERENCE

Kentucky will host the five-state Heart of America Grazing Conference in 2006. The Conference will be held at the Cave City Convention Center on January 25-26. The program committee is hard at work and will have more information available on our website soon.

U.K. ALL COMMODITY FIELD DAY

Over 1850 people from throughout Kentucky and several other states and countries attended and participated in the U.K. All Commodity Field Day July 28 at the Research and Education Center in Princeton. There were 150 who took the Forage Tour with 285 going on the Beef Cattle Tour. We couldn't have asked for a more picture perfect day.

ALFALFA HAY ACRES UP

Alfalfa hay acreage was estimated at 260,000 acres, an increase of 20,000 acres from the 2004 crop. All other hay acreage was estimated at 2.20 million acres, an increase of 100,000 acres from the previous year. Rain in late May slowed the start of first alfalfa hay cutting. As May progresses, drier weather helped with hay harvest. (SOURCE: Ky. Agri-News Vol. 24, #13, July 2005)

TIME TO LINE UP SEED FOR FALL PLANTING

Fall is the ideal time of the year to establish cool season grasses. There is less weed competition and the seedlings become fully established during cool fall temperatures for maximum production next year. It is not too early to buy your grass seed now. The best varieties may not be available when the September seeding window comes around. See the KY Forage website for variety tests of all forage species (www.uky.edu/Ag/Forage).

HAY/BARN FIRES

Producing high quality hay in Kentucky is to say the least, a challenging venture for most producers. Although our information and the tools that we have to work with are getting better, we still find ourselves putting up hay with too much moisture.

Baling hay with too much moisture can lead to a couple of different problems. First, the excess moisture creates an environment inside the bale for fungi and bacteria to grow. This heating process leads to the breakdown of protein and thus reduces the quality of the hay. Molds and fungus that are produced are in fact sometimes harmful to the animals that are being fed this heat damaged hay and sometimes they can be fatal especially if fed to equine.

Another, problem arising from the baling of high moisture hay is barn fires. If hay with too high a moisture is stored inside, a fire could ensue within a week to six weeks of storage. If you are the least bit concerned that you baled your hay with too high a moisture (20% or greater), it is a good idea to monitor the temperatures inside the storage facility.

Good ventilation is extremely important in any hay storage structure no matter what the condition of your hay is when storing.

The following chart may help in frequency of temperature monitoring;

120 degrees or below	no concern
130 to 140	monitor daily
140 to 150	monitor twice daily
150 to 160	monitor every two hours (begin moving hay out of structure)
160 to 175	call fire department, have them onsite before moving hay

Also, make sure that there are no other flammable materials near hay structure at any time but particularly when a fire may be eminent.

Keep recording temperatures until the hay is under 120 degrees Fahrenheit or until ambient temperature. (Tom Keene, UK Hay Marketing Specialist)

REMEMBER TO STOCKPILE FESCUE STARTING NOW

Stockpiled fescue provides high quality pasture for late fall and winter grazing with twice the sugar (energy) content of spring and summer pasture, high digestibility and high protein. Follow these simple steps to produce high quality stockpiled tall fescue:

1. Graze or mow the fescue down to 2 to 3 inches during early to mid-August. Essential to allow high quality regrowth.
2. Topdress with 50 to 80 lbs Nitrogen per acre during early to mid-August. Apply phosphorus, potassium and lime as recommended.
3. Keep livestock off this pasture until late fall for maximum stockpile production.
4. Where possible, stockpiled tall fescue fields should be strip grazed to minimize trampling and wastage.

USDA-ARS FORAGE-ANIMAL PRODUCTION RESEARCH UNIT

As many of you likely are not aware of our unit on the campus of the University of Kentucky (UK), Lexington, I would like to take this opportunity to introduce the USDA-ARS Forage-Animal Production Research Unit (FAPRU) and to tell you a little about our research program. First let me say it has been a great pleasure being a part of the UK community since my arrival in Lexington in April of 2003. The collaborative spirit and genuine concern for the producers of this and surrounding states has been refreshing and energizing. The Forage-Animal Production Research Unit is housed in the Agriculture Science Center North. The Unit's current scientific staff include four Research Scientists, 4 laboratory support staff, and two Postdoctoral Research Associates.

Our mission is to improve the productivity, profitability, competitiveness and sustainability of forage-based animal enterprises. This is accomplished by focusing our research efforts in the laboratory and in the field on production problems of concern to our stakeholders. In order to establish the research priorities for the Unit, we held a Focus Group Meeting with our stakeholders and University partners in August of 2004. Workshop attendee's indicated that the top two research priorities of the Unit should be "Tall Fescue" and "Forage Utilization". To focus our efforts, we, under guidance of the Focus Group Meeting report, developed four general research objectives to pursue over the next five years. These objectives are: 1.) Improve the persistence, productivity, and quality of forages; 2.) Determine the toxic effects and elimination from the animal's body of alkaloids found in endophyte-infected tall fescue; 3.) Identify plant chemical and/or physical factors that affect forage intake and utilization by grazing animals; and 4.) Develop sustainable grazing systems for optimal forage-animal production that capitalize on mixed forage systems and strategic nutrient supplementation.

In order to properly address animal production problems associated with fescue toxicosis, it is necessary to better understand the metabolic and physiologic problems caused by animal intake of fungus-infected tall fescue. One project (under the direction of Drs. James Strickland and Lowell Bush) has Unit and University scientists investigating the toxic effects of the tall fescue alkaloids on vascular system function. Many of the syndromes (e.g., summer slump, fescue foot, mare reproductive problems) of fescue toxicosis in cattle and horses have been attributed to ingestion of alkaloids causing poor blood circulation. A procedure has been developed using a portion of a leg vein and a myograph (instrument used to measure vascular closure) that permits testing of toxicants. Using this procedure, preliminary experiments evaluating the effects of lysergic acid, ergovaline, and N-acetyl loline (i.e., alkaloids of toxic endophyte-infected tall fescue) on blood vessel tissue taken from cattle have been conducted. Preliminary assessment of the data collected indicates that of the three alkaloids only ergovaline appears to be directly toxic to the vascular system. Provided these data hold, then the data will aid researchers in selecting forages that are less toxic (e.g., novel endophyte containing grasses) as well as aid in the development of methods to reduce the toxicity of existing forages.

Over the coming months, I hope to continue contributing to this newsletter by way of giving you updates on the progress being made within our research program to address the issues raised during our Focus Group Meeting. Thank you and should you wish to contact the Unit you may do so by calling 859-257-1647 or emailing me (Jim Strickland, Research Leader, FAPRU) at jstrickland@ars.usda.gov

FIELD EXPERIENCE WITH STRIP GRAZING STANDING CORN AS AN ECONOMICAL ALTERNATIVE FOR WINTERING BEEF COWS IN THE MIDWEST

Differences in feed costs account for over 56% of the variation in profitability of beef cow production systems and winter feeding is generally the largest single expense of maintaining a beef breeding herd. A seven-year field demonstration was conducted to determine the feasibility and costs associated with wintering cows on limit-fed, strip-grazed standing corn supplemented with small amounts of corn gluten feed as an alternative to other winter feeding programs. Total daily feed costs ranged from \$0.39 to \$0.46/cow per day and averaged \$0.42. Daily costs for a hay or silage program averaged \$1.26 and \$0.93, respectively. Machinery and labor costs were less for the limit-fed corn system averaging \$0.05 per head per day compared to \$0.14 for both the hay and silage system. Target nutrient intakes were

achieved and nutrient requirements of gestating cows were satisfied. Cow performance was satisfactory. Cows gained weight each year and subsequent conception rates were not affected. Management is relatively simple and waste is uniformly distributed to the land by the animals. (SOURCE: K. Nimrick, D. Oswald, and R. Staff, *Western Illinois University. IN: 2005 AFGC Proceedings, Bloomington, IL*)

GRAZING CORN: IMPACT OF HARVEST DATE ON YIELD

Winter feed can make up more than half of cow-calf budgets in the mid-Atlantic region of the United States. Grazing stockpiled grass is a cost-effective alternative to feeding hay during the winter months. Standing corn could extend grazing after stockpiled grasses have been utilized. This study evaluated the effect of harvest date on the yield of grazing corn, conventional corn, and a sorghum-sudangrass hybrid. Plots were harvested monthly starting in September and ending in March. Total yields averaged over harvest dates were 5.0, 5.9, and 10.9 ton/A for grazing corn, conventional corn, and sorghum-sudangrass, respectively. Final harvest yield was approximately 20% lower than the first harvest. The ear made up about 60% of the total yield for corn hybrids. The sorghum-sudangrass used in this study did not produce any grain. Leaf tissue made up 12% of the yield for the corn hybrids and 17% for the sorghum-sudangrass. As winter progressed leaves fell from the plants and accumulated on the soil surface. Assuming a 70% utilization rate, the corn cultivars used in this study could potentially provide 280 grazing days/A. The total preharvest production costs were \$165/A or \$0.59/grazing day. This means that based on solely on a yield, standing corn could provide economical grazing if hay cost is more than \$35/ton. (SOURCE: C.D. Teutsch, J.H. Fike, and W.M. Tilso, *VPI & State Univ. IN: 2005 AFGC Proceedings, Bloomington, IL*)

POULTRY LITTER RATE STUDY IN TALL FESCUE

The expansion of the poultry industry in Kentucky over the past 10 years and an increase in the price of organic fertilizer, especially nitrogen, has led to an increase in the use of poultry litter as a source of crop nutrients. Some producers have to purchase the litter and will need to make economic decisions about the cost of the nutrients they are applying. Because litter and manures are sometimes applied without the benefit of a nutrient content analysis, they are just applied at a disposal rate, that is, at a high rate to get rid of it. To be efficient and effective, a producer should know the point at which applying more nutrients from poultry litter (or any other source) will not improve yield. Our objective was to apply poultry litter at incremental rates to determine the rate at which yield would be maximized. Tall fescue plots were treated with 0, 1, 2, 3, 4 tons of poultry litter per acre or recommended rates of inorganic fertilizer for 2 years. Our data suggests that litter rates of 2 tons/acre can produce forage yield (3.9 and 5 tons/acre in 2003 and 2004, respectively) that is equivalent to that of inorganic fertilizer (3.2 and 5.2 tons/acre in 2003 and 2004, respectively) applied at the rates recommended based on soil test data. Based on this observation, it would not be cost effective to apply at higher rates since there will not be a significant yield response to the increased litter application. (SOURCE: Byron Sleugh, W.T. William, R.A. Gilfillen, and H.D. Henderson, *Western Kentucky University. IN: 2005 AFGC Proceedings, Bloomington, IL*)

UPCOMING EVENTS

OCT 26-27	Kentucky Fall Grazing School, Scott County Extension Office, Georgetown
<u>2006</u>	
JAN 25-26	Heart of America Grazing Conference, Cave City Convention Center
FEB 23	26 th Kentucky Alfalfa Conference, Lexington



Garry D. Laceyfield
Extension Forage Specialist
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