Forage News [2005-08]

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Fall is the ideal time of the year to establish cool season grasses.

Alfalfa hay acreage was estimated at 260,000 acres, an increase over 1850 people from throughout Kentucky and several other states and countries attended 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.

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.

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. Mold 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:

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 degrees or below</td>
<td>no concern</td>
</tr>
<tr>
<td>130 to 140</td>
<td>monitor daily</td>
</tr>
<tr>
<td>140 to 150</td>
<td>monitor twice daily</td>
</tr>
<tr>
<td>150 to 160</td>
<td>monitor every two hours (begin moving hay out of structure)</td>
</tr>
<tr>
<td>160 to 175</td>
<td>call fire department, have them onsite before moving hay</td>
</tr>
</tbody>
</table>

Also, make sure that there are no other flammable materials near hay structure at any time but particularly when a fire may be imminent. Keep recording temperatures until the hay is under 120 degrees Fahrenheit or until ambient temperature.

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 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 Sciences 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 related 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 forage systems that support beef production and horses; 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, mastitis reproduction problems) of fescue toxicity 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 lasalocid, ergovaline, and N-acetyl loine (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.

UPCOMING EVENTS

OCT 26-27
Kentucky Fall Grazing School, Scott County Extension Office, Georgetown

2006

JAN 25-26
Heart of America Grazing Conference, Cave City Convention Center

FEB 23
26th Kentucky Alfalfa Conference, Lexington

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