

## HIGHLIGHTS

- Texas Forage and Grazing Council Re-established
- 2010 AFGC Leadership Conference
- 2011 AFGC Annual Conference

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## Hay Stretcher is Next Invention

Dr. Jeff Lehmkuhler

Extension Beef Cattle Specialist, University of Kentucky

Extreme weather conditions often impact forage production. This may be a late season frost or a spring cold snap that reduces hay yields for first cutting. It may be excessive precipitation that floods fields and turns promising forage into compost. The most common weather extreme is drought, which has impacted several regions of the United States in the last few years. Many producers in the Southeast remember this scenario as it occurred in 2007 and 2008. In these situations, conservation strategies may be necessary to stretch limited hay and forage supplies. The first to invent the board stretcher should try their hand at a hay stretcher to provide relief during

these times. Since a functioning hay stretcher is likely not to be in our near future, let us review some management options available that can help during these forage shortages.

Often overlooked are the most obvious strategies. With

forage shortages, the first management strategies to consider are related to the livestock rather than forages. Producers should be evaluating their opportunities to reduce the forage needs. Beef cows should be pregnancy checked and open cows subjected to the cull list. Cows that are not productive are not profitable. Early-weaning strategies should also be considered. Removing the calf from the cow greatly reduces the cow's nutrient needs as milk production ceases. Peterson and coworkers (1987) reported that early-weaning of beef cows resulted in 45%



Excessive hay losses are observed when placing hay out with no management (photo by Lehmkuhler).

lower hay intakes and a 20% lower Total Digestible Nutrient (TDN) needs. ....Continued Page 5

## TEXAS FORAGE & GRAZING COUNCIL

After ten years, Texas Forage and Grazing Council has been re-established. With the help of Texas AgriLife Research and Extension, industry representatives and forage producers TFGC is off to a running start. A small group started building TFGC again back in 2009. TFGC is still in the process of growing

but the future looks promising. TFGC hopes to eventually provide forage producers a voice in Texas State legislature similar to other commodity groups in the state.

The group is in the process of planning membership drives, meetings and field days for the spring of 2011.

For more information on TFGC please contact Vanessa Corriher, Texas AgriLife Extension Forage Specialist, [vacorriher@ag.tamu.edu](mailto:vacorriher@ag.tamu.edu).

## Gavel Exchange



**Bob Hendershot,  
AFGC President  
2010-2011**

The growing season has ended for most of us. It is time to evaluate what worked and what did not turn out as planned. We will determine what conditions cause the effect good or unfortunate. The same is true of your AFGC board of directors. They are evaluating the past year and analyzing for the future direction of AFGC. Please share with the board members any ideas you may have. Increasing communications, expanding affiliates, increasing membership are the areas the board will be focusing on; remember AFGC is here to advance forage agriculture and grassland stewardship. The complete list of board members and committee are available at our website [www.afgc.org](http://www.afgc.org) under about AFGC.

This is also a good time of the year to look around you in the forage world; and recognize some of those people doing outstanding work. Please consider

using the AFGC Awards Program as a way to honor some of those outstanding individuals. This is a wonderful way to advance forage agriculture, recognize your affiliate and AFGC.

AFGC is advancing forage agriculture and grassland stewardship by supporting the Cool Season Grass Initiative. This effort is designed to bring interest and motivation into developing new techniques and promote improved management of cool season grasses. The average state yield of cool season grasses has not changed much in the last 80 years. We know how to grow and utilize more forage; there is a tremendous opportunity to advance improved forage agriculture management techniques out unto the farmland.

USDA Conservation Programs have now included forages as a key component. The programs encourage the use of

improved harvest management. There are incentives for including forages in crop rotations. The interest in forage biomass production for future energy needs continue to grow. Grass grown meats and milk is very popular and continues to grow. Grassland wildlife management programs are beginning to see the benefit of grazing management as a tool to improve wildlife habitat. You can see from this list the future of forages is bright. AFGC is also the center of the USDA Conservation Effects and Assessment Program for pasture land. This program will bring to light the research and information available on pasture and hay fields. The plan is to release this publication at our 2011 Annual Meeting in French Lick, Indiana, June 12-15, 2011.



## PFGC to hold 50th Anniversary Event

The Pennsylvania Forage and Grassland Council (PFGC) will celebrate its 50th Anniversary, "50 Years of Forage Achievement" at a one day conference to be held on November 23, 2010, at the Shady Maple Banquet and Conference Center located in East Earl, PA, 3 miles east of New Holland, in the heart of Pennsyl-

vania's Amish Country.

The agenda for the conference includes a group of outstanding speakers covering a wide range of topics dealing with growing and utilizing forages profitably. The keynote speaker is Steve Larson, Editor of Hoard's Dairyman Magazine.

PFGC, founded in 1960, was the first state grassland council formed in the U.S. and the first to affiliate with AFGC. PFGC's motto is, "Farmers, industry and educators working together for better forage programs."

Mark your calendars!

For more information contact Marvin Hall at [mhh2@psu.edu](mailto:mhh2@psu.edu).

# Fescue Toxicosis and Management

*Fescue Toxicosis and Management* is a new management guide for livestock producers who grow tall fescue. The original version of this guide was published online in 2004 after extensive peer review; it remains the second most visited article in the Plant Management Network family of electronic journals. The new version, published this year, is updated and available in hard copy. The hard copy appeals to many producers and industry representatives.

*Fescue Toxicosis and Management* simplifies this complex livestock disorder by condensing thousands of pages from research manuscripts, book chapters, and scientific proceedings. The guide begins by describing the symptoms and

causes of fescue toxicosis. It then introduces two concepts—incremental alleviation and alkaloid management—that are critical to optimal management of tall fescue. Finally, the guide concludes by offering scientifically-proven recommendations that involve field testing, new cultivars, planting methods, and grazing management.

*Fescue Toxicosis and Management* was written to the practitioner audience; the authors are Craig Roberts (University of Missouri) and John Andrae (Clemson University), state forage specialists with 35 years of combined research and extension experience in fescue toxicosis across five U.S. states. The guide is available from the American Society of Agronomy or the Crop Science Society of

America; both societies can be found on the Internet at [www.agronomy.org](http://www.agronomy.org) or [www.crops.org](http://www.crops.org). The price is \$15 (or \$12 for members of those societies).



**Cattle suffering from fescue toxicosis experience low rate of gain, poor reproduction, and low milk production.**

**(Photo by Greg Bishop-Hurley)**



**New varieties of tall fescue are infected with an organism that increases plant persistence but is nontoxic. (Photo by Chuck West)**

**HAVE AN  
ARTICLE THAT  
YOU WOULD  
LIKE TO  
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INFO@AFGC.ORG**

## Certified Grassland Professional

Are you concerned about maintaining your Certified Grassland Professional designation? Contact the AFGC Office at 800.944.2342 or via email at [info@afgc.org](mailto:info@afgc.org) to find out your current certification status.

There are many exciting changes coming to the CGP program including:

- Automatic CEU's for attendance at AFGC conferences and events
- Updated Memorandum of Understanding to highlight Technical Service Provider (TSP) participation in program
- Complete set of program guidelines
- Online member profile showing program status
- Online Directory of CGP Members
- CGP Brochure highlighting the many benefits of participating in and completing the Certified Grassland Professional Program.



®

# North Carolina Research Addresses Storage Losses in Hay

Jim Turner, Department of Animal Science; Matt Poore, Department of Animal Science; Geoff Benson, Department of Agriculture Economics  
University of North Carolina

Mixed cool season hay harvested in August of 2004 and tied with net wrap was used in a study to determine the effects of storage conditions on the dry matter recovery after storage periods of 7 and 15 months. The seven-month period was chosen to represent the end of the hay feeding season and the fifteen-month period to represent of the next hay-feeding season. The grass hay was comprised primarily of common cool season forage species (tall fescue, orchardgrass, white clover, Kentucky bluegrass, and timothy).

Bales were numbered as they exited the baler and randomly allocated to one of five storage treatments; on the ground and uncovered (GU), on the ground and covered (GC), on pallets and uncovered (PU), on pallets and covered (PC) or in a barn (B). The bales were then weighed and placed in their respective treatment groups. Outside stored bales were placed in lines of 10 bales with ends butted up against each other, while barn stored bales were stacked on individual pallets in the barn

Bales were weighed after a storage period of seven or fifteen

months. Half of the bales were used to determine dry matter loss at the end of each storage period. The spoilage layer was then removed to determine the amount of unspoiled hay at the end of each length of storage.

Spoilage losses increased with time in storage and decreased as protection of the bales increased. Bales that were sampled after seven months of storage had lower storage losses than those from the same treatments stored for fifteen months. Hay that was stored in the barn had the least amount of hay spoilage as would be expected, but after fifteen months of storage bales stored in the PC treatment had similar losses as the B storage. Bales stored without a cover had the greatest losses after both lengths of storage compared to the other bales stored for that period of time. Bales that were stored without cover had a 20-percentage point increase in spoilage losses after fifteen-months of storage. This translates to one bale in five being wasted by not covering and elevating the hay. The results of this study were somewhat different compared to previous research that has shown bales need to be re-

moved from direct contact with the ground for good storage; in this study elevating the bales had a smaller effect than covering the bales. This difference is probably due to the differences in rainfall and drainage in which the studies have been conducted. This study was conducted in Western North Carolina in an area know for higher rainfall than the previous studies, but is also was on a sloping site with good drainage.

An economical analysis was conducted on these storage systems. Improved dry matter recovery did not always translate to the most economical storage system. Storing bales on the ground and under a tarp during the seven-month storage period was the most economical solution while after fifteen-months using both pallets and a tarp provided the most economical method of storage. The use of a barn was not the most cost effective method in either storage length due to the cost of building and maintaining the barn.

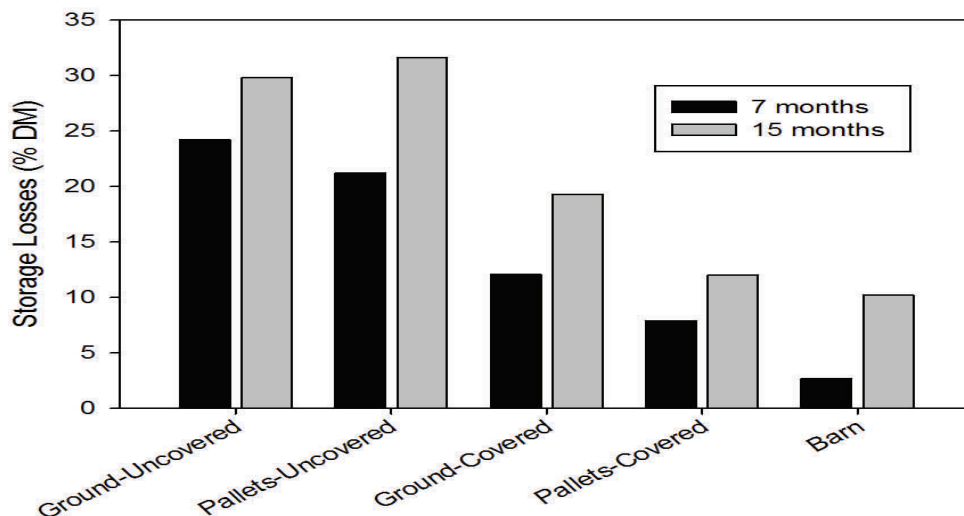
See chart at top of next page...



Bales in the picture from left to right; pallets covered, ground covered, pallets uncovered and ground uncovered after 15 months of storage. Barn storage is not shown.



# Hay Storage figure



## Continued Page 1...Hay Stretcher is Next Invention

Cows may have intakes 1% of body weight lower following weaning (Purvis et al., 1995). Calves can be successfully weaned as young as eight weeks of age, but do require special feeding post-weaning to ensure adequate nutrient intake to support gains. Weaning calves near 120-150 days of age can be accomplished by most with minimal changes to management strategies.

Stretching limited hay supplies can be accomplished through management. First, storage losses are real and 5-10% may occur simply from respiration losses when hay is curing. Areas with substantial rainfall during the summer and fall will have greater storage losses for hay stored outside and uncovered compared to more arid environments or to hay that is covered. In the Midwest and Southeast regions, storage losses can reach 25-35% (Collins et al., 1997). Hay stored outside should be fed first and hay stored inside fed later to reduce storage losses.

Feeding losses are also manageable. Feeding round bales in the field with no control can result in losses of 50% or more. The photo clearly shows how much loss can occur by not managing feeding of hay. Previous research showed that almost 30% more hay dry matter was necessary when feeding without a hay rack (Lechtenberg et., 1974). The design of hay feeders have been shown to impact feeding losses

through animal behavior. Recently, cone and basic ring feeders were observed to have lower amounts of hay waste compared to cradle- and trailer-type feeders (Buskrik et al., 2003). This difference was partially explained in that cradle feeders lead to higher agonistic interactions between cattle and greater frequency of head entrances per hour than other styles. Canadian research demonstrated that losses of hay unrolled on snow (fed at about 90% of daily intake), was only 1.8% while losses more than doubled for hay which was processed and fed on snow (AFRD, 2005). Managing how round bale hay is fed and how processed hay is fed will impact the amount of forage wasted.

Additional hay savings can be had by managing access time to hay. A classic research study conducted by Purdue University showed that cows gained the same amount of weight when they had eight hours a day access to hay as those with 12 & 24 hours of access. They recently followed up this research. According to their new study, cows having access to hay for 1, 2 or 4 hours reduced hay intakes compared to free-choice access by 72%, 50%, and 22%, respectively (Lemenager, 2008). Clearly, limiting time will reduce hay intake, but surprisingly, cows have the capability to consume 70-75% of their daily intake in approximately four hours if the hay is of good quality. This strategy may be im-

plemented with unrolling hay on top of the ground to minimize hay losses to trampling. Remember, hay should always be tested and balanced with supplemental feeds accordingly.

Researchers at the University of Illinois also observed that restricting the time cows have access to hay reduces waste without having detrimental impacts on cow performance (Miller, 2007). Their work demonstrated that cows having access for 6, 9 and 24 hours had similar hay intakes, but hay wastage disappearance increased with longer access time (see figure). The increased disappearance was accounted for in the amount of hay wasted by cows with increasing hay waste as access time increased. Restricting access to hay is a viable strategy, but this strategy is recommended for mature cows, in good condition. Young heifers and thin cows should have ad libitum access to good quality hay.

Lastly, forage may have to be substituted with bucket feeding. In other words, restricted feeding of a low forage diet with grain and/or coproduct feeds is also an option producers have during periods of low forage availability. Schoonmaker and co-researchers (2003) reported that cows could be maintained equally on stockpiled orchardgrass, orchardgrass hay or a limit-fed corn ration. Higher corn prices today make coproduct feeds an attractive alternative.

Continued on Page 6

## Continued from Page 5... Hay Stretcher is Next Invention

Limit-fed diets containing either corn gluten feed or dried distillers grains provided similar cow performance when they comprise up to 75% of the daily diet composition (Shike et al., 2009). Typically, it is recommended that a minimum of 20-25% of the daily diet be of long stemmed forage to ensure adequate roughage intake. Further, the use of an ionophore is recommended in these diets.

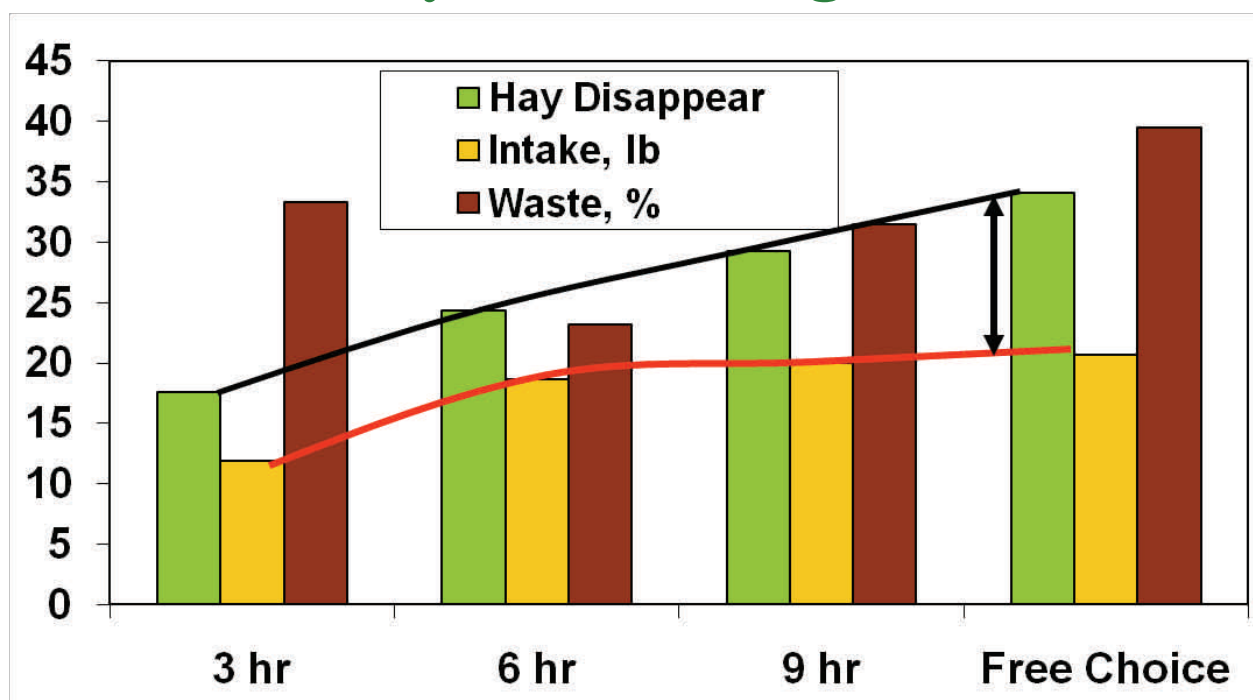
### C o n c l u s i o n

As with any farming practice, management is essential to be successful. During periods of reduced forage availability, management should be heightened. Producers should be monitoring livestock and should not wait too long before implementing supplemental feeding or marketing of livestock. Though a forage stretcher does not exist, producers have several management

strategies to help stretch limited forages. Forage testing, managing livestock by production class, and implementing one or more of the above management options will improve forage utilization. For additional information, producers should contact their local Extension office.

Due to space limitations references available upon request.

## Hay Stretcher figure



Affect of time restriction to hay access on hay disappearance, intake and waste (Adapted from Miller et al., 2007).

# CALENDAR OF EVENTS

**AFGC Leadership Conference in Columbus, OH**  
**November 9-10, 2010**  
[www.afgc.org](http://www.afgc.org) or 800.944.2342

Missouri Forage & Grassland Council/GLCI Conference  
 November 9-10, 2010  
 573.499.0886 or  
[mfgc@mchsi.com](mailto:mfgc@mchsi.com)

**Cool Season Workshop in Columbus, OH**  
**November 11, 2010**  
 859.257.3358 or  
[raysmith1@uky.edu](mailto:raysmith1@uky.edu)

Alfalfa Intensive Training Seminar, National Alfalfa and Forage Alliance's  
 November 16-18, 2010  
[www.alfalfa.org](http://www.alfalfa.org) or 509.585.6789

**PFGC 50th Anniversary Celebration**  
**November 23, 2010**  
[mhh2@psu.edu](mailto:mhh2@psu.edu) or at 814.863.1019

VFGC 2011 Winter Forage Conference  
 January 18, 2011, Wytheville, VA  
 January 19, 2011, Madison Heights, VA  
 January 20, 2011, Weyers Cave, VA  
[www.vaforges.org](http://www.vaforges.org)

**10th Heart of America Grazing Conference**  
**January 25, 2011**  
 270.365.7541 or [cforsyth@uky.edu](mailto:cforsyth@uky.edu)  
[www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage)

13th Annual Midwest Value Added Agriculture Conference  
 January 27, 2011  
 715.834.9672 or  
[rivercountry@rivercountryred.org](mailto:rivercountry@rivercountryred.org)

**PA Professional Crop Producers Conference**  
**February 15, 2011**  
[hannr54@comcast.net](mailto:hannr54@comcast.net)

31st Kentucky Alfalfa Conference  
 February 24, 2011  
[www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage)

**AFGC Annual Conference in French Lick, IN**  
**June 12-15, 2011**  
[www.afgc.org](http://www.afgc.org) or at 800.944.2342

For more events visit

**WWW.AFGC.ORG**

Be sure to mark your calendars for the Virginia Forage and Grassland Council Winter Forage Conference. There will be 3 opportunities to participate in an outstanding forage event highlighting Temple Grandin, Professor of Animal Science at Colorado State University an internationally known expert on animal

**Mark your calendars for the 2011 AFGC Annual Conference in partnership with the Indiana Forage Council**

**June 12-15, 2011**  
**French Lick Springs Hotel**  
**French Lick, IN**

**More information to follow.**

**A brand new look is headed to the AFGC website along with a new members only database. We hope you will find this system to be more user friendly in providing history of conference attendance, Certified Grassland Professional certification information including self report of CEU's, transaction history and much more! We look forward to hearing what you think!**

**The 2011 Call for Presentation Submission Forms are now available.**

**Please be thinking about competitions you would like to participate in at the 2011 Conference. You can be taking pictures now!**

**To speak to an AFGC representative call 800.944.2342.**

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