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Forage News

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## Forage News [2014-02]

Department of Plant and Soil Sciences, University of Kentucky

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# FORAGE NEWS

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

## February 2014

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

### WKU TO HOST 34<sup>TH</sup> KENTUCKY ALFALFA CONFERENCE

The 34<sup>th</sup> Kentucky Alfalfa Conference will be held at the Western Kentucky University Expo Center in Bowling Green February 20, 2014. Registration begins at 8:30 and **no preregistration is required**. Registration fee is \$15.00 (\$5.00 students) and included proceedings and other educational materials, breaks and meal. A full house of exhibits is expected along with a silent auction. The luncheon program will feature our annual Hay Quality Contest and Alfalfa Awards. CCA credits will be available. Program includes:

- 8:30 Registration, visit exhibits, silent auction
- 9:15 Welcome – Dr. Jack Rudolph
- 9:30 Role and Importance of Alfalfa in WKU Teaching/ Research/ Farming Programs – *Dr. Elmer Gray*
- 10:00 Alfalfa baleage/silage preservatives: Do they work? Are they Economical? – *Dr. Ray Smith*
- 10:30 Break, visit exhibits, silent auction
- 11:00 Alfalfa – Australia – Kentucky – *Dr. Garry Lacefield, Dr. Ray Smith, and Ms. Traci Missun*
- 11:15 Alfalfa for Summer Grazing – *Dr. Roy Burris*
- 11:30 Why aren't big square balers used more in Kentucky? – *Mr. Tom Keene*
- 11:45 Advances in Alfalfa Promotion – *Mr. Bill Talley*
- 12:00 Lunch, visit exhibits, silent auction
- 1:00 Alfalfa Awards and Silent Auction Results
- 1:30 Adjustments and Maintenance of Haying Equipment  
Mr. Clayton Gerald  
Mr. John McCoy  
Mr. Cris Scudder

- 2:45 Discussion
- 3:00 Adjourn

For more information and directions see our website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage). Do not hesitate to contact me at [glacefie@uky.edu](mailto:glacefie@uky.edu) or Christi Forsythe at [cforsyth@uky.edu](mailto:cforsyth@uky.edu) or by calling 270-365-7541.

See you in Bowling Green.

### DR. RAY SMITH ELECTED PRESIDENT OF THE AMERICAN FORAGE & GRASSLAND COUNCIL

U.K. Forage Specialist Dr. Ray Smith, was elected President of the American Forage & Grassland Council at their annual meeting in Memphis, Tennessee January 14, 2014. Ray has been a leader at the state and national level and has served AFGC as Vice President during 2013. He is secretary of the Kentucky Forage & Grassland Council. With Ray's induction as President, he keeps the Kentucky Forage record alone by having more presidents of AFGC than any other state. At present AFGC has 23 state Affiliate Councils. Congratulations President Smith!!!

### RED MEAT & HEALTH

Dr. Peter Ballerstedt did an excellent job with his presentation on this topic at our Forages program during the Kentucky Cattlemen's Convention. His YouTube video with PowerPoint included is available on our website at <http://www.uky.edu/Ag/Forage/Forage%20Decision%20Aids.htm>. I greatly appreciate Dr. Ballerstedt making these available.

### KENTUCKY FORAGE LIGHT SHINES BRIGHT AT NATIONAL MEETINGS

Kentucky was well represented in all the competitive events at the American Forage and Grassland Conference in Memphis January 12-14, 2014. They include:

- 1) UK Forage Bowl Team First Place  
Jessica Williamson, Grad. Coach PhD. IPSS  
Meredith Tapp, Jr. Animal Science  
Elizabeth Langlois, Sr. Animal & Equine Science  
Veronica Gill, Jr. Equine Science  
Cecilia Purtee, Sr. Animal Science  
Caitlin Timberlake, Grad. Coach MS IPSS
- 2) KY Forage Spokesperson – 2<sup>nd</sup> Place – Myron Ellis, Mercer County
- 3) Kristen Cotton – 3<sup>rd</sup> Place Young Scientist
- 4) Bret Winsett, Chair National Forage Spokesperson latest
- 5) Clayton Gerald, Chair, National Hay Contest
- 6) Tom Keene – Forage & Grassland Foundation Board & Treasurer, Garry Lacefield serves as Secretary. Bill Talley Kentucky board members Jeremy McGill and Other Talley.

Congratulations to all and THANKS for keeping Kentucky's Forage Light Shining Bright.

### FORAGES AT KCA PROCEEDINGS

MY APOLOGIES for running out of proceedings at the Forages at KCA Program. It was the largest attendance we have ever had and I simply did not print enough. As promised, Christi has posted them to our website at:

<http://www.uky.edu/Ag/Forage/KCA2014%20Proceedings.pdf>

### KENTUCKY GRAZING SCHOOL

The spring Kentucky Grazing School will be held at the Woodford County Extension Office and C. Oran Little Research Center in Versailles May 21-22, 2014. It is co-sponsored by Master Grazer Educational Program, Kentucky Agricultural Development Fund, U.K. College of Agriculture, Food and Environment, Natural Resources Conservation Service and the Kentucky Forage & Grassland Council. This two day program features the latest, practical information on "grazing" with both classroom and field activities. Registration is \$50 and includes all handout materials, grazing manual, breaks and lunch both days. The class is limited to the first 45 to sign up. To register make checks payable to the Kentucky Forage & Grassland Council and send to Jeff Lehmkuhler, 804 W.P. Garrigus Building, University of Kentucky, Lexington, KY 40546-0215. For more information contact Jeff at 859-257-2853, e-mail [jeff.lehmkuhler@uky.edu](mailto:jeff.lehmkuhler@uky.edu). See <http://www.uky.edu/Ag/Forage> for the program.

### MASTER GRAZER: IMPROVING GRAZING MANAGEMENT IN KENTUCKY

The Master Grazer Educational Program is the result of funding provided by the Kentucky Agricultural Development Board to educate producers on better utilization of grazing lands to improve livestock production and the profitability of the State. County agriculture and natural resource agents, extension specialists, industry contacts and producers work together to make this program a success. The Master Grazer Educational Program began in 2006 as evening lecture sessions taking place in local extension offices. In 2008, the program

grew with the addition of a field session that showcased a farm with successful grazing practices, a farm with underdeveloped grazing practices, and a final session for participants to develop their own grazing system. In 2010, the program was modified into the Applied Master Grazer Program. This program placed more emphasis on the importance of the county agriculture. The agents decided which topics would be covered and administered many areas of the program. The program now consists of a minimum of two evening field sessions in which a farm is showcased for a particular topic, as well as one impact session in which participants can interact and contribute to a producer forum. For the purpose of this article, reporting will be focused on the last two years of the Master Grazer Program. The past few years, events such as Grazing Schools, the Advanced Grazing Schools, and Pasture Walks have been held to discuss timely topics of forage and livestock management. Also, the Master Grazer Program has a newsletter, website, and DVD series. (SOURCE: S Ray Smith, Garry Lacefield, Lyndsay Jones, Jeff Lehmkuhler, Donna Amaral-Phillips and Kelly Kramer, University of Kentucky IN 2013 Proceedings of the 22<sup>nd</sup> International Grassland Congress)

## 2012 KENTUCKY EQUINE SURVEY

Complete results from the 2012 Kentucky Equine Survey were released on Sept. 6, 2013. The purpose of the project was to obtain an estimate of the number of equine operations, as well as the number of all breeds of horses, ponies, mules, and donkeys in Kentucky. In addition, an estimate of the economic impact of the equine industry on the Commonwealth was undertaken. The study was a joint project between the University of Kentucky College of Agriculture, Food and Environment, the Kentucky Horse Council, and the National Agricultural Statistics Service. It was funded by \$200,000 in seed money from the UK College of Agriculture, Food and Environment, \$300,000 from the Kentucky Agricultural Development Fund, and \$100,000 in matching industry funds. The last time a comparable study was conducted was 1977.

The inventory phase of the project revealed that an estimated 242,400 equine reside on 35,000 operations, with 1.1 million acres of land devoted to equine-related activities. Among these operations, 56 percent identified their primary use as farms or ranches, 30 percent as land where equine are kept for personal use, 3 percent as boarding, training, or riding facilities, and 2 percent as breeding operations.

Thoroughbreds are the most numerous breed in the state (54,000), followed by Quarter Horses (42,000), Tennessee Walking Horses (36,000), American Saddlebreds (14,000), donkeys and mules (14,000), Mountain Horse breeds (12,500), Standardbreds (9,500), Miniature Horses (7,000), ponies (7,000), Paint Horses (6,500), and Arabian and Half-Arabian horses (5,500).

In addition, the primary use of the majority of Kentucky's equines is trail riding/pleasure (79,500), followed by broodmares (38,000), horses currently idle/not working (33,000), competition/show (24,500), horses currently growing, including yearlings, weanlings and foals (23,000), racing (15,000), work/transportation (12,500), breeding stallions (3,900), and other activities (13,000).

The economic impact analysis indicated that the total economic impact of Kentucky's equine industry was almost \$3 billion and generated 40,665 jobs in 2012. The tax contribution of the equine industry to Kentucky was approximately \$134 million.

Economic impact was also analyzed by sector. Breeding had the highest employment figure of 16,198, an output impact of \$710 million, and a value-added impact of \$333 million. Racing had the highest output impact at \$1.28 billion, with a figure of 6,251 in employment, and \$601 million in value-added impact. Competition figures included 2,708 in employment, \$635 million in output, and \$297 million in value-added impact. Recreation had 594 in employment, \$166 million in output, and \$78 million in value-added impact. Other, which accounts for operations such as therapeutic riding facilities and those where horses are used for work, had an employment figure of 14,914, a \$194 million output, and a \$91 million value-added impact.

More information about the 2012 Kentucky Equine Survey, including a copy of the final report and appendices, can be found at: <http://www2.ca.uky.edu/equine/kyequinesurvey/>. (Jill Stowe & Holly Wiemers)

## WATER TRANSFER IN AN ALFALFA/MAIZE ASSOCIATION

**ABSTRACT** - We investigated the possibility of interspecific water transfer in an alfalfa (*Medicago sativa* L.) and maize (*Zea mays* L.) association. An alfalfa plant was grown through two vertically stacked

plastic tubes. A 5 centimeter air gap between tubes was bridged by alfalfa roots. Five-week old maize plants with roots confined to the top tube were not watered, while associated alfalfa roots had free access to water in the bottom tube (the -/+ treatment). Additional treatments included: top and bottom tubes watered (+/+), top and bottom tubes droughted (-/-), and top tube droughted after removal of alfalfa root bridges and routine removal of alfalfa tillers (-\*). Predawn leaf water potential of maize in the -/+ treatment fell to -1.5 megapascals 13 days after the start of drought; thereafter, predawn and midday potentials were maintained near -1.9 megapascals. Leafwater potentials of maize in the -/- and -\* treatments declined steadily, all plants in these treatments were completely desiccated before day 50. High levels of tritium activity were detected in water extracted from both alfalfa and maize leaves after 3H<sub>2</sub>O was injected into the bottom -/+ tube at day 70 or later. Maize in the -/+ treatment was able to survive an otherwise lethal period of drought by utilizing water lost by alfalfa roots. (SOURCE: Steven J. Corak, Dale G. Blevins, and Stephen G. Pallardy, *Plant Physiol.* (1987) 84, 582-586)

## The Cold Temperatures and Alfalfa

Concern always arises in cold periods over winter about the effect of the low temperatures on alfalfa winter survival. This is of some concern because certainly the alfalfa plant will die if exposed to cold enough temperatures.

However, generally alfalfa survives the winter and its periodic cold spells. The reasons are:

- 1) Alfalfa can survive temperatures of -10 to -15°F.
- 2) This is the temperature of the crown not the topgrowth.
- 3) As little as 4 inches of loose snow will insulate against up to 16°F of air temperature.
- 4) The crown is insulated by soil as well; therefore the crucial temperature is the temperature at 2 to 4 inches below the soil surface.

The soil temperature on Jan 8 (after the last cold spell) is generally above 0°F and most of the Midwest. The higher temperature than the air the last few days is due to insulating ability of both snow (most of Midwest had at least 4 inches of snow cover) and the insulating ability of the soil.

This situation should indicate little to no injury or kill of alfalfa. (SOURCE: Dr. Dan Undersander, *Forage Agronomist, University of Wisconsin*)

## VALUE OF FORAGE QUALITY

High quality forage maximizes return through high milk or meat production; it may increase breeding success; or it may help get higher prices for hay that is sold. Milking dairy cows have the greatest need for energy and protein of any animal category. Regardless of concentrate level, feeding higher quality forage increased annual value of milk production by \$1400 to \$1700/cow/year. A second example of the value of forage quality can be shown in the economics of growing stocker cattle on pasture where a producer can linearly improve return by increasing average daily gain with higher quality forage. A third example of the value of forage quality is the price farmers have paid for quality hay is about \$1.25 to \$1.50 per point of Relative Forage Quality (RFQ) per ton. It should also be noted that higher quality hay is more likely to sell or to sell more rapidly in times of hay surplus. Forage quality is achieved by cutting at the proper time, making a wide swath to enhance drying and reduce respiratory losses, harvesting to minimize leaf losses, and storing properly to reduce quality loss. (SOURCE: Dr. Dan Undersander, *Forage Agronomist, University of Wisconsin*)

## UPCOMING EVENTS

FEB 1 Kentucky Small Ruminant Grazing Conference, Lexington  
 FEB 4-7 NCBA, Nashville, TN  
 FEB 20 34<sup>th</sup> Kentucky Alfalfa Conference, WKU Expo Center, Bowling Green  
 MAY 21-22 Kentucky Grazing School, Woodford County Extension Office, Versailles  
 SEPT 22-27 Mountain Ag Week, UK Robinson Center, Jackson



Garry D. Lacefield  
 Extension Forage Specialist  
 February 2014