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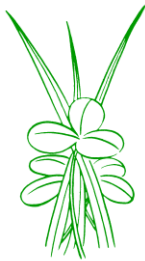
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FORAGE NEWS



Research & Education Center
Princeton, KY 42445

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

November 2012

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

KENTUCKY GRAZING CONFERENCE

Approximately 100 attended the 13th Kentucky Grazing Conference held at the University of Kentucky Research & Education Center in Princeton, October 20. The morning program featured Brent White, Garry Lacefield, Ray Smith, Bob Coleman, Kenny Burdine, Glen Aiken and Gary Bates addressing issues facing Kentucky graziers. Following lunch and the awards program, the 2012 Kentucky Forage Spokesman Contest was held. Greg Reynolds, beef-forage producer from Calloway County won the competition and will represent Kentucky at the national contest which will be held during the AFGC Conference at the Marriott River Center, Covington, KY January 6-8, 2012.

KFGC PRESENTS AWARDS

The Kentucky Forage & Grassland Council presented their annual awards during the 13th Kentucky Grazing Conference in Princeton October 30. Awards and recognition included:

Shane Bogle – Public Service – County
Dr. Elmer Gray – Public Service – State
Barry Drury – Grassroots
Bill Bracy – Industry

These awards represent KDGC's highest recognition in the Public, Private and Producer sector. **Congratulations Dr. Gray, Barry, Bill and Shane.**

ALFALFA INTENSIVE TRAINING SEMINAR

The 2012 National Alfalfa Intensive Training Seminar will be held November 13-15 in Sioux Falls, South Dakota. This practical but intense seminar will cover the basics of alfalfa management from seed to feed and beyond. Instructors for the seminar include Dr. Dan Undersander, University of Wisconsin; Dr. Neal Martin, USDA/ARS, Madison, Wisconsin; Dr. Marvin Hall, Pennsylvania State University, Dr. Randy Shaver, University of Wisconsin; and Dr. Garry Lacefield, University of Kentucky. To register or for more detailed information on the program go to www.alfalfa.org or call 509-585-5460.

KENTUCKIAN FEATURED AT NATIONAL HAY CONVENTION

Kentucky was well represented at the National Hay Association Annual Convention in Naples, Florida October 16-21. Hart County hay producer Clayton Gerald and Tom Keene, U.K. Hay Marketing Specialist were both featured speakers at the Hay Quality Session. In addition, Clayton won second in the National Hay Judging Contest. Congratulations Clayton and Tom for making Kentucky Forages look good.

AFGC CONFERENCE IN COVINGTON

The American Forage & Grassland Conference will be held in Covington, Kentucky at the Cincinnati Marriott River Center January 6-8, 2013. This National Conference will feature some of the top Forage-Livestock scientists, industry personnel and farmers from throughout the USA and Canada. For details on the program, registration, etc. see www.afgc.org.

In addition to their "Winter" Conference, AFGC will also have a "Summer" event. The 2013 AFGC Tour will be hosted by the Virginia Forage & Grassland Council and will be held at the Graves Mountain Lodge, Syria, Virginia. Program forthcoming at www.afgc.org.

KENTUCKY'S 2012 NATIONAL FORAGE SPOKESMAN TO SPEAK AT FARM BUREAU FORAGE COMMODITY CONFERENCE

Brent White, Kentucky and National Forage Spokesman will be the lead speaker at the Farm Bureau Forage Commodity Conference December 8 during the Farm Bureau Convention at the Galt House. In addition to Brent's presentation, we will feature two additional presentations dealing with impact of drought on forage-livestock program:

How I produce and manage forages –
Brent White, National Forage Producer
How to STRETCH short hay supplies –
Dr. Jeff Lehmkuhler, U.K. Extension Beef Specialist
Prepare NOW for more and better Pasture/Hay in 2013 –
Dr. Garry Lacefield, U.K. Extension Forage Specialist

DR. PETER BALLERSTEDT TO SPEAK AT FORAGES AT KCA DURING THE KCA CONVENTION

The 18th Forages at KCA will be held on Friday, January 11, 2013 beginning at 1:15 at the Lexington Convention Center during the Kentucky Cattlemen's Convention. Our keynote speaker is Dr. Peter Ballerstedt from Oregon. I have known Peter for over twenty-five years and I know you will find him and his topic "Beef: The REAL Health Food" interesting, enjoyable and educational.

Conventional wisdom when it comes to human nutrition, tells us that we should be eating a low-fat diet, with restricted consumption of red meat. This advice became the official recommendation of the United States government in the last 1970's. Peter Ballerstedt will introduce evidence that the fat-is-bad hypothesis was wrong, and the impact the growing awareness of this can have on farms in Kentucky.

Peter has an extensive background in forage production, utilization, and forage-based livestock production systems. He received his doctorate from the University of Kentucky in 1986. He was the forage extension specialist at Oregon State University from 1986 until 1992. He is Barenbrug USA's Forage Product Manager. His recent personal experiences led him to study human diet and health. What he's learned doesn't agree with advice we've been given for the past 30 years or more. This new understanding, combined with his forage background, has given him an interest in local, sustainable food production systems. His knowledge, enthusiasm, and speaking style will provide an entertaining and informative presentation.

In addition to Dr. Ballerstedt, Dr. Greg Halich and I will also speak on related topics:

1:15 Welcome
1:30 Forages: Change-Challenge-Opportunities –
Dr. Garry Lacefield
2:00 Pasture Finishing Beef Opportunities in Kentucky –
Dr. Greg Halich
2:30 Beef: The REAL Health Food –
Dr. Peter Ballerstedt
3:15 Discussion
3:30 Adjourn

NEUTRAL DETERGENT FIBER DIGESTIBILITY (NDFD): A

GOOD PREDICTOR OF FORAGE QUALITY

For the past few years, forage testing laboratories and dairy nutritionist have been using Neutral Detergent Fiber Digestibility (NDFD) as a measurement of forage quality, but what does it mean? Neutral Detergent Fiber (NDF), amount of cell wall material (lignin, cellulose and hemicelluloses) in forage, has been a traditional measurement of forage quality. However, it is frequently observed that animals eating forages with identical NDF values can perform very different. As this phenomenon was further investigated it was realized that the important factor was not the amount of cell wall in the forage but how much the cell wall could be digested in the cow's rumen. Research has shown that the new NDFD measurement is a much better predictor of animal performance than NDF.

An example of this can be found in the following table. NDF of alfalfa is lower than grass because alfalfa contains less hemicellulose (partially digestible in rumen). However, the NDF of alfalfa is less digestible than grass because alfalfa contains more lignin (indigestible in rumen). The net result is that the grass sample is nearly as digestible as the alfalfa. But if we were only using the NDF we would have undervalued the grass quality.

Comparison of NDF and NDFD as a measurement of forage quality.			
Forage	% NDF	% NDFD	% of forage that is digestible
Alfalfa	40	53	81
Orchardgrass	50	60	80

These differences in NDFD can also occur within a forage type. This helps explain why animals can have such difference in performance when eating alfalfa forage with similar NDF values. (SOURCE: Dr. Marvin Hall, *Pennsylvania Forage and Grassland News*, Vol. 22, No. 4, Fall 2012)

WHERE DOES NITROGEN FERTILIZER COME FROM?

Nitrogen is one of the most widely distributed elements in nature since it is the most abundant gas in the atmosphere. But N is not found in mineral forms like P or K, but is largely present in organic compounds. When it is present in the soil, it is subject to many complex biological transformations that make it challenging to manage.

Nitrogen is essential for many metabolic processes in plants and animals. Perhaps the best-known role of N is in forming amino acids, which are the building blocks for protein. The human daily protein requirement ranges between 40 to 70 grams, depending on gender, age, and size.

Since the Haber-Bosch process for synthesizing N fertilizer was developed early in the 20th century, it's importance in maintaining the global food supply has rapidly grown. It is estimated that half of the food produced now in the world is supported by the use of N fertilizer. Another way to look at this is that inside every cell, protein, or DNA molecule in your body, on average half of the N is a product of the Haber-Bosch process from an N fertilizer factory.

All N fertilizer begins with a source of hydrogen gas and atmospheric N that are reacted to form ammonia. The most-used source of hydrogen is natural gas (methane). Other sources of hydrogen, such as coal, are used in some regions. After hydrogen and N are combined under conditions of high temperature and pressure to form ammonia, many other important N-containing fertilizers can then be made. Urea is the most common N fertilizer, but there are many excellent N fertilizers that can be made from ammonia. For example, some ammonia is oxidized to make nitrate fertilizer. This same conversion of ammonia to nitrate takes place in agricultural soils through the microbial process of nitrification.

Because the production of hydrogen gas required for the synthesis of ammonia largely comes from natural gas, the price of this primary feedstock is the major factor in the cost of ammonia production. Ammonia factories sometimes close or open in various parts of the world in response to fluctuating gas prices. Higher energy costs always translate into higher prices for all N fertilizers.

There are a number of organic sources of N that are commonly used to fertilize crops. But remember that much of the N in animal manure, composts, and biosolids come from crops that received applications of fertilizer N. Therefore, the N in many organic fertilizers originated as inorganic N fertilizer.

Nitrogen fertilizers clearly make an essential contribution to maintaining an adequate supply of nutritious food. However, careful management is required to keep N fertilizer in the form and in

the location where it can be most useful for sustaining healthy plant growth. The tremendous benefits from N fertilizer must be balanced with the disruptive environmental impacts that may arise when N moves into areas where it is not wanted.

A visual tour of the N fertilizer production process can be seen at: <http://npg.ipni.net/article/NPG-3003> (SOURCE: Dr. Robert Mikkelsen, Western North America Director, IPNI, Phone: (209) 725-0382. E-mail: rmikkelsen@ipni.net)

THE COST OF PASTURE VS. HAY

Dr. Kenny Burdine, Extension Agricultural Economist, University of Kentucky was a featured speaker at the 13th Kentucky Grazing Conference October 30, 2012. During his presentation, he spoke on the importance of reducing losses during feeding (Tables 1 & 2) and compared cost per day of hay with pasture (Table 3). (SOURCE: *Proceedings 13th Kentucky Grazing Conference, KFGC 12-03*)

Table 1. Estimated Winter Feeding Costs per Cow per Day

Estimated Hay Storage and Feeding Losses	Estimated Hay Production Cost per Ton			
		\$80 per ton	\$100 per ton	\$120 per ton
15% loss		\$1.41	\$1.76	\$2.12
25% loss		\$1.60	\$2.00	\$2.40
35% loss		\$1.85	\$2.31	\$2.77

Assumptions: 30 lbs of hay consumed per cow per day

Table 2. Estimated Winter Feeding Costs per Horse per Day

Estimated Hay Storage and Feeding Losses	Estimated Hay Cost per 50 lb Square Bale			
		\$5.00 per bale	\$7.50 per bale	\$10.00 per bale
15% loss		\$3.53	\$5.29	\$7.06
25% loss		\$4.00	\$6.00	\$8.00
35% loss		\$4.62	\$6.92	\$9.23

Assumptions: 1200 lb horse consumes 2.5% BW per day

Table 3. Estimated Average Grazing Costs per Day

		Estimated Pasture Maintenance Costs per Acre				
		\$50 / acre	\$75 / acre	\$100 / acre	\$125 / acre	\$150 / acre
Estimated Stocking Rate	2 acre / hd	\$0.42	\$0.63	\$0.83	\$1.04	\$1.25
	3 acres / hd	\$0.63	\$0.94	\$1.25	\$1.56	\$1.88
	4 acres / hd	\$0.83	\$1.25	\$1.67	\$2.08	\$2.50

Assumptions: 240 grazing days per year

It isn't what you have
or what you are
or where you are
or what you are doing
that makes you happy
or unhappy, but what you think about.

Dale Carnegie

UPCOMING EVENTS

2013

- JAN 6-8 AFGC Annual Conference, Marriott River Center Covington, KY
- JAN 11 Forages at KCA, KCA Annual Convention, Lexington Convention Center, Lexington
- FEB 21 33rd Kentucky Alfalfa Conference, Fayette County Extension Office, Lexington



Garry D. Lacefield
Extension Forage Specialist
November 2012