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## Forage News [2004-06]

University of Kentucky Department of Plant and Soil Sciences

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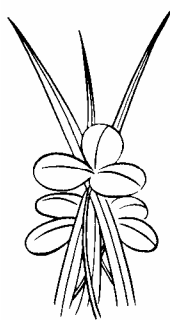
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# FORAGE NEWS

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

**JUNE 2004**

***Garry D. Lacefield, Extension Forage Specialist • Christi Forsythe, Secretary***

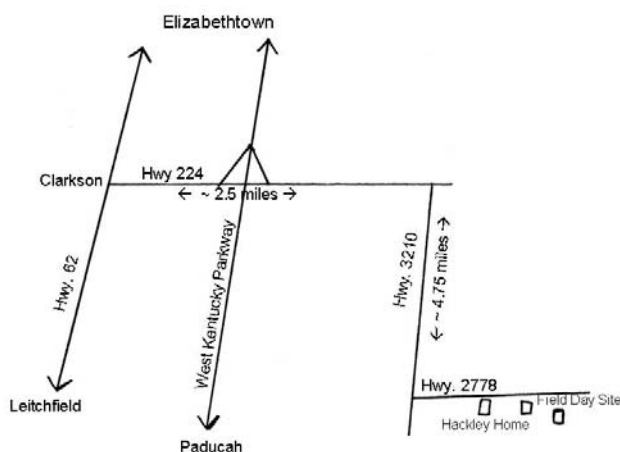
## KFGC FIELD DAY

"Moving forward with Rotational Grazing" is the theme for our 2004 Forage Field Day to be held June 24 in Grayson County. The field day will be held on the Russell Hackley farm and will begin at 4:30. Following a brief welcome, participants will load wagons for the tour consisting of five stops:

Stop	Topic	Speaker
1	Benefits of Rotational Grazing	Dr. Garry Lacefield
2	Water Systems for Rotational Grazing	Mr. Kevin Laurent
3	Fencing Systems for Rotational Grazing	Mr. Ken Johnson
4	Can We Grazing Year-Round in Kentucky?	Dr. Jimmy Henning
5	Making Rotational Grazing Work on My Farm	Mr. Russell Hackley

The tour will return to the staging area around 6:30 for a "burger" meal prepared and served by the Grayson County Cattlemen's Association. Mr. Tom Keene, President, American Forage & Grassland Council will serve as our keynote speaker. President Keene's topic is "Forages: Crop of the Future". For those arriving early, a tour and discussion of Russell's Cattle Handling Facilities will be conducted between 4:00 & 4:25.

Below is a map with directions to the field day site:



Statistics Service, hay is the largest acreage crop with 1,370,000 acres and ranked first in value of production of all crops in Virginia. The latest Agricultural Census reported that 39% of Virginia's 8.2 million acres of farmland was devoted to pasture. Pasture and hay land and its associated animal agriculture are a mainstay of the fertile valleys and hillsides in western Virginia. This important part of Virginia's agriculture will be highlighted in the tours of grazing research at the Cyrus McCormick Farm, home to the Virginia Tech's Shenandoah Valley Agricultural Research and Extension Center, and other innovative farms in the scenic Shenandoah Valley.

While you're enjoying the scenery of Virginia, you'll have a cornucopia of programs and activities in which to participate and learn, and can socialize with people who share a common interest in forages. Following are some of the activities you might enjoy.

- The pre-conference Golf Tournament.
- Sunday's tours of the McCormick Farm (Virginia Tech Shenandoah Valley Agricultural Research and Extension Center) and innovative farms in the Shenandoah Valley.
- "Producer Day" highlighting Forage and Livestock Production: Tall fescue management, harvesting quality forages, nutrient management, grazing for dairy herds, and equine forage symposium.
- Successful Producers in the 21<sup>st</sup> Century (Forage Spokesperson Contest).
- An all new session seeking input on forage research priorities.
- Learn about tall fescue during the day and be entertained by the bluegrass band "Fescue" (Grass the Way it Ought to Be Played) during Virginia Night. Your palate will be satiated by the variety of "Virginia's Finest" foods.
- "Scientific Day" will highlight a broad variety of topics on forage and pasture management, quality, economics, and utilization; animal nutrition; soil fertility and plant nutrition, forage genetics; and forage education projects.
- Virginia provides the ideal setting to consider additional scientific topics such as: computer applications; biomass production, silvopasture; forage for equine, dairy grazing, wildlife habitat, and nutrient management.
- Plan on staying for the post-conference tour of Thomas Jefferson's Monticello, Appomattox (where the Civil War ended) and the D-Day Memorial, or visit other nearby historical sites around Virginia—you might not get this chance again!

For further information about the conference, contact : Dana Tucker, (800) 944-2342, e-mail: [dtucker@io.com](mailto:dtucker@io.com) or Margaret Kenny, (434) 292-5331, e-mail: [makenny@vt.edu](mailto:makenny@vt.edu) or Ray Smith, (540) 231-9590, e-mail: [raysmith@vt.edu](mailto:raysmith@vt.edu)

For more information about what to do and see in the Roanoke Valley, visit: [www.visitroanokeva.com](http://www.visitroanokeva.com)

For more information about what to do and see while you are in Virginia, go to: [www.virginia.org](http://www.virginia.org)

## AFGC TO MEET IN ROANOKE, VIRGINIA JUNE 12-16

The theme for this year's conference is "Farmers, Forages and the Future."

As in many states, pastures and hay are an important part of Virginia's agricultural industry. According to Virginia Agricultural

## FORAGE SPECIES AND SPATIAL EFFECTS ON THE DIETARY INTAKE OF GOATS

The goat industry is growing rapidly in the United States with the influx of various ethnic groups. Goat producers need to look at ways to maximize production while still producing goat products efficiently. One possible way to increase goat production is to maximize daily feed intake. An efficient and relatively inexpensive way to do this would be through the grazing of forages. The goal of this study was to determine if the rate of forage intake by goats was affected by the way forage species were placed in the field. Results indicated that goats ate the greatest amount of forages when the forage species were offered individually, but spaced close together, like a buffet. Conversely, goats ate the least amount of forages when they were mixed such that multiple forage species could be taken in one bite. Chicory was the most preferred and crabgrass was the least preferred forage species. Additional studies will be completed to determine maximum cropping efficiency, while balancing animal intake tendencies, in order to determine efficient ways to increase animal intake. (SOURCE: M.R. Burgess, et al., Ohio State University in Forage Progress, Vol. 2, April 2004)

## KENTUCKY RANKS HIGH IN BEEF

What are the top beef producing states and where does Kentucky rank? It all depends on what your rankings are based. Sure Texas has the largest number of beef cows, Missouri is second and Kentucky ranks 8<sup>th</sup>. However, if your measure of production is number of cows per unit of land, Missouri is first, Oklahoma is second and Kentucky is third. Kentucky has almost 30 cows per square mile on a total land basis. If you go one step further and look at farm acres only, there are 12.27 acres of farm land for every beef cow in Kentucky, which ranks us 4<sup>th</sup> nationally (Tennessee has the fewest at 10.61 acres and Texas ranks 16<sup>th</sup>). If we include our friends in the dairy industry and look at number of cows and heifers (beef and dairy) that calves in 2003 per square mile of land, Kentucky ranks second nationally behind Missouri with 30.68 cows per square mile. (SOURCE: Dr. Darrh Bullock, University of Kentucky)

## FORAGE-ANIMAL PRODUCTION RESEARCH UNIT: MOST RECENT AGRICULTURE RESEARCH SERVICE LOCATION

The transition zone of the eastern and Midwestern USA is an important cattle and horse production environment. Livestock production within this zone is heavily dependent on forage systems for sustainability and future competitiveness in agriculture. Forages not only supply an economical means of delivering nutrients, but also function to conserve soil and water resources. With increasing foreign agricultural competition and urbanization of the human population, forage-based enterprises in the United States are under pressure to become increasingly more efficient in order to remain competitive and environmentally sustainable within the world market. Hindering the ability of forage-based enterprises to become more competitive is the limited fundamental information concerning the effects of environment and management on plant quality and production. Although data on plant nutrient effects on animal health and performance have been well studied at the production level, it is only recently that fundamental information (e.g., cellular mechanisms) concerning how these production level effects are elicited has become a focus. Thus, the available information for predicting animal performance in response to plant nutrient consumption is of limited use, especially considering the lack of understanding of plant nutrient interactions with the environment and genetic expression of the grazing animal. Even more problematic is that the effects of plant nutraceuticals and anti-quality factors on nutrient intake, metabolism and assimilation for product or work is extremely limited. Further, there is limited understanding of how these factors modulate the defense mechanisms of animals grazing forage.

In response to these issues, the Agriculture Research Service (ARS) received a program increase in FY2002 to establish the Forage-Animal Production Research Unit (FAPRU) in Lexington, KY. FAPRU came into physical existence in March of 2003 with the hiring of the Research Leader. The mission of FAPRU is to improve productivity, profitability, competitiveness and sustainability of forage-based enterprises through improved understanding of the fundamental biological processes that occur at the animal-plant interface. (SOURCE: J.R. Strickland and G.E. Aiken, USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY)

## CALIBRATING SEEDERS

To calibrate any seeding machine, two things must be known: 1) area covered, and 2) amount of seed used.

$$\text{Seeding Rate (SR)} = \frac{S (\text{amount of seed})}{A (\text{area covered in acres})}$$

$$A = \frac{(\text{area covered in square feet})}{43,560 (\text{square feet in one acre})}$$

1 pound = 16 ounces = 454 grams

1. Area Covered
  - A. Drill to determine area covered
    1. Measure seeding width of machine used
    2. a) Measure distance around drive wheel or sprocket and turn the number of times to equal a given distance (i.e. 100 feet), or
    - b) Pull the machine at the desired seeding speed for some measured distance
2. Amount of seed used
  - A. Place some type of collection device or container at seed outlet(s). Collect and weigh seed that is dispensed over the test distance.

Examples:

1. A drill with a 7 foot seeding width is pulled 100 feet with 0.25 pounds of seed dispensed. What is the seeding rate?  
SR = S/A

$$A = \frac{7 \times 100}{43,560} = 0.016 \text{ acres}$$

$$\text{SR} = \frac{S}{A} = \frac{0.25}{0.016} = 15.6 \text{ lb/A}$$

2. A cyclone seeder with a 12 foot seeding width dispenses 0.12 pounds of seed in 100 feet. Calculate the seeding rate?  
SR = S/A

$$A = \frac{12 \times 100}{43,560} = 0.028 \text{ acres}$$

$$\text{SR} = \frac{S}{A} = \frac{0.12}{0.028} = 4.3 \text{ lb/A}$$

3. Three pounds of seed were placed in a spinner (cyclone) seeder with a 12 foot seeding width. Seed was sufficient to cover a distance of 1,000 feet. What is the seeding rate per acre?  
SR = S/A

$$A = \frac{12 \times 1,000}{43,560} = 0.28 \text{ acres}$$

$$\text{SR} = \frac{S}{A} = \frac{3}{0.28} = 10.7 \text{ lb/A}$$

(Source: Southern Forages 3<sup>rd</sup> Edition, Page 286)

## UPCOMING EVENTS

- JUN 12-16 American Forage & Grassland Council, Roanoke, VA
- JUN 18-19 Southeastern Farm & Home Expo '04, Greeneville, TN
- JUN 24 KFGC Field Day, Russell Hackley Farm, Grayson County
- OCT 3-5 Fourth Eastern Native Grass Symposium, Lexington
- OCT 26 5<sup>th</sup> Kentucky Grazing Conference, Bowling Green
- 2005
- FEB 24 25<sup>th</sup> Kentucky Alfalfa Conference, Cave City Convention Center



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June 2004