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Forage News

Plant and Soil Sciences

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## Forage News [2020-01]

Department of Plant and Soil Sciences, University of Kentucky

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# Forage News

## Keeping Forage-Livestock Producers in Kentucky Informed

Dr. Ray Smith and Krista Lea, editors

January 2019

### Kentucky Alfalfa and Stored Forages Conference In Elizabethtown, February 20, 2020

The new Hardin county Extension Office will be hosting the 39th Kentucky Alfalfa and Stored Forage Conference. Topics include:

- Managing Alfalfa Nutrient Uptake
- Don't Let Insects Eat Your Alfalfa Profit
- Fertilizing Profitable High Yield Alfalfa
- Getting the Upper Hand on Diseases of Alfalfa and Grasses
- Updates on an Online Alfalfa Management Tool
- What's New in Alfalfa Weed Control
- Advances in Hay Mechanization
- Making a Profit with a cash hay Alfalfa Operation

Early registration is just \$30. Find the full agenda or register at [forages.ca.uky.edu/events](http://forages.ca.uky.edu/events). For paper registration, mail a check with your name and address to: Ray Smith, N-222E Ag. Science Center North, Lexington, KY 40546.

### Methods to Reduce Hay Alkaloid Levels

Fescue toxicosis is caused by ergot alkaloids produced by the naturally occurring fungal endophyte. Many scientists think that ergovaline is the primary alkaloid causing the issues, but there may be others involved. Research has shown that KY-31 infected tall fescue contains alkaloids all year, but the level is particularly high in the spring when seedheads are produced.

The question has come up recently about the toxicity of KY-31 infected tall fescue hay. Research from the University of Missouri indicates that ergovaline and total ergot alkaloid levels decline significantly when tall fescue is cut, dried, and baled for hay. In their study, alkaloid levels dropped between approximately 30 to 60 percent when tall fescue was made for hay. It is important to realize that alkaloids were still present in the hay, sometimes to levels that produce symptoms of fescue toxicosis. There were some situations where levels were reduced enough that any fescue toxicosis symptoms should be minimal. Below are methods to reduce alkaloid levels in hay:

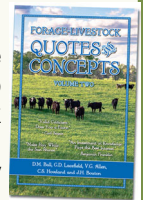
- 1) Raise the cutting height to 3 inches
- 2) Delay feeding for at least one month after harvest
- 3) Seed clovers in tall fescue hayfields
- 4) Cut before seedheads are present

~ Excerpt from November Hay and Forage Grower, by Gary Bates. To learn more about managing toxic tall fescue in pastures and hayfields or to replace with new novel tall fescues, consider attending the Novel Tall

Fescue Renovation Workshop in Lexington on March 19th. Early registration is only \$65. Find more info or reserve your spot at <http://TallFescueKY2020.eventbrite.com> or contact Krista Lea at [UKForageExtension@uky.edu](mailto:UKForageExtension@uky.edu).

### Quote of the Month: "Pretty Is As Pretty Does"

The new grass species pictures in all the forage magazines looked wonderful! Advertised animal gains, stocking rates and crude protein content were incredible. However, forage persistence was poor and by the third year, most plants had died. Beautiful to begin with, it didn't do the job. Practically speaking, "pretty": is the thing that works! Sometimes, something that looks good to begin with doesn't stand the test of time or fails in other ways. It pays to look beyond first impressions and check available research, other information and local experts before moving ahead. Order your copy of Forage-Livestock Quote and Concepts, vol. 2, today at <https://forages.ca.uky.edu/content/forage-books>



### Publication of the Month: 2019 Long-Term Summary of Kentucky Forage Variety Trials

Results are out for the 2019 Forage Variety Trials. Side by side comparisons of yield and persistence can be found for many forage species including tall fescue, annual grasses, clovers, alfalfa, ryegrass, timothy, KY bluegrass, orchardgrass and many summer annual grasses. Select species are also evaluated for

### Forage Timely Tips: January

- ✓ Continue strip-grazing of stockpiled tall fescue for maximum utilization.
- ✓ Remove animals from very wet pastures to limit pugging and soil compaction.
- ✓ Feed best hay to animals with highest nutritional needs.
- ✓ Supplement poor quality hay as indicated by forage testing.
- ✓ Feed hay in poor pastures to increase soil fertility and enhance organic matter.
- ✓ Consider "bale grazing" - set out hay when the ground is dry or frozen. Use temporary fencing to allocate bales as needed.
- ✓ Prepare for pasture renovation by purchasing improved varieties, inoculant, etc. and getting equipment ready.

persistence and preference under cattle and horse grazing. The 2019 Long-Term Summary of Kentucky Forage Variety Trials contains a summary of all species for many years. This report and individual species reports can be found on the UK Forage Variety Trials page ([forages.ca.uky.edu/variety\\_trials](http://forages.ca.uky.edu/variety_trials)).

### Things You Never Knew a Forage Test Could Tell You

Forage testing is the scorecard of a hay program and is necessary to meet feeding goals for livestock. However surveys show that most do not test hay. In the defense of farmers, good hay weather has been so infrequent that people really don't want to see the results. You can almost hear them say, 'I already know my hay is bad - why should I pay somebody to tell me something I already know!' I sympathize.

Forage tests measure forage quality, but I will bet there are some things that you did not know it can tell you. So consider these even more reasons to test hay. What follows are some of the interesting things that you may not know a forage test will tell you.

First of all, the most important number is not the crude protein (CP) number. Protein requirements for most classes of cattle are pretty easily met by forages, especially mature cattle. Seldom do we need to supplement just for protein. Fiber values tell the story on forage quality. Yet we do not have an intuitive understanding of fiber as we do with CP. So let's look a little closer at the fiber values on a hay test.

Acid detergent fiber (ADF) and neutral detergent fiber (NDF) are the most important and least understood parts of the report. The names themselves do not help understanding because they refer to the lab processes not to animal performance. These values are the most important because they are used to predict energy (from ADF) and intake (from NDF). And energy and intake are where forages limit animal performance.

Fiber values help to indicate legume content. These two values on a hay test are named for the proportion of forage left after boiling in either neutral or acidified detergent solutions. NDF is the total fiber in the forage (NDF) and ADF the total fiber minus hemicellulose. Since legumes have less hemicellulose than grasses, the NDF-ADF difference will be less for legumes than grasses. An NDF-ADF difference of 10 would indicate almost pure legume, while NDF-ADF differences for grasses will be 20 or higher.

High NDF values are a red flag. How much a cow will consume can be predicted from NDF. An NDF of 40% (excellent legume hay) will have an estimated intake of 3% of body weight per day. An NDF of 60% (a typical grass hay) allows intake of 2% body weight. Ultimately, feeding a cow comes down to intake – how much she can eat per day. High NDF forages take a long time to pass out of the rumen.

Calcium-phosphorus ratio can also reveal legume content. Legumes grown in our region will have a Ca:P ratio of 2:1 or even higher, while our cool season grasses will be more like 1:1. So a wide Ca:P ratio means more legume. This little known fact really came in handy when a horse farm client wanted to know if a lot of hay they had purchased was in fact going to be a 50:50 mix of alfalfa and grass as they wanted. The

forage test showed a very wide Ca:P ratio (>3:1). I predicted the hay was going to be mostly alfalfa. And it was.

Digestibility Terms. Total digestible nutrients (TDN) is the most frequently used energy term for beef cattle, and it is nearly always calculated solely from ADF. Labs differ in the equations used to predict TDN, sometimes markedly, so it is more important to compare ADF values if you are comparing hay quality values between labs.

Getting your forage tested needs to be on your list of must-do's this fall (after it warms up a little). This information will help you feed more efficiently, and it may even tell you some things you did not think possible.

Happy foraging. ~ Dr. Jimmy Henning, from Farmers Pride

### It's One Thing All Haymakers Have To Do

In the wonderful world of forages, one topic is written and talked about more than all others. It really encompasses a simple message: If you make and/or feed hay, get it tested.

"Every year I get calls for help with balancing rations, and most don't have a hay analysis," writes Mary Drewnoski in a recent *BeefWatch* newsletter.

Drewnoski, a University of Nebraska Extension beef specialist, wants growers to know that not all forages, even those of the same species, are created equal.

She notes that smooth bromegrass, for example, can range from 48 to 58 percent total digestible nutrients (TDN) with crude protein (CP) ranging from 6 to 11 percent.

"This can be the difference between a growing heifer losing 0.25 pounds per day or gaining 0.37 pounds per day," Drewnoski says. "If you were targeting the heifer gaining 1 pound per day, you would need to supplement between 1.5 to 3 pounds per day of dried distillers to reach this goal. At \$150 per ton for dried distillers, this is a range in cost of \$10 to \$20 per heifer for a 90-day period," she explains.

Without knowing the forage analysis, the producer is faced with a decision by guess. Feed the lower rate and potentially have heifers that don't reach breeding weight when they should; feed the higher rate and potentially spend money needlessly. Contact your county agent for help with hay testing

~ Hay and Forage Grower, December 2019

### Upcoming Events

(see website for details and online registration)

JAN 5-8- AFGC Annual Conference, Greenville, SC

JAN 17 - Forages at KCA. Owensboro, KY

FEB 20 - Alfalfa Conference, Elizabethtown, KY

MAR 19 - Novel Tall Fescue Workshop. Lexington, KY

APR 14 - Fencing School, Glasgow, KY

APR 16 - Fencing School, Grand Rivers, KY

APR 21-22 - KY Grazing School, Princeton, KY

APR 28-30 - So. Pasture and Forage Crop Imp. Conf., Montgomery, AL

MAY 19 - Small Ruminant Fencing School, Frankfort, KY

MAY 21 - Fencing School, Campton, KY

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Bonus Content on Page 3: Should I Just Cut Back On Fertilizer Purchases?

see blue.

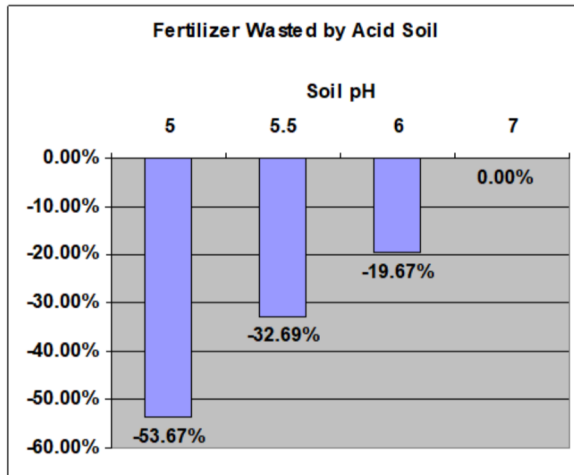
### Should I Just Cut Back On Fertilizer Purchases?

Absolutely NOT. That is equivalent to reducing feed purchases by cutting back on feeding grain, regardless of how they are milking. It is distressing to see farms fertilizing by best guess, and then shorting their profitability some where else because “enough” money was spent on fertilizer. If you cannot get your whole farm sampled, concentrate on corn fields and fields that are going to be seeded. These have the earliest fertilizer additions. Hay fields can be sampled after first cutting and the top dressing applied after second cutting.

The biggest regulator of the return on your fertilizer investment is to raise the pH to 6.2 for corn or 7.0 for legumes. This is where expensive fertilizer is most available and the plant growth can make the most use of it. As the pH drops, fertilizer efficiency drops 30 – 50% in producing crop yield.

Correct pH soil is a BASIC MANAGEMENT PRINCIPLE for any manager who has any desire to run a profitable farm. A few years back I worked with a top managed farm that started a complete farm soil testing program. He discovered to his surprise, he had alfalfa fields that were at a pH too low to ever grow corn well! Ironically, he was putting too much fertilizer on high testing manured corn fields, to the point of hurting plant growth by tying up minor elements. What he saved on fertilizer more than paid for the needed Time IN ONE YEAR! Since then, several more farms have gone on to whole farm soil testing and have had the same results: decreased fertilizer bills and an increased need for corrective liming, and less expensive forage cost for the yield achieved. As the price of fertilizer continues to go up, the investment in this critical part of your crop production demands the highest return on each dollar invested. Unfortunately as more farms are finding the benefit of comprehensive soil testing and recommendations, we were learning that they were severely handicapped in forage profit for several years for having low pH. Fields of 5.4 – 5.8 are common, especially on rented ground. They tried to save on fertilizer by no liming. At these pH levels, as the chart below shows, you are throwing away a third of your fertilizer impact. Even at pH 6.0, nearly 20% (one bag in five) is lost due to the acid soil’s effect on availability. In this era of high prices, correcting the pH FIRST and then adding what fertilizer the checkbook will allow you, is the way to maximize the return in your crop.

~ Excerpted from Thomas Kilcer’s “Crop Soil news, Nov. 2019



### CAIP Forage Seed List

Several county agents and producers have recently asked me how forage varieties are added to the CAIP Approved Seed List and are therefore eligible for county cost share. The normal procedure is for the company selling the seed to send me ([raysmith1@uky.edu](mailto:raysmith1@uky.edu)) the Variety Description and results of two or more yield trials in KY or surrounding states. If this variety is adapted to Kentucky and has yield and persistence ratings that are average to above average compared to other varieties we have tested, then I recommend to GOAP to add this it to the approved seed list.

If the variety you would like to plant is not on the approved CAIP Seed List then ask your company to follow the above procedure. This should be done at least several weeks before you purchase the seed to make sure the variety can be added to this list. ~ Ray Smith, UK Forage Specialist