

# UK Forage News

## Keeping Forage-Livestock Producers in Kentucky Informed

Dr. Jimmy Henning and Krista Lea, editors

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The *KENTUCKY*  
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### If Cows Could Talk

If cows could talk, it would be easy to figure out how good your hay is. Until then, we have to utilize a forage test to tell us if our hay is getting the job done that we think it is. Unless you are used to looking at forage reports, they can be hard to interpret. What follows is my version of a real simple explanation of the major terms on a forage report.



#### Key Forage Quality Terms, In Order of Importance

Total Digestible Nutrients (TDN) - This is the most important value on the report. I'll bet you expected crude protein to be listed first. Actually, protein is seldom the limiting factor in ruminants, except for growing or lactating animals. TDN is a calculated estimate of the digestibility or energy content of forage. TDN goes down as forages become more mature. Energy is the most limiting nutrient in most if not all forage based livestock diets.

Acid Detergent Fiber (ADF) - This is the relatively indigestible fiber in a forage sample, containing cellulose, lignin and silica. ADF values rise as forages become more mature. ADF and TDN move in opposite directions. The higher the ADF, the lower the TDN.

Neutral Detergent Fiber (NDF) - This is the total fiber in a forage sample, made up of cellulose, hemicellulose, lignin, and ash. It is used to estimate intake. Like ADF, NDF values rise with forage maturity. Low NDF values indicate livestock can consume more forage.

Relative Feed Value (RFV) - This is an index for ranking cool-season grass and legume forages based on combining digestibility and intake potential. It is calculated from ADF and NDF. The higher the RFV, the better the quality. The RFV of full bloom alfalfa is about

100. RFV is only valid for ranking similar type forages, such as comparing one grass hay to another.

Crude Protein (CP) - This is an estimate of protein in a forage, calculated by multiplying % nitrogen by 6.25. By now, you are probably exasperated at my listing crude protein at the bottom of this list. I do so to make a point – we have to look further than protein to know if your forage is 'good.'

Remember that the ultimate measure of forage quality is the performance of the animals to which it is fed. Since cows still can't talk, you will need to observe how much they eat and how well they maintain body condition to 'listen' to what they are telling you about your hay. Happy foraging. ~ Jimmy Henning, from Farmer's Pride

### Extension Agents host Virtual 14th Annual Pastures Please!!

University of Kentucky Cooperative Extension agents and Ag Equine Programs will host a virtual Pastures Please!! pasture management workshop from 6 to 7:30 p.m. EST on Jan. 26.

Horse owners and farm managers will have the opportunity to hear several expert talks, including information about managing carbohydrates in the equine diet, new herbicides and their effectiveness on weed control and wise investments for pasture management.

The event is hosted annually by Central Kentucky extension agents. Those interested in participating in this free event can register online at <https://UKPasturesPlease.eventbrite.com>. ~ Holly Wiemers, UK Equine Programs.

### Pub of the Month: Strategies for Reclaiming Hay Feeding Areas (AGR-255)

Hoof damage from livestock during the winter months can result in almost complete disturbance of desired vegetation and soil structure in and around hay feeding areas. Even well-designed hay feeding pads will have significant damage at the edges where animals enter and leave. Highly disturbed areas create perfect growing conditions for summer annual weeds like spiny pigweed and cocklebur. Weed growth is stimulated by lack of competition from a healthy and vigorous sod and the high fertility from the accumulated dung, urine, and rotting hay. The objective of this publication is to outline strategies for rapidly establishing stands of desirable forage species on these areas. Find this and many more publications at <https://forages.ca.uky.edu/foragepublications>.

## Developing Heifers on Novel Endophyte Tall Fescue

Heifer development programs have changed over the years. In the 1990s, there were still many farmers that calved heifers at 3 years of age and nearly their mature weight. Since that time, most progressive cattlemen have moved to calving heifers at 2 years old, and 65% of their mature weight, which improves their lifetime productivity relative to calving 3 year olds when done properly.

Recently, the concept of “slow heifer development” has been introduced to cattlemen. The logic of this approach is that when you push heifers to a heavy weight (65% of mature weight), the feeding program is expensive and some heifers that need the supplement to grow enough to breed will “crash” at some point, due to their higher nutrient requirements.

Heifers that are developed more slowly (to about 58% of their mature weight at breeding) will typically not lose as much weight and condition as the heavier heifers after they calve and enter their second breeding season. Some heifers with very high nutritional requirements may not breed the first time in a slow development program, but those big, inefficient heifers are likely to drop out of the cow herd early anyway.

A slow development program means that it is possible to create forage systems where little if any supplementation is needed during development. A heifer that has a 205 day weight of 550 lbs needs to gain 200 lbs over the next 6 months to be adequately developed; an average daily gain of only about 1.21 lb per day. It is very possible to achieve that gain without supplement (unless the base forage happens to be toxic KY-31 tall fescue or bermudagrass).

Over the last two decades, North Carolina State University has done extensive research on developing heifers using tall fescue, with a focus on supplementation and the use of novel endophyte varieties. This work has shown that heifers on toxic tall fescue actually have gains comparable to novel endophyte tall fescue in stockpile systems after the toxin levels start to decline in early winter. When warm weather hits in late spring, the gains of heifers on toxic tall fescue are very low, while heifers grazing novel endophyte tall fescue outperform them by about 1 lb/day. In this work, heifers grazing novel endophyte tall fescue during both the winter and spring season ended up weighing over 100 lbs more than the heifers grazing the toxic tall fescue. Many of the problems with heifer development on toxic tall fescue can be overcome by feeding additional concentrates, but that is expensive and labor intensive compared to using novel endophyte tall fescue. ~ Dr. Matt Poore, NCSU professor and president of the Alliance for Grassland Renewal

Learn more about adopting novel tall fescue varieties at the Alliance for Grassland Renewal's workshops: February 23-35 (evenings) Virtually, or March 25 in Lexington. Learn more at <https://grasslandrenewal.org/workshops/>.

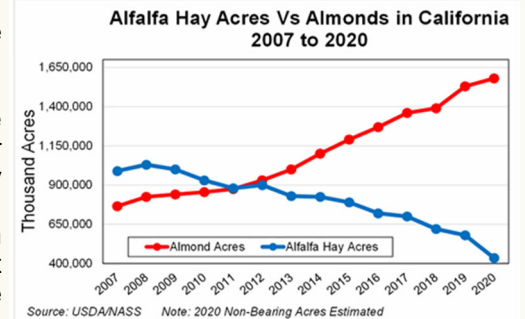
## Hay Export Market Status and Alfalfa Acreage

There are major changes occurring in alfalfa acreage across the country, especially in California, Nevada, and New Mexico. Part of this drop relates to very tight margins for dairy producers across the U.S. and the fact that dairy nutritionists have been

finding ways to replace the protein and fiber benefit of alfalfa with other commodities. One of the major reasons for the drop in alfalfa hay being fed in CA is the abundance of almond hulls that provide decent nutrition and fiber at a low cost. Almond hulls are so cheap because of the dramatic increase in California almond production over the last few years. This increase in almond acres is directly affecting alfalfa acres in the state.

What are the implications to these trends for Kentucky hay producers? Actually, I'm not sure, but they are interesting

and we do not live in a silo. ~Ray Smith, UK Forage Specialist. Note: if you are interested the presentations given at the workshop they should be available at the CA Alfalfa Workgroup website in the near future. You can find many valuable resources on this website and also videos of past meeting presentations. <https://alfalfa.ucdavis.edu/>



## Forage Timely Tips: January

- ✓ 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 areas where mud is less of a problem.
- ✓ 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.
- ✓ Use variety trial results to select seed for spring renovation.
- ✓ Prepare for pasture renovation by purchasing seeds, inoculant, etc. and getting equipment ready.

## Upcoming Events (see website for details)

JAN 3-6—AFGC Conference, Savannah, GA

JAN 11-12—AFGC Conference, Virtual

JAN 13—KCA Improving Hay Quality in KY, Virtual

JAN 26—Pastures Please! Horse Meeting, Virtual

FEB 23-25—Novel Tall Fescue Renovation Workshop, Virtual

MAR 2-4 —Alfalfa and Stored Forages Conference, Virtual, evenings.

MAR 25—Novel Tall Fescue Renovation Workshop, Lexington, KY

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