

2009 Southeast Hay Contest Results

A Cooperative Extension Effort of
Auburn University, Clemson University, The University of Florida,
and The University of Georgia

Final results for the 2009 Southeastern Hay Contest are listed in Table 1. The results are broken down into the six categories of the contest: warm season perennial grass hay (bermudagrass, bahiagrass), perennial peanut and alfalfa hay, perennial cool season grass (tall fescue, orchardgrass, etc.), mixed and annual grass hay, grass baleage, and legume baleage categories. This contest is held in conjunction with the Sunbelt Agricultural Expo in Moultrie, GA.

Despite another drought-stressed growing season across the entire Southeast, 160 entries were received in 2009. Samples came from in from all across the Southeast and the overall average Relative Forage Quality (RFQ) was nearly 121.

What is Relative Forage Quality? Past hay quality prediction equations were based on the fiber *concentration* of the hay crop. However, forage crops can have similar fiber content yet have very different digestibility. For instance, Tifton 85 bermudagrass often has a higher fiber concentration than other bermudagrass varieties, yet is more digestible. This improved digestibility results in enhanced animal performance, but is not reflected using traditional hay testing methods. The Relative Forage Quality index was developed by the University of Florida and the University of Wisconsin to predict the fiber *digestibility* and animal intake of harvested crops. Since 2003, hundreds of warm season samples have been used to refine the RFQ equation for bermudagrass and other warm season forages. Currently, all forage sample results from the UGA Feed and Forage Testing Lab in Athens contain an estimate of Relative Forage Quality. This value is a single, easy to interpret number that improves producer understanding of a forage's quality and helps in establishing a fair market value for the product.

How can Relative Forage Quality help me? Relative Forage Quality allows hay producers to easily categorize and price hay lots based on relative quality. Cattle producers can purchase hay lots depending on its end use. For example, there is little need to feed high-end quality hay to livestock that could easily utilize poorer quality forage. Hay with a RFQ of 115-130 can be fed to maintain beef cow-calf pairs, hay with an RFQ of 125-150 is adequate for stocker cattle or young growing replacement heifers, and hay with an RFQ of 140-160 is suitable for dairy cattle in the first three months of lactation. It is also easy to see that Relative Forage Quality could provide the framework for a quality hay marketing system. For example, hay with a RFQ of 155 could conceptually be labeled "premium" hay, while hay with an RFQ of 105 could be labeled "fair". This simple system could allow producers to price hay consistently and fairly across harvest maturity, fertilization regimes, or plant species (i.e. bermudagrass, bahiagrass, perennial peanut, or tall fescue).

Think you can do better? Submit your sample in 2010 through your local county Extension office. An official entry form and the contest guidelines for next year's contest will be posted soon. at www.georgiaforages.com.

Table 1. Category winners from the 2009 Southeastern Hay Contest. (160 Total Samples Entered)

Category	Farm	Crude Protein, %	TDN, %	RFQ	
Warm Season Per. Grass Hay <i>80 Entries</i>	Rusty Bean Jones County GA	17.5	64.4	155	
	Harris Brantley Upson County, GA	14.2	66.7	154	
	Trice Farm Upson County, GA	18.2	64.8	145	
	<u>Overall Range:</u>	<u>(5.9 – 18.4)</u>	<u>(47.7 – 67.3)</u>	<u>(82 – 155)</u>	
	Per. Peanut/Alfalfa Hay <i>14 Entries</i>	Vickers Still Farm Coffee County., GA	23.2	77.3	264
Per. Peanut/Alfalfa Hay <i>14 Entries</i>	Farrell Roberts Tift County, GA	20.2	69.6	213	
	Vickers Still Farm Coffee County, GA	23.3	68.7	208	
	<u>Overall Range:</u>	<u>(16.0 – 23.3)</u>	<u>(59.2 – 77.3)</u>	<u>(125 – 264)</u>	
	Cool Season Per. Grass Hay <i>15 Entries</i>	Duncan Legacy Farm Carroll County, GA	11.3	58.4	154
	Duncan Legacy Farm Carroll County, GA	14.9	58.4	134	
Cool Season Per. Grass Hay <i>15 Entries</i>	James Burton Walker County, GA	17.3	62.2	133	
	<u>Overall Range:</u>	<u>(7.5 – 21.1)</u>	<u>(45.1 – 65.2)</u>	<u>(86 – 154)</u>	
	Mixed and Annual Grass Hay <i>41 Entries</i>	Larry Smith Elbert County, GA	11	60.9	175
	Little Creek Hay Farm Tangipahoa Parish, LA	20.8	67	146	
	Lightning's Hay Farm Grady County, GA	14.5	61.3	165	
Mixed and Annual Grass Hay <i>41 Entries</i>	<u>Overall Range:</u>	<u>(5.9 – 16.2)</u>	<u>(47.9 – 63.0)</u>	<u>(88 – 175)</u>	
	Grass Baleage <i>9 Entries</i>	Woodson Montgomery Oconee County, GA	11.9	63.9	166
	Tokeena Angus Oconee County, SC	12.1	58.6	148	
	Hamp Holmes Edgefield County, SC	11.6	56.9	138	
	<u>Overall Range:</u>	<u>(6.6 – 12.1)</u>	<u>(49.4 – 63.9)</u>	<u>(96 – 166)</u>	
Legume Baleage <i>1 Entry</i>	Troy Platt Madison Co., FL	17.1	68.5	163	

Why Test Your Forages?

- To know if your forage meets the nutritional needs of your animals, or
- To know how much supplemental feed is required to meet the nutritional needs of your animals.

Scenario: Dry Cows

- Bale A cost:
 - No supplement; \$75/bale
- Bale B cost:
 - 56 lbs of supplement/1000 lb bale
 - \$4.90 supp.¹ + \$70 = **\$74.90** + labor

Bale A)



Bale B)



Scenario: Lactating Cows

- Bale A cost:
 - No supplement; \$75/bale
- Bale B cost:
 - 180 lbs of supplement/1000 lb bale
 - \$15.75 supp.¹ + \$70 = **\$85.75** + labor

In this case, the feeding of **one bale** paid for the forage test.

The Effect of Maturity on the Bottomline: Supplementing a Lactating Cow

Crop	Maturity	Typical CP	Typical TDN	Supplement Required	Cost of Supp. ¹
		-- % --	-- % --	lbs/hd/day	\$/hd/day
Bermudagrass	4 weeks	10-12	58-62	0	\$0
	6 weeks	8-10	51-55	4.8	\$0.45
	8 weeks	6-8	45-50	7.5	\$0.72

¹ Assumes 50:50 mix of corn gluten feed:soy hulls and that the supplement cost is \$175/ton.

Primary Factors Affecting Forage Quality

Factor	Recommendation
Plant Maturity	Cut bermudagrass every 4-5 wks; cut tall fescue in the boot or early head stage
Forage Species	Use the highest-quality grass species that will persist in your environment
Bale Storage	Protect bales from rainfall and weathering during storage (i.e., barn, tarp, etc.)
Rain During Curing	Avoid cutting if significant rainfall (> 0.50 inches) is predicted during curing
Moisture at Baling	Allow forage to dry to the appropriate moisture (Round: 15%; Square: 18%)
Fertilization	Provide fertilizer based on soil test recommendations
Variety	Use varieties that have proven to be higher in quality

Trends in Forage Quality

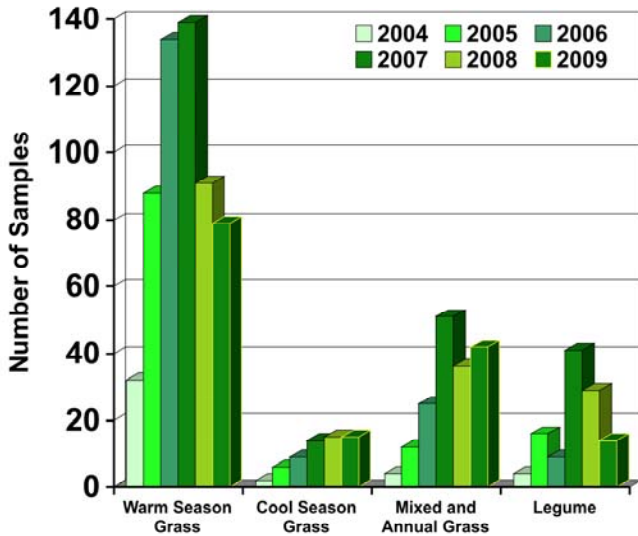


Fig. 1. Number of forage samples submitted to four basic categories within the contest in 2004-2009.

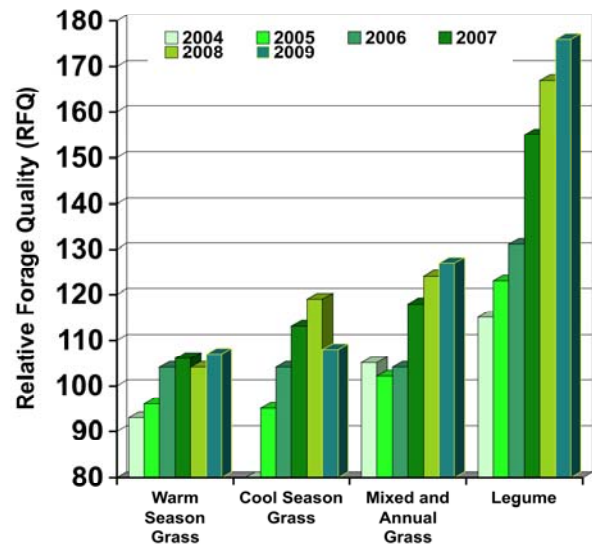


Fig. 2. Mean RFQ of hay samples submitted to the four categories within the contest in 2004-2009.

How to Test Your Forages



1. Take a separate sample from each field **AND** cutting.
2. Use a bale corer to get a representative sample.
3. Insert the sampler fully and at an angle to the stems.
4. Take at least 20 cores from each lot.
5. Mix the 20 cores in a clean pail or plastic bag.
6. Fill a quart-size plastic bag with about ½ lb of forage.
7. Label each bag with name, hay lot, sample, forage species, stage of maturity, and harvest date.
8. Send to a Lab approved by the National Forage Testing Association (NFTA), such as the UGA Feed and Environmental Water Lab.



"Colorado Hay Probe"

"Penn State Probe"