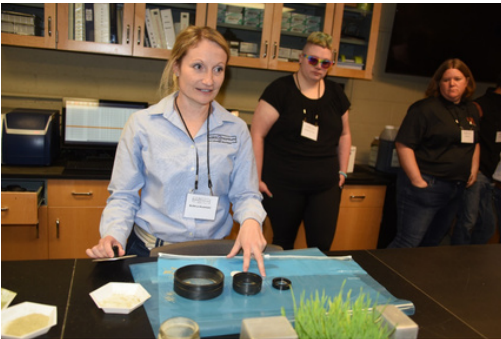


From the President's Desk

By Chris Teutsch

This month I would like to give a shout out to Bobbi Jo Husmoen! Bobbi Jo has been working tirelessly to update Consortium equation for 2026. This entails scanning new samples, sending selected samples off for wet chemistry, and then incorporating those results into the calibration equations. Bobbi Jo is a primary reason that Consortium equations are so robust. Bobbi Jo, THANK YOU for your dedication and hard work!



Bobbi Jo Husmoen, NIRSC Applications Specialist, talks with participants about importance of proper sample handling for optimal equation performance at the 2025 NIRC Hub Training event.



Chris Teutsch, Forage Extension Specialist at University of Kentucky, teaching Caldwell County FFA student how to properly sample hay and interpret results.

Don't forget to sign up for our annual meeting in Asheville. This meeting will be held in conjunction with the American Forage and Grassland Council. We will be holding two workshops. The first will be a preconference workshop focusing on fundamentals of NIRS. This workshop is designed for people who are just getting started on their NIRS journey and those who would like little refresher on NIRS theory and BMPs. We will also be holding a joint session on forage quality and hay testing with the Southeastern Hay Contest Committee. So please mark your calendars for January 12-15, 2026 and I will see you in beautiful Asheville, NC!

Plentiful rainfall this spring delayed first harvest hay in many parts of the Southern U.S. As most everyone knows, the single most important factor impacting forage quality is stage of maturity at harvest. Delayed harvest this spring makes forage testing even more important. Maintaining good condition on brood cows gives them the best possible chance to rebreed and with the current beef markets we want to make sure and minimize open cows! I would love for you to get involved in the Consortium! If you are interested in helping out, we have a place on a committee that we saved just for you. For more information on how to get involved, please contact our Tina Bowling our executive director. Tina can be reached at tina@nirsconsortium.com.

As always, please feel free to contact us with any questions or concerns.

Sincerely,

A handwritten signature in blue ink that reads "Chris Teutsch".

Chris Teutsch, President NIRSC

New Membership Support Option

There is now a consulting option available that could be of benefit to members for non-standard support. Examples of this would include assisting with questions concerning the development of non NIRSC calibrations or other NIRS related work, development of non NIRSC calibrations, or remote troubleshooting support for non NIRSC related items. The cost for this is \$50.00 for every 30-minute increment of support time. Any project expected to require more than 4 hours can be quoted and submitted for approval. With this new option, the NIRSC can expand membership support while continuing to offer traditional support as always. Any non-standard requests or questions can be sent directly to; bobbijo@nirsconsortium.com. All project requests will be brought to the Executive Committee for approval.

Sample Request for Future Calibration Updates

The NIRSC is continuously collecting membership samples for future updates in order to offer the best calibrations possible. Currently we are looking especially for the sample types below, as well as those samples suspect to be outliers in your lab. Contact Bobbi jo Husmoen at bobbijo@nirsconsortium.com with questions.

Corn Silage (fermented) with crude protein values less than 7%

High Quality Alfalfa hay with crude protein values above 24%

Grass Hay from Midwestern states

Small Grain Silage with grain present

Sample Handling Instructions

Be sure to include product identifications and sample details. Samples should be dried; 1 mm Cyclone ground (ground with two steps with Wiley Mill 2 mm or 1 mm and then Cyclone ground to 1 mm); placed in Whirl Pak bags with labels to include States, Species, Year. 50-60g dried and ground is ideal.

Please send physical samples to the NIRSC Instrument Hub:

NIRSC Instrument Hub
David McIntosh
NIRS Forage and Feed
Nutritional Analysis Laboratory
2431 Joe Johnson Dr, ANR 301
Knoxville, TN 37996

Shipping Questions:
865.206.1416
dmcintos@utk.edu

NIRS Consortium Pre-conference Workshop An Introduction to Near Infrared Spectroscopy “Theory and Practice”

When: January 12 from 3 to 5:30 pm

Where: Embassy Suites by Hilton Asheville Downtown 192 Haywood Street Asheville, NC 28801

Cost: No cost for NIRSC and AFGC Registered Attendees

LEARNING OBJECTIVES

- 1) To provide a basic understanding of how NIRS works.
- 2) To introduce participants to NIRS Consortium equations.
- 3) To outline BMPs for obtaining optimal equation performance.
- 4) To provide participants with a framework for selecting instrumentation.



Who should attend this workshop?

People interested in using near infrared spectroscopy for commercial or research applications and current users that desire a deeper understanding of how NIRS works and how to optimize performance.

AGENDA

- 2:55 pm Welcome - Chris Teutsch, NIRSC President, UK
- 3:00 pm NIRS Theory...dispelling the “magic box” myth - Philip Ossowski, Blue Sun
- 3:30 pm NIRS Consortium calibrations and limitations of NIRS use - Bobbi Jo HUsmoen
- 4:00 pm Break
- 4:15 pm BMPs for optimizing the use of NIRSC equations - David McIntosh, UT
- 4:45 pm Selecting Instrumentation - Jenny Combs, UK Regulatory Services
- 5:15 pm Meet the representatives for NIRS platforms supported by NIRS Consortium
 - Blue Sun Scientific-Rachel Glenister
 - Foss-Taylor Vesey
 - KPM Analytics-Casey Thomson
- 5:30 pm Survey and Adjourn

For more information on this workshop or the NIRS Consortium please contact Tina Bowling attina@nirsconsortium.com or 855-339-4267.



High Drying Temperatures Skew Forage Quality Data

By: David McIntosh, Coordinator and Researcher, The University of Tennessee, Knoxville

In forage labs where sample drying temperatures are too high can significantly distort forage quality data. The problem often begins in the field or drying barn, long before samples reach the lab bench or the NIRS instrument.

Near-Infrared Spectroscopy (NIRS) has become a cornerstone of modern forage analysis. It allows rapid, non-destructive estimation of nutritional components like crude protein, fiber, and digestible energy. However, when forage samples are dried at temperatures above 55°C, the chemical composition of the plant material begins to shift leading to misleading results in both NIRS and traditional wet chemistry analyses.

One of the most common issues is protein denaturation. Excessive heat can trigger Maillard reactions, where sugars and amino acids bind together, forming compounds that are no longer digestible by livestock. This reaction not only reduces the actual nutritional value of the forage but also causes underestimation of crude protein in lab results (McIntosh et al., unpublished).

High temperatures can also degrade soluble carbohydrates, which are important for energy content. These sugars may caramelize or volatilize, leading to lower-than-expected energy values in the analysis (McIntosh et al., unpublished). Additionally, fiber fractions such as ADF (Acid Detergent Fiber) and NDF (Neutral Detergent Fiber) may appear artificially elevated due to heat-induced changes in plant cell wall structure (McIntosh et al., unpublished).

These chemical shifts pose challenges for researchers, extension agents, and producers alike. Inaccurate data can affect livestock ration formulation, economic decisions, and even the outcomes of scientific trials. For example, a forage that appears low in protein due to overheating may be unfairly dismissed, or a feed mix may be adjusted based on flawed assumptions.

To mitigate these issues, labs are increasingly standardizing drying protocols. The recommended approach is to use ovens set at 55°C, which preserve the integrity of the forage without triggering unwanted chemical reactions (McIntosh et al., unpublished). Microwave drying and high-temperature forced drying are discouraged unless carefully controlled. Of course, there are protocols available for using alternative drying methods and that is a topic for another time!

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High Drying Temperatures Skew Forage Quality Data

By: David McIntosh, Coordinator and Researcher, The University of Tennessee, Knoxville

This issue is particularly relevant where forage quality research plays a key role in supporting producers across the region. As the fall harvest season ramps up, awareness of proper drying techniques is essential not just for preserving forage, but for ensuring the accuracy of the data that informs agricultural decisions. Be on the lookout for presentations and journal articles coming out with more in depth information on this topic in the first part of 2026 (McIntosh et al., unpublished).

Photo Credit: David McIntosh



Fresh alfalfa and tall fescue samples dried at different forced air oven temperatures.

2025 Southeastern Hay Contest

By: Massey Ferguson

The Southeastern Hay Contest (SEHC) has proudly recognized our regional producers who grow and harvest high quality hay for the last 21 years. The contest was originally developed by Extension agents for Southeast forage producers. Their involvement was pivotal to the success of the program during its development in 2004 and will continue to play an important role into the future. The SEHC continues to fulfill its mission to bring awareness to the importance of hay testing and managing livestock feed needs through nutritive value determination. The samples are ranked based on relative forage quality (RFQ) and the top 3 entries in each category receive a cash prize. The overall winner also receives a choice of the use of a new Massey Ferguson DM Series disc mower or RK Series rotary rake for the 2026 hay production season plus \$2,000 in cash!

Entries into the 2025 SEHC surpassed previous years and set new record number of entries at 540 submissions from ten states across the Southeast. Despite climatic challenges over the last year, there has been some very high-quality stored forages produced. This year's category winners are summarized in the table below. The 2025 Top RFQ was in the alfalfa hay category from Beeson Farms from Climax, NC with an index breaking 400. Beeson Farms won the Grand Prize in 2022 (also alfalfa hay) and therefore is ineligible to win the Grand Prize in 2025. As a result, the Grand Prize goes to Jon Pope from Coats, NC from the alfalfa hay category with another incredible RFQ of 354.

The SEHC continues to increase its reach and strengthen its commitment to education. Again, we would like to acknowledge the efforts of our Extension agents, who engage producers and collect samples. The agent award winners are in the first table below. We encourage you to continue the tradition and "prove your hay is the best" by submitting samples to next year's contest. Submissions are open year-round, check www.sehaycontest.com for more information, or contact your local county agent or forage Extension specialist.

2025 Southeastern Hay Contest Agent Winners

State Award	Agent	County	Entries	Sponsor
Top Florida Agent	Mark Mauldin	Washington	21	 MAYO AG SERVICES
Top Georgia Agent	Greg Pittman	Jackson	100	 G&C GEORGIA AGRIBUSINESS COUNCIL
Top North Carolina Agent	Dan Wells	Johnston	8	 COASTAL SEEDS LLC

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2025 Southeastern Hay Contest

2025 Southeastern Hay Contest Category Winners and Overall Winner

Entry	City, State	RFQ	TDN	CP	Sponsor
Warm Season Perennial Grass Hay: 162 Entries, 114 Average RFQ					
Maple Farms	North, SC	157	64.1	13.2	
Lindler Farms	Lexington, SC	155	63.8	14.6	
Sid Prescott	Waynesboro, GA	153	63.6	15.4	
Cool Season Perennial Grass Hay: 59 Entries, 107 Average RFQ					
Freedom Farms	Loudon, TN	181	68.2	18.4	
Brandon Creech	Zebulon, NC	173	67.2	16.2	
Beeson Farms	Climax, NC	156	64.4	12.6	
Alfalfa Hay: 15 Entries, 234 Average RFQ					
Beeson Farms	Climax, NC	400	77.5	27.1	
Jon Pope	Coats, NC	354	75.3	30.0	
Mountainside Farm	Taylorsville, NC	321	74.1	27.8	
Other Legume Hay: 20 Entries, 172 Average RFQ					
Bill Conrad	Malone, FL	246	70.8	20.7	
Walt Guettler	Chipley, FL	228	69.6	15.1	
Anthill Plantation	Quincy, FL	187	65.2	17.3	
Grass-Legume Hay: 12 Entries, 137 Average RFQ					
Walnut Hill Farm	Sharpsburg, KY	233	71.4	21.1	
Chester Farms	Martin, TN	146	64.1	18.9	
Michael Sponaugle	McDowell, VA	146	63.6	10.3	
Warm Season Annual Grass Hay: 54 Entries, 115 Average RFQ					
Pittman Farms	Nicholson, GA	151	63.8	11.3	
WF Farm LLC	Lexington, GA	149	64.3	9.8	
Beeson Farms	Climax, NC	139	62.0	11.3	
Cool Season Annual Grass Hay: 86 Entries, 109 Average RFQ					
Moore Farm	Elberton, GA	208	72.2	19.0	
Hodge Farms	Covington, GA	180	72.0	7.2	
Todd Trice	Madison, GA	174	67.4	14.3	
Grass Baleage: 125 Entries, 148 Average RFQ					
Caldwell Farm and Land	Concord, GA	221	74.0	14.4	
Walters Farms	Barnesville, GA	218	73.5	19.5	
4R Cattle	Williamson, GA	207	73.1	11.7	
Legume Baleage: 7 Entries, 137 Average RFQ					
Walters Farms	Barnesville, GA	191	69.7	14.3	
C & C Farms	McAplin, FL	185	70.8	17.7	
Justin Savage	Yatesville, GA	109	58.1	12.8	
Overall Winner					
Jon Pope Alfalfa Hay Category	Coats, NC	354	75.3	30.0	

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2025 Southeastern Hay Contest

What is Relative Forage Quality?

RFQ is an index used to represent different forages relative to their overall nutritive value (total digestible nutrients) and predicted dry matter intake. The index was developed by researchers at the University of Florida and University of Wisconsin and is considered a better fit for comparing forages (especially southern forages) for accounting for the digestible fiber as determinant of intake. In the past, hay quality prediction equations were based on the fiber concentration of the hay crop. However, forage crops can have similar fiber content but have very different digestibility. For instance, Tifton 85 bermudagrass often has a higher fiber concentration than other bermudagrass varieties, yet it is more digestible. This improved digestibility results in enhanced animal performance but is not reflected just considering traditional forage nutritive value parameters. This value is a single, easy to interpret number that improves producer understanding of a forage's nutritive quality and helps in establishing a fair market value for the product. Since 2003, hundreds of warm season samples have been used to refine the RFQ equation for bermudagrass and other warm season forages at the UGA's Feed and Environmental Water Lab in Athens, the official SEHC laboratory.

How can Relative Forage Quality help me?

RFQ allows hay producers to easily categorize and price hay lots based on relative quality, and livestock producers to balance supplemental diet based on the quality of the hay being offered. Producers can purchase hay lots depending on its end use. For example, there is little need to feed high-quality hay to livestock that could easily utilize poorer quality forage. Hay with a RFQ of 100 or more can usually be economically fed to maintain beef cows, while 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 instance, hay with a RFQ of 155 could conceptually be labeled "premium" hay, while hay with an RFQ of 100 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).

2025 SEHC Executive Committee Contacts

Dr. Lisa Baxter (baxterl@uga.edu)

Dr. Liliane Silva (lseveri@clemson.edu)

Dr. Katie Mason (kmason21@utk.edu)

