2026 Beef Expo – Hay Quality Contest

Introduction:

Did you know that the nutritional quality of your forage can **vary greatly** depending on forage species, maturity, moisture, fertilization, among other factors?

Low-quality forage can be the reason for not meeting your production goals. **The only way to know is to have your hay tested.** Visual evaluation is important but nutritional analysis is critical for making informed feeding decisions.

Eligibility:

- Open to any Tennessee 4-H or FFA member involved in the beef project
- Exhibition in the 2026 Beef Expo is **not required**

Entry:

- Take a representative sample of your hay
- Complete the attached submission form
- Submit to the lab by shipping or dropping off by **May 1, 2026**
  - ✓ Soil, Plant & Pest Center, 5201 Marchant Drive, Nashville, TN 37211

Instructional Videos:

- Taking an Adequate Sample: https://soillab.tennessee.edu/forage-analysis/
- Forage Species Guide: https://utbeef.tennessee.edu/forages-species-guide/

Results:

- Hay quality analysis will be returned so you to make hay feeding changes to ensure that your beef project animal meets your production goals.
- All samples will be ranked on **Relative Feed Quality (RFQ)**
  - ✓ Quality index that ranks forages based on digestibility and intake potential.
- Winners will receive **cash premiums**

This contest is provided by the **Mike and Denise Harris Endowment.**

4-H YOUTH DEVELOPMENT
UTEXTENSION INSTITUTE OF AGRICULTURE THE UNIVERSITY OF TENNESSEE

ANIMAL SCIENCE
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Soil, Plant & Pest Center
5201 Marchant Dr. | Nashville, TN 37211
615.832.5850 | Soillab@tennessee.edu
soillab.tennessee.edu

Forage Submission Form

2026 Youth Hay Contest

UTEXTENSION INSTITUTE OF AGRICULTURE THE UNIVERSITY OF TENNESSEE

Print clearly, so you will receive the results

Name:_____

Company *(if needed)*_____

Address:_____

City:_____**State**:_____ **Zip:**_____

County (sample is from): _____

Phone:_____ -_____- _____

Email:_____

Write your name and sample name **on the sample bag** as well.

Provide, **at least** 1/2 gallon of material. Too little and we will have to ask for more.

This is for the 2026 Beef Expo Hay Quality Contest.

Youth entering the contest can submit one hay sample for free NIRS analysis.

Sample Name	Forage Type	Species Codes	Clovers in sample?	NIRS				Lab ID #
(You give this)	Hay, Silage, or Haylage	See below	Yes or No					(We give this)
				☐				

***Species Codes**- If not listed, please write in*

**Confirm if you have clovers in your forage sample*

TF	Tall Fescue	**SG**	Small Grains
OG	Orchardgrass	**WA**	Warm-Season Annuals
BG	Bermudagrass	**LG**	Other Legumes
AR	Annual Ryegrass	**MG**	Mixed Grasses
AL	Alfalfa	**NG**	Native Warm-Season Grasses
CO	Corn		

Video on forage sampling can be found at: SoilLab.Tennessee.edu/forage-analysis or use the QR link to the right.

Forage Packages

For more information on how to use the Forage Submission Form or how to submit a forage sample, please contact your local UT Extension office.

NIRS *- Near-Infrared Spectroscopy Analysis** — **$17**

Water Content	*as received*
Dry Matter	DM
Moisture	Moisture
Protein	*100% DM basis*
Crude Protein	CP
Acid Detergent Insoluble Crude	ADICP
Neutral Detergent Insoluble Crude Protein	NDICP
Insoluble Crude Protein	InsolCP
Lysine	Lysine
Fiber	*100% DM basis*
Acid Detergent Fiber	ADF
Neutral Detergent Fiber	NDF
Lignin	Lignin
Carbohydrates	*100% DM basis*
Sugar	ESC
Fructan	Fructan
Starch	Starch
Water-Soluble Carbohydrates	WSC
Non-Structural Carbohydrates	NSC
Non-Fiber Carbohydrates	NFC

Digestibility	*100% DM basis*
*in-vitro*True DM Digestibility 48h	IVTDMD48h
Neutral Detergent Fiber Digestibility 48h	NDFD48h
Fat	*100% DM basis*
Fat	Fat
Minerals	*100% DM basis*
Ash	Ash
Calcium	Ca
Phosphorus	P
Magnesium	Mg
Potassium	K
Energy Calculations	*100% DM basis*
Total Digestible Nutrients	TDN
Digestible Energy	DE
Net-Energy for Maintenance	NE_M
Net-Energy for Gain	NE_G
Net Energy for Lactation	NE_L
Calculated Parameters	*Scale*
Relative Forage Quality - *Scale*	RFQ
Relative Feed Value - *Scale*	RFV

Minerals *- Wet Chemistry* — ***$20***

Minerals	*as received*
Calcium	Ca
Phosphorus	P
Magnesium	Mg
Potassium	K
Sulfur	S
Copper	Cu
Zinc	Zn
Manganese	Mn
Iron	Fe
Boron	B

Nitrates *- Wet Chemistry* — **$10**

pH, Ensiled *- Wet Chemistry* — **$7**

Sampling

- ***Hay*** - Obtain samples from approximately 10 bales. Best samples are obtained using a core sampling probe. Check with your local UT Extension office about the availability of these samplers. For square bales, take one core from one end of each bale. For round bales, take a sample across layers towards center of the bales. If grab samples are taken, be sure to obtain a representative sample as this method may not provide reliable results.
- ***Haylage, Baleage, or Corn Silage*** - If haylage is in round bales, follow the same procedures as for round baled hay. If ensiled forage/corn silage is chopped, then obtain 2-3 gallons of material from 5 to 15 places in the silo. For upright silos, run unloader and collect one sample per minute for several minutes. In both situations, mix all the collected material together, then fill 1/2-gallon sample bag with this mixture. Be sure to seal bag to ensure correct "as received" moisture determination.

Shipping

- If samples are wet, please make sure the *Forage Submission Form* and payment are outside of the sample bag, but still easily found in the shipping box.

Mailing Address: Soil, Plant and Pest Center
5201 Marchant Drive
Nashville, TN 37211

The University of Tennessee Institute of Agriculture collects and summarizes forage sample data for research and extension education purposes.
By submitting you, or your agent agree to this action.