

Forage Analysis Report

Gregory Mock
157 Ett Brown Road
Deer Lodge, TN 37726
gdm1951@gmail.com

University of Tennessee Soil, Plant and Pest Center
5201 Marchant Dr
Nashville, TN 37211

soillab@tennessee.edu | [615-832-5850](tel:615-832-5850)

SOIL, PLANT & PEST CENTER
UTEXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

Sample Name: Control
Lab Number: 118333
Type (Identified by Client): Hay
Forage Species (Identified by Client): Orchardgrass



Payment Information:
Check 168 - \$182.00

Report Date: 8/14/2026

Near-Infrared Spectroscopy Analysis (NIRS)

Water Content

as received

DM	Dry Matter (Final)	93.44 %
Moisture	Moisture	6.56 %

Protein

100% DM basis

CP	Crude Protein	18.10 %
ADICP	Acid Detergent Insoluble Crude Protein	1.25 %
NDICP	Neutral Detergent Insoluble Crude Protein	4.43 %
InsolCP	Insoluble Crude Protein	11.84 %
Lysine	Lysine	0.63 %

Fiber

ADF	Acid Detergent Fiber	31.43 %
NDF	Neutral Detergent Fiber	56.06 %
Lignin	Lignin	5.56 %
aNDFom	amylase-treated NDF corrected for organic matter	54.42 %

Carbohydrates

ESC	Sugar	5.96 %
Fructan	Fructan	2.31 %
Starch	Starch	0.00 %
WSC	Water-Soluble Carbohydrates	7.10 %
NSC	Non-Structural Carbohydrates	7.10 %
NFC	Non-Fiber Carbohydrates	16.19 %

Digestibility

IVTDMD48h	<i>in-vitro</i> True DM Digestibility at 48h	78.65 %
IVTDMD30h	<i>in-vitro</i> True DM Digestibility at 30h	62.11 %
NDFD48h	Neutral Digestible Fiber Digestibility at 48h	53.61 %
dNDF30h	Digestible Neutral Detergent Fiber at 30h	19.33 %
NDFD30h	Neutral Detergent Fiber Digestibility at 30h	34.48 %
dNDF48h	Digestible Neutral Detergent Fiber at 48h	30.05 %
uNDF240h	Undigestible Neutral Detergent Fiber at 240h	11.51 %
uNDF240om	Undigestible Neutral Detergent Fiber at 240om	12.54 %

Fat Content

Fat	Fat	4.46 %
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Minerals

100% DM basis

Ash	Ash	5.19 %
P	Phosphorus (Chemistry)	0.40 %

K	Potassium (Chemistry)	1.73 %
Ca	Calcium (Chemistry)	0.94 %
Mg	Magnesium (Chemistry)	0.44 %
S	Sulfur (Chemistry)	0.37 %
Zn	Zinc (Chemistry)	45 ppm
B	Boron (Chemistry)	17 ppm
Fe	Iron (Chemistry)	79 ppm
Cu	Copper (Chemistry)	9 ppm
Mn	Manganese (Chemistry)	146 ppm

Energy Calculations

TDN	Total Digestible Nutrients	65.69 %
DE	Digestible Energy	1.87 MCal/kg
ME	Metabolizable Energy	1.08 MCal/lb
NE _m	Net-Energy for Maintenance	0.68 MCal/lb
NE _g	Net-Energy for Gain	0.41 MCal/lb
NE _l	Net-Energy for Lactation	0.67 MCal/lb

Nutritive Value Parameters

		Scale
RFQ	Relative Forage Quality	114
RFV	Relative Feed Value (Alfalfa only)	107

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- All nutritive analyses at 100% Dry Matter (DM) basis unless otherwise noted.
 - Not all constituents are available for each forage type submitted to the Soil, Plant and Pest Center.
 - Forage analysis calibrations provided by the NIRS Forage and Feed Consortium. Certification with the National Forage Testing Association.
 - For conversions: ppm = mg/kg
 - Relative Forage Quality (RFQ) is reported for all grass, mixed, legume hays and haylages.
 - Relative Feed Value (RFV) is reported for Alfalfa only.
 - No nutritive value parameter scale is available for corn silage.

[Forage Analysis Definitions Publication W1341](#)

For more information about your forage analysis, please visit with your local UT/TSU Extension Agent.

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