



# Forage Analysis Report

GREGORY MOCK 157 ETT BROWN ROAD DEER LODGE, TN 37726 County: Morgan Email: GDM1951@GMAIL.COM Sample ID: 2nd RO Nathan

Lab Number: 116834 Reported: 9/15/2025

Type: Hay

Forage Species (Identified by Client): Tall Fescue

## Near-Infared Spectroscopy Analysis (NIRS)

| Water Content |   | as received | d    |
|---------------|---|-------------|------|
| DM            | Dry Matter                                | 90 %        | %    |
| Moisture      | Moisture                                  | 10 %        | %    |
| Protein       |   | 100% DM ba  | ısis |
| СР            | Crude Protein                             | 14.39 %     | %    |
| ADICP         | Acid Detergent Insoluble CP               | 1.06 %      | %    |
| NDICP         | Neutral Detergent Insoluble CP            | 3.43 %      | %    |
| InsoICP       | Insoluble Crude Protein                   | 9.03 %      | %    |
| Lysine        | Lysine                                    | 0.50 %      | %    |
| Fiber         |   | 100% DM ba  | ısis |
| ADF           | Acid Detergent Fiber                      | 35.41 %     | %    |
| NDF           | Neutral Detergent Fiber                   | 65.63 %     | %    |
| Lignin        | Lignin                                    | 5.19 %      | %    |
| Carbohydrates |   | 100% DM ba  | ısis |
| ESC           | Sugar                                     | 4.50 %      | %    |
| Fructan       | Fructan                                   | 2.11 9      | %    |
| Starch        | Starch                                    | 1.09 %      | %    |
| WSC           | Water Soluble Carbohydrates               | 6.61 %      | %    |
| NSC           | Non-Structural Carbohydrates              | 7.70 %      | %    |
| NFC           | Non-Fiber Carbohydrates                   | 11.52 %     | %    |
| Digestibility |   | 100% DM ba  | ısis |
| IVTDMD48h     | in-vitro True DM Digestibility 48h        | 71.75 %     | %    |
| NDFD48h       | Neutral Detergent Fiber Digestibility 48h | 52.00 %     | %    |
|               |   |             |      |

<sup>&</sup>lt;sup>1</sup> 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.

| opy Ana                                  | llysis (NIRS) <sup>1</sup> |               |
|--|----------------------------|---------------|
| Fat                                      |                            | 100% DM basis |
| Fat                                      | Fat                        | 3.40 %        |
| Minerals                                 |                            | 100% DM basis |
| Ash                                      | Ash                        | 5.06 %        |
| Ca                                       | Calcium                    | 0.42 %        |
| Р  | Phosphorus                 | 0.28 %        |
| Mg                                       | Magnesium                  | 0.24 %        |
| K  | Potassium                  | 1.81 %        |
| Energy Calculations                      |                            | 100% DM basis |
| TDN                                      | Total Digestible Nutrients | 61.52 %       |
| DE                                       | Digestible Energy          | 1.77 MCal/kg  |
| $NE_m$                                   | Net Energy Maintenance     | 0.62 MCal/lb  |
| $NE_{g}$                                 | Net Energy Gain            | 0.36 MCal/lb  |
| NE <sub>I</sub>                          | Net Energy Lacatation      | 0.62 MCal/lb  |
| Components                               |                            | Wet Chemistry |
| рН                                       | Ensiled                    | рН            |
| NO <sub>3</sub>                          | Nitrates                   | ppm²          |
| Calculated Parameters <sup>3</sup> Scale |                            |               |
| RFQ                                      | Relative Forage Quality    | 91            |
| RFV                                      | Relative Feed Value        | 0             |
|  |                            |               |

 $<sup>^{2}</sup>$  ppm = mg/kg

<sup>&</sup>lt;sup>3</sup> Relative Forage Quality (RFQ) is reported for all grass, mixed, legume hays and haylages; and, Relative Feed Value (RFV) is reported for Alfalfa only. No nutritive value scale is available for corn silage

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## **Understanding Hay Quality**

The graphs below are presented to provide a general guide to evaluate the Crude Protein (CP) and Total Digestible Nutrients (TDN) levels of the forage submitted for testing. If you need help understanding the results or information on developing a balanced ration for a specific animal(s), please contact your local UT Extension agent or visit <u>utbeef.com</u>.

## Crude Protein (CP)

Your Sample - 14.39%

Low Medium Good Excellent

Low = <8% | Medium = 8% to 10.9% | Good = 11% to 13.9% | Excellent =  $\ge14\%$ 

### **Total Digestible Nutrients (TDN)**

Your Sample - 61.52%

Low Medium Good Excellent

Low = <50% | Medium = 50% to 55% | Good = 55.1% to 59.9% | Excellent = ≥60%

| Wet Chemistry |            |                  |  |  |
|---------------|------------|------------------|--|--|
| Minerals      |            | as received      |  |  |
| Ca            | Calcium    | %                |  |  |
| Р             | Phosphorus | %                |  |  |
| Mg            | Magnesium  | %                |  |  |
| K             | Potassium  | %                |  |  |
| S             | Sulfur     | %                |  |  |
| Cu            | Copper     | ppm <sup>1</sup> |  |  |
| Zn            | Zinc       | ppm              |  |  |
| Mn            | Manganese  | ppm              |  |  |
| Fe            | Iron       | ppm              |  |  |
| В             | Boron      | ppm              |  |  |

### **Payment Details**

Receipt:

Amount: \$17.00

Method: 103

Payment Date: 9/5/2025

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Department of Agriculture and county governments cooperating. UT Extension provides equal opportunities in programs and employment.

 $<sup>^{1}</sup>$  ppm = mg/kg