

What should I test my forage for?

TEST OVERVIEW

Near Infrared Spectroscopy (NIRS)

Uses light to estimate the nutrient content of forages and feeds.

Wet Chemistry

Determines the nutrient content of feed and forage through traditional chemical procedures.

Fibre

- Neutral Detergent Fibre (NDF)
- Acid Detergent Fibre (ADF)
- Lignin

Optional

- NDF Digestibility (24 and 48 hour)
- NDF Disappearance
- Relative Forage Quality (RFQ)
- Relative Feed Value (RFV)

**Test with NIRS or wet chemistry*

Protein

- Crude Protein (CP)
- Soluble Crude Protein (SP)
- Rumen Undegradable Protein (RUP) or Undegradable Intake Protein (UIP)
- Acid Detergent Insoluble Crude Protein (ADICP)
- Neutral Detergent Insoluble Crude Protein (NDICP)

Optional

- Lysine
- Methionine

**Test with NIRS or wet chemistry*

Energy

- Total Digestible Nutrients (TDN)
- Net Energy of Gain (NEg)
- Net Energy of Maintenance (NE_m)
- Net Energy of Lactation (NE_l)

Optional

- Starch
- Non-Fibrous Carbohydrates (NFC)

**Test with NIRS or wet chemistry*

Minerals

Macro-minerals

- Calcium (Ca)
- Phosphorus (P)
- Potassium (K)
- Magnesium (Mg)
- Sodium (Na)

Micro-minerals

- Iron (Fe)
- Manganese (Mn)
- Zinc (Zn)
- Copper (Cu)

**Recommend testing minerals with wet chemistry*

Are additional tests required?

If the forage is ensiled



Test for pH (indicator of proper fermentation)

**If pH is high (above 5.0), test for butyric acid*

**Lab may provide a fermentation test option that includes pH and butyric acid*

If there are concerns with copper deficiency



Test for Molybdenum and Sulfur (known copper antagonists)

**Recommend also testing water sources*

**Recommend testing with wet chemistry analysis*

If there were stressful growing conditions (e.g., hail, frost, drought) or excess nitrogen fertilization



Test for nitrates

**Check if the lab provides reported values*

**Annual cereal crops are more susceptible to nitrate accumulation*

If there are poor harvest and storage conditions or visible mould



Test for mycotoxins

**Mycotoxins can develop without visible mould being present*

If growing conditions are favourable for ergot or fusarium development



Test for mycotoxins and ergot

**Fusarium favours warm, moist conditions during flowering*

**Ergot grows with cool, moist conditions during flowering*

If you are feeding or grazing high-sulfur plants (e.g., canola, kochia, turnips)



Test for Sulfur

**Recommend also testing water sources*

**Recommend testing with wet chemistry analysis*