Feed and Feed Ingredients

Sample types that can be analyzed include: forages, feeds, feed ingredients, grains, pet foods and animal remedies — If sample type is not listed please contact:

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Sample submissions guidelines, see page 20

- Fees for **non-South Dakota samples** are 1.5 times those listed.
- **RUSH sample requests** are subject to 50% surcharge.
- **ALL** fees subject to applicable sales tax and a 5% University fee.
- The prices quoted are **effective January 1, 2007**, and may change without prior notice.

Sample Handling (liquid materials or materials ground to 0.75 mm particle) $3.00

Sample Preparation (materials required to be ground to 0.75 mm particle) 7.00

Acid Detergent Insoluble Nitrogen (ADIN), includes ADF 20.50

Acid Detergent Insoluble Crude Protein (ADICP), includes ADF 20.50

Amino Acids

Pre-oxidation hydrolysis amino acid profile (alanine, ammonia, arginine, aspartic acid, cystine, glutamic acid, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, valine, and protein) 95.00

Standard acid hydrolysis amino acid profile (alanine, ammonia, arginine, aspartic acid, glycine, histidine, isoleucine, leucine, lysine, phenylalanine, proline, serine, threonine, tyrosine, and valine) 85.00

Note: the difference between the two profiles is the **pre-oxidation profile** includes cystine and methionine but not tyrosine and the **standard profile** includes tyrosine but not cystine and methionine.

Lysine 33.00

Methionine and Cystine 50.00

Taurine 28.00

Tryptophan (by basic hydrolysis) 50.00

Ammonia 13.00

Ash, Total 5.00

Acid Insoluble 15.00

Carbon (by combustion) 15.00

Carotene 60.00

Calcium (see Minerals)

Chloride 19.00

Chromic oxide 14.00

Copper (see Minerals)

Digestible Dry Matter (DDM), includes ADF $8.50
Dry Matter Intake (DMI), includes NDF 10.00
Drugs in Feeds and Animal Remedies ..... First sample, 65.00 per drug
Each additional sample (for same drug), 45.00 per drug

Note: State level of drug, if it is known.

Amprolium (Amprol)
Arsanilic Acid (Pro-Gen)
Carbadox (Mecadox)
Chlortetracycline
(Aureomix, Aureomycin, Aureo, CSP-250/500)
Decoquinate (Deccox)
Fenbendazole
Lasalocid (Avatec, Bovatec)
Monensin (Coban, Rumensin)
Neomycin
Nitrofurazone (nfz Mix)
Oxytetracycline (Neo-Oxy, Terramycin)
Penicillin (injectable only)
Piperazine
Pyrantel tartrate (Banminth)
Sulfadimethoxine
Sulfamethazine
Sulfathiazole
Tylosin (Tylan)

EDDI (ethylenediamine dihydroiodide) 45.00
Energy values, calculated
TDN Forages and some Grains (based on ADF), includes ADF
Cattle only 8.50
TDN (based on proximate), includes proximate analysis
Cattle only 43.50
TDN (based on Ohio equation), includes protein, ADF
NDF, ash, fat, lignin, NDIN 73.00
NE_G, NE_M, NE_L forages (based on ADF), includes ADF 8.50
ME Swine diets (includes protein, ADF) 18.50
Fat
Fat, crude (ether extract) AOAC Methods (feeds and forages) 14.00
Fat, crude (hexane extract) 14.00
Fat, acid hydrolysis (Mojonnier) AOAC Methods (pet food) 25.00
Fat, base hydrolysis (Roese Gottlieb) AOAC Methods (milk products/sweet feeds) 25.00

Fatty Acid Profile, see page 10

Fiber
Crude Fiber AOAC Methods 10.00
Filter bag method ..... Inquire
Acid Detergent Fiber (ADF) AOAC Methods 8.50
Filter bag method ..... Inquire
Neutral Detergent Fiber (NDF) AOAC Methods 10.00
Filter bag method ..... Inquire
Glucose (biomass) 15.00
Iodine, iodide 45.00
Iodine (titratable) 30.00
Inositol Phosphates Profile (including phytate) 75.00
Lactose 33.00

Lignin (includes ADF)
- Sulfuric acid 72% H_2SO_4 ..... $20.00
- Permanganate 25.00

Lysine $33.00

Magnesium (see Minerals)

Manganese (see Minerals)

Mercury, cold vapor 35.00

Minerals by Flame Atomic Absorption ..... First mineral on a sample, 16.00
calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium, zinc — Each additional mineral, 5.00

Minerals by Graphite Furnace Atomic Absorption ..... First mineral on a sample, 30.00
arsenic, cadmium, chromium, cobalt, lead, molybdenum — Each additional mineral, 16.00

Minerals by ICP OES Multi-element Profile 40.00
calcium, cobalt, copper, iron, magnesium, manganese, molybdenum, phosphorus, potassium, sodium, sulfur, zinc

Moisture
- Convection oven 4.50
- Vacuum oven (liquid feeds) 6.00
- Karl Fischer 20.00
- NIRS 4.00

Mycotoxins
- Aflatoxins, ELISA 35.00
- Fumonisin, ELISA 35.00
- Deoxynivalenol (vomitoxin), ELISA 35.00

Mycotoxin Screen (Samples sent to NDSU for analysis) ..... inquire

Neutral Detergent Insoluble Nitrogen (NDIN) includes NDF 22.00

Neutral Detergent Insoluble Crude Protein (NDICP) includes NDF 22.00

Nitrates 8.25

Nitrogen-free extract (includes moisture, ash, protein, fat, crude fiber) 43.50

Nitrogen, Total
- Combustion 10.00
- Salicylic acid 22.00

Non-Protein Nitrogen (NPN) (urea and ammonia) 15.00

Particle Length (forages, TMR) 22.00

Particle Size (feeds) 22.00

pH (silage and liquid feeds) 6.00

Phosphorus (see Minerals)

Potassium (see Minerals)

Propionic Acid 50.00

Protein, crude
- Combustion 10.00
- Kjeldahl 20.00

Protein, heat damaged (forages only) $30.50
(includes protein, ADF, ADIN)

Proximate Analysis (includes moisture, ash, protein, fat, crude fiber, nitrogen-free extract) .. 43.50

Prussic acid (sorghum, sudan, cane, flax, and milo only) 16.50

Relative Feed Value (includes ADF, NDF, DDM, DMI)
- AOAC Chemical methods $18.50
- NIRS (see Near Infrared Reflectance Spectroscopy, page 4) 15.50

Salt based on total sodium 16.00

Salt based on chloride 19.00

Selenium 13.00

Sieve Analysis (see Particle size)

Sodium (see Minerals)

Starch 20.00

Sulfur
- Combustion 15.00
- Gravimetric 18.00

Sugars
- Sugar, total as invert 33.00
- Lactose 33.00
- Dextrose (glucose) 33.00
- Brix 20.00

Sugar profile by HPLC (includes dextrose, fructose, lactose, maltose, and sucrose) 50.00

TDN (see Energy)

Urea (feed) 15.00

Urease Activity (soybeans) 15.00

Vitamins/Provitamins
- Carotene 60.00
- Vitamin A, HPLC 55.00
  - Colorimetric 75.00
- Vitamin D3 (**remedies only**) 55.00
- Vitamin E (**remedies only**) 55.00

Viscosity (liquid feeds) 50.00

Zinc (see Minerals)