

WARD

Laboratories, Inc.

FEE SCHEDULE



WARD LABRATORIES, INC. PRICE LIST

Effective January 1, 2023.

Updated January 1, 2023.

All prices are subject to change without notice.

Cover photo submitted by Paul Gierhart.

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**“GUIDING
PRODUCERS
TODAY
TO FEED
THE WORLD
TOMORROW”**

WARD LABORATORIES, INC.

MISSION STATEMENT

To provide accurate and diverse laboratory analysis swiftly and affordably through commitment to advancement and client relationships

VISION STATEMENT

To be the most trusted and proven laboratory resource to guide food producers around the world

OBJECTIVES

- Honor Ray and Jolene Ward's founding principal to provide quality results so clients can make informed decisions
- Create an environment where our people can grow personally and professionally to continue to promote the advancement necessary to stay ahead of the curve
- Aim beyond the cutting edge in technology, processes, and services we provide to our current and future customers
- Create opportunities for our organization to foster and build new relationships based on trust, integrity, and passion in and around the communities we serve throughout the world
- Strive for excellence in our results and proactively hold ourselves accountable to accept, resolve, and eliminate errors
- Ensure that the producer can continue to have the necessary information to confidently make decisions that benefit their businesses, families, and communities
- Active involvement in professional organizations to provide support and collaborate while continually learning from other industry leaders

GENERAL INFORMATION



SAMPLE SUPPLIES

The following sample supplies are available at no cost:

- Soil Sample Bags (paper or cloth)
- Plant Tissue Bags
- Water Testing Bottles
- Sterilized Water Bottles for Bacteria Testing
- Slurry Bottles
- Manure Bags
- Feed/NIR Sample Bags
- Postage Paid Mailers for NIRS and Feed Samples (may take 8-10 business days to arrive)

To order supplies, please visit www.wardlab.com, email customerservice@wardlab.com, or call (308) 234-2418.

We are also able to offer discounted ARS shipping labels. Please contact the lab for more information.

The following soil and hay probes can be purchased from the lab:

SOIL PROBES

12" Complete	\$168.00
18" Complete	\$173.00
12" Bucket	\$76.25
18" Bucket	\$83.00
30" Extension Rod	\$48.00
12" Handle	\$34.00
Tips	\$11.00
Brush	\$29.95
Step	\$34.25

SOIL AUGER

1 ¼" Diameter Soil Auger	\$269.00
1 ¼" Diameter Carbide Tip	\$450.00
Drill Adapter	\$27.00

HAY PROBES

Hay Probe	\$190.00
Canister Top	\$60.00
Hay Probe Tip	\$55.00

All prices are subject to change without notice.

SUBMITTAL FORM

Each sample type has its own submittal form that can be found at www.wardlab.com. When submitting samples, all samples must include your

- Full name
- Address
- Phone number
- Sample ID
- Desired analysis.

Email address is suggested for rapid return on reports but is not required. If submitting multiple samples, you may also send us your sample submittal information in a spreadsheet.

TURN-AROUND TIME

Sample results will be mailed and/or emailed typically within 1-3 business days after samples arrive at the lab depending on the desired analysis. Certain procedures do require a longer processing time.

INVOICING & STATEMENTS

Invoices are sent with the test reports. Monthly statements will show unpaid invoices and a current balance. Terms are net 30 days. Applicable finance charges will be applied on past due accounts.

ONLINE RESULT VIEWING & INVOICE PAYMENT

Create an online account to pay invoices or look at past analytical results via www.wardlab.com. Customers may setup online access using their account details and email address. Please contact the laboratory with any questions. For new customers, login information is provided upon completion of your first submitted samples.

CONSULTING SERVICES

The professionals at Ward Laboratories, Inc. are available for consultation, whether the questions are in person, via the telephone, or by e-mail. Crop evaluation is available for in-field consultation for problems during the growing season. Our soil scientists, certified crop advisor, soil health expert, and professional animal scientist are also available for assistance at seminars and producer meetings. Please contact the laboratory for pricing and availability.

WARD GUIDE

The Ward Guide is a compilation of a variety of referenced sources and our fifty plus years of experience in providing quality agricultural testing. The Ward Guide is designed to assist you in finding answers to daily production questions. It can be accessed by visiting www.wardlab.com.

SOIL ANALYSIS

A photograph of a person's foot wearing a brown and tan sneaker, stepping on a vertical metal rod. The person is wearing blue jeans. The background is a field of corn stalks. The entire image has a green color overlay.

SOIL ANALYSIS PACKAGES

S-1	BASIC _____	\$15.75
	<i>pH, Buffer pH, Sum of Cations (CEC), Base Saturation (%), Soluble Salts, Nitrate-Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sodium</i>	
S-101	BASIC + OM + S _____	\$17.75
	<i>pH, Buffer pH, Sum of Cations (CEC), Base Saturation (%), Soluble Salts, Organic Matter, Nitrate-Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sodium, Sulfur</i>	
S-4	ROUTINE _____	\$21.50
	<i>pH, Buffer pH, Sum of Cations (CEC), Base Saturation (%), Soluble Salts, Organic Matter, Nitrate-Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sodium, Sulfur, Zinc, Iron, Manganese, Copper</i>	
S-401	ROUTINE PLUS CHLORIDE _____	\$26.00
S-5	COMPLETE (ROUTINE PLUS BORON) _____	\$26.00
	<i>pH, Buffer pH, Sum of Cations (CEC), Base Saturation (%), Soluble Salts, Organic Matter, Nitrate-Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sodium, Sulfur, Zinc, Iron, Manganese, Copper, Boron</i>	
S-501	COMPLETE PLUS CHLORIDE _____	\$30.50
S-7	ALFALFA/CLOVER SPECIAL _____	\$20.50
	<i>pH, Buffer pH, Sum of Cations (CEC), Soluble Salts, Base Saturation (%), Organic Matter, Nitrate-Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sodium, Sulfur, Boron</i>	
S-9	SOIL NITRATE _____	\$ 6.50
S-901	SUBSOIL NITRATE PLUS SULFUR _____	\$ 9.75
S-10	SALINITY (SATURATED PASTE EXTRACT) _____	\$32.50
	<i>SAR, Electrical Conductivity, pH, Bicarbonate, Calcium, Magnesium, Sodium, Sulfur, Chloride</i>	

INDIVIDUAL SOIL ANALYSIS

Aluminum (KCl Extractable) _____	\$ 8.75
Ammonium (2N KCl) _____	\$ 6.50
Boron (Hot Water) _____	\$ 7.00
Bulk Density _____	Call for Details
Cations (K, Ca, Mg, Na by NH ₄ Acetate Extraction) _____	\$ 6.25
Chloride (0.01M CaNO ₃ Extract) _____	\$ 6.50
Micros (Zn, Fe, Mn, Cu, by DTPA extraction) _____	\$ 6.25
Molybdenum (Hot Water) _____	\$ 7.00
Organic Matter (LOI) _____	\$ 6.00
pH (pH, BpH, EC) _____	\$ 6.50
Phosphorus (Bray P1, Bray P2, Mehlich 3 P, or Olsen P) _____	\$ 6.25
Pre-Sidedress Nitrate For Corn (12" deep soil sample when corn is 12" tall) _____	\$ 6.50
Rocks and Roots (greater than 2mm diameter) _____	\$50.00
Salt pH (0.01M CaCl ₂ ; pH, BpH) _____	\$ 6.50
Soil Carbonates (Alkalinity & CaCO ₃) _____	\$16.25
Soil Moisture _____	\$ 6.50
Texture By Feel _____	\$ 5.75
Texture By Hydrometer _____	\$15.00
Total Dry Weight of Sample Received _____	\$12.50

*Grid Sample Pricing available upon request. Please contact the lab for prices.
For information on extracts or items not on this list, please contact the lab.
Sample return available--inquire for price.*

Total (Combustion Method)

Nitrogen _____	\$ 9.50
Carbon _____	\$ 9.50
Total Carbon & Total Nitrogen _____	\$18.00
Organic Carbon _____	\$15.00

HEAVY METAL ANALYSIS (TOTAL)

Digest Fee _____	\$21.50/Sample
Heavy Metals _____	\$21.50/Metal/Sample
Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Strontium, Vanadium	

**All samples analyzed for heavy metals will be charged a \$21.50 digestion fee per sample regardless of the number of metals analyzed.*

NEMATODES

Soil _____	\$82.25
Cyst _____	\$47.50
Root _____	\$82.25
Soil & Roots _____	\$88.50
Cyst & Soil _____	\$94.00
Cyst, Soil, & Roots _____	\$97.25

SOIL HEALTH ANALYSIS

Volume prices may apply. Contact the lab for details.

PLFA _____ **\$92.00**

Total bacteria (Gram (+), Gram (-)), Total Fungi (Arbuscular Mycorrhizae, Saprophytes) Protozoa, Undifferentiated Microorganisms

SOIL HEALTH ASSESSMENT _____ **\$56.25**

BIOLOGICAL: Soil Respiration 24 hour CO₂, **H₂O Extract:** ammonium-N, nitrate-N, Total N, Total Organic Carbon, Total Organic N; **CHEMICAL: Ammonium acetate extract:** K, Ca, Mg, Na; **DTPA Extract:** Zn, Fe, Mn Cu; **Mehlich 3 Extract:** P (Olsen P or Bray P-1 also available), S; soil pH, Soluble Salts, OM, Sum of Cations (CEC) and Base Saturation **PHYSICAL:** Water Stable Aggregates (modified)

HANEY TEST _____ **CALL**

Soil Respiration 24 hour CO₂; **H₂O Extract:** Ammonium-Nitrogen, Nitrate-Nitrogen, Total Nitrogen, Total Organic Carbon, Total Organic Nitrogen; **H₃A Extract:** Nitrate-Nitrogen, Ammonium-Nitrogen, Inorganic Nitrogen, Total Phosphorus, Inorganic Phosphorus, Organic Phosphorus, Potassium, Calcium, Magnesium, Zinc, Iron, Manganese, Copper, Sulfur, Aluminum

**FOR
DETAILS**

ENZYMES _____ **\$25/sample/enzyme**

β -glucosidase (BG) - Carbon Cycle, N-Acetyl- β -glucosaminidase (NAG) - Nitrogen Cycle, Phosphodiesterase (PHD) - Phosphorus Cycle, Alkaline Phosphatase (AlkP) - Phosphorus Cycle, Acid Phosphatase (AcP) - Phosphorus Cycle, Arylsulfatase (ARS) - Sulfur Cycle

POX-C, (PPM) SOIL _____ **\$21.50**

Permanganate active labile carbon

WET AGGREGATE STABILITY _____ **\$32.50**

% Aggregate Stability, 0.25-2.0 mm fraction

AVAILABLE WATER HOLDING CAPACITY _____ **\$27.00**

Field capacity minus wilting point

Certain procedures require a longer processing time. Contact the lab for more details.



FEED ANALYSIS

FEED ANALYSIS: WET CHEMISTRY

F-1	PROTEIN _____	\$14.00
	<i>Moisture, Dry Matter, Crude Protein</i>	
F-2	PROTEIN AND BEEF ENERGY _____	\$22.25
	<i>Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF)</i> <i>Calculated Beef Cattle Energy Values: TDN, NE_m, NE_g, NE_l</i> <i>Calculated upon request: Horse Energy Value: DE</i>	
F-3	PROTEIN, BEEF ENERGY, AND MINERALS _____	\$37.25
	<i>Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), Calcium, Phosphorus, Potassium, Magnesium, Zinc, Iron, Manganese, Copper, Sulfur, Sodium, Molybdenum</i> <i>Calculated Beef Cattle Energy Values: TDN, NE_m, NE_g, NE_l</i> <i>Calculated upon request: Horse Energy Value: DE</i>	
F-4	PROTEIN, RFV, AND MINERALS _____	\$46.00
	<i>Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), amylase-treated Neutral Detergent Fiber (aNDF), Calcium, Phosphorus, Potassium, Magnesium, Zinc, Iron, Manganese, Copper, Sulfur, Sodium, Molybdenum</i> <i>Calculated: Relative Feed Value (RFV)</i> <i>Calculated Beef Cattle Energy Values: TDN, NE_m, NE_g, NE_l</i> <i>Calculated upon request: Horse Energy Value: DE</i>	
F-5	PROTEIN AND RFV _____	\$30.75
	<i>Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), amylase-treated Neutral Detergent Fiber (aNDF)</i> <i>Calculated: Relative Feed Value (RFV)</i> <i>Calculated Beef Cattle Energy Values: TDN, NE_m, NE_g, NE_l</i> <i>Calculated upon request: Horse Energy Value: DE</i>	
F-6	PROTEIN AND MINERALS _____	\$29.25
	<i>Moisture, Dry Matter, Crude Protein, Calcium, Phosphorus, Potassium, Magnesium, Zinc, Iron, Manganese, Copper, Sulfur, Sodium, Molybdenum</i>	
F-7	LIQUID FEED SUPPLEMENT _____	\$40.50
	<i>Moisture (Karl Fischer), Dry Matter, Crude Protein, Calcium, Phosphorus, Potassium, Magnesium, Zinc, Iron, Manganese, Copper, Sulfur, Sodium, Molybdenum</i>	

- F-8 MINERAL PACKAGE** _____ **\$23.75**
Moisture, Dry Matter, Calcium, Phosphorus, Potassium, Magnesium, Zinc, Iron, Manganese, Copper, Sulfur, Sodium, Molybdenum
- F-9 NITRATE** _____ **\$13.75**
Moisture, Dry Matter, Nitrate-Nitrogen (NO₃-N)
- F-10 BEEF RATINGS** _____ **\$43.50**
*Recommended for Beef Ratings
 Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), Fat, Calcium, Phosphorus, Potassium, Magnesium, Zinc, Iron, Manganese, Copper, Sulfur, Sodium, Molybdenum
 Calculated Beef Cattle Energy Values: TDN, NE_m, NE_g, NE_l
 Calculated upon request: Horse Energy Value: DE*
- F-11 PROXIMATE ANALYSIS** _____ **\$37.50**
*Recommended for poultry feeds and novel/unique feedstuffs
 Moisture, Dry Matter, Crude Protein, Crude Fiber, Fat, Ash, Calculated: Nitrogen Free Extract
 Calculated Beef Cattle Energy Values: TDN, NE_m, NE_g, NE_l
 Calculated Upon Request Poultry Energy Value: ME_n*
- F-12 SWINE INGREDIENTS** _____ **\$35.75**
*Recommended for swine ingredients
 Moisture, Dry Matter, Crude Protein, amylase-treated Neutral Detergent Fiber (aNDF), Fat, Ash
 Calculated Upon Request Swine Energy Values: GE, DE, ME*
- F-13 SWINE DIETS** _____ **\$61.25**
*Recommended for swine ingredients or diets
 Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), amylase-treated Neutral Detergent Fiber (aNDF), Fat, Ash, Starch
 Calculated Beef Cattle Energy Values: TDN, NE_m, NE_g, NE_l
 Calculated Upon Request Swine Energy Values: GE, DE, ME, NE*

NEAR INFRARED SPECTROSCOPY (NIRS)

LEGUME, GRASS, MIXED SPECIES HAY, FRESH FORAGE, & HAYLAGE _____ \$19.50

Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), amylase-treated Neutral Detergent Fiber (aNDF), Calcium, Phosphorous, Potassium, Magnesium, Ash, NDFD48, IVTDM48, Fat, Lignin, Non-Fiber Carbohydrates (NFC), Starch, Ethanol Soluble Carbohydrates (ESC), Water Soluble Carbohydrates (WSC)
Calculated: Relative Feed Value (RFV) Relative Forage Quality (RFQ)
Calculated Beef Cattle Energy Values: TDN, NE_m , NE_g , NE_l
Calculated upon request: Horse Energy Value: DE

CORN SILAGE _____ \$19.50

Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), amylase-treated Neutral Detergent Fiber (aNDF), Calcium, Phosphorous, Potassium, Magnesium, Ash, NDFD48, IVTDM48, Fat, Lignin, Non-Fiber Carbohydrates (NFC), Starch, Ethanol Soluble Carbohydrates (ESC), Water Soluble Carbohydrates (WSC)
Calculated: Relative Feed Value (RFV)
Calculated Beef Cattle Energy Values: TDN, NE_m , NE_g , NE_l

CORN GRAIN* _____ \$19.50

Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), amylase-treated Neutral Detergent Fiber (aNDF), Calcium, Phosphorous, Potassium, Magnesium
Calculated: Relative Feed Value (RFV)
Calculated Beef Cattle Energy Values: TDN, NE_m , NE_g , NE_l

EARLAGE* _____ \$19.50

Moisture, Dry Matter, Crude Protein, Acid Detergent Fiber (ADF), amylase-treated Neutral Detergent Fiber (aNDF), Starch
Calculated: Relative Feed Value (RFV)
Calculated Beef Cattle Energy Values: TDN, NE_m , NE_g , NE_l

All Prediction Models from NIRS Forage and Feed Testing Consortium unless denoted.

*Models developed for Ward Laboratories, Inc.

COMMON NIRS+WET CHEMISTRY PACKAGES

NIRS + NITRATES _____ **\$26.50**

*Recommended for nitrate accumulating species (Ex. Cane, Sorghum, Oats, etc.)
NIRS package with Nitrate (NO₃-N) added*

NIRS + MINERALS _____ **\$34.50**

*Recommended for designing mineral supplementation programs
NIRS package with F-8 Minerals added*

NIRS + PH _____ **\$23.00**

*Recommended for ensiled forages to ensure proper fermentation
NIRS package with pH added*

Any wet chemistry analysis can be added to NIRS packages.

INDIVIDUAL FEED ANALYSIS

Acid Detergent Fiber (ADF) _____	\$10.25	Amylase-Treated Neutral Detergent Fiber (aNDF) _____	\$10.75
Aflatoxin _____	\$26.25	Neutral Detergent Insoluble Crude Protein (NDICP) _____	\$16.25
Ash _____	\$ 8.75	Nitrate (NO3-N) _____	\$ 8.75
Available Starch _____	\$16.25	Non-Protein Nitrogen (NPN) _____	\$13.00
Biomass _____	\$ 4.25	Particle Size _____	\$21.50
Cobalt _____	\$32.50	pH _____	\$ 4.25
Crude Fiber _____	\$13.00	Prussic Acid*	
Crude Protein _____	\$ 8.75	Salt based on Chloride _____	\$ 8.75
Dry Matter-Karl Fischer _____	\$13.00	Selenium _____	\$32.50
Dry Matter-Oven _____	\$ 8.75	Soluble Protein _____	\$10.75
Dry Matter-Vacuum Oven _____	\$10.50	Soy-Chek _____	\$ 8.00
Crude Fat _____	\$ 7.75	Test Weight (Grains) _____	\$ 8.75
Fat-Acid Hydrolysis _____	\$11.25	Total Starch _____	\$21.50
Heat Damaged Protein (HDP)/Acid Detergent Insoluble Crude Protein (ADICP) _____	\$15.75	Total Carbon _____	\$ 8.75
Lignin _____	\$17.25	Total Sugars Invert (TSI) _____	\$13.00
Minerals Digest _____	\$19.00		

**Call for pricing and shipping instructions.*

PLANT ANALYSIS



PLANT ANALYSIS

P-2	ROUTINE _____	\$29.75
	<i>Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sulfur, Zinc, Iron, Manganese, Copper, Boron, Molybdenum</i>	
P-12	ROUTINE MINUS NITROGEN _____	\$19.50
	<i>Phosphorus, Potassium, Calcium, Magnesium, Sulfur, Zinc, Iron, Manganese, Copper, Boron, Molybdenum</i>	
P-205	ROUTINE + TOTAL CARBON _____	\$39.00
	<i>Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sulfur, Zinc, Iron, Manganese, Copper, Boron, Molybdenum, Total Carbon</i>	
P-3	SUPER COMPLETE _____	\$37.75
	<i>Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sulfur, Zinc, Iron, Manganese, Copper, Molybdenum, Boron, Chloride</i>	
P-405	CARBON:NITROGEN RATIO _____	\$18.00
	<i>Nitrogen, Total Carbon</i>	
P-4	CORN STALK NITRATE _____	\$13.75
	<i>A corn stalk nitrate sample is taken from 6 inches to 14 inches above the soil surface. A sample should contain 10 8-inch stalks.</i>	
P-419	COVER CROP NUTRIENT CONTENT _____	\$51.75
	<i>Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sulfur, Zinc, Iron, Manganese, Copper, Molybdenum, Boron, Total Carbon, C:N Ratio, Dry Matter (%), Forage Yield (ton/ac), Biomass Weight As Is</i>	
P-420	COVER CROP SUPER COMPLETE _____	\$60.00
	<i>P-419 plus Chloride</i>	

HEAVY METAL ANALYSIS (TOTAL)

Digest Fee _____	\$21.50/Sample
Heavy Metals _____	\$21.50/Metal/Sample
<i>Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Strontium, Vanadium</i>	

INDIVIDUAL PLANT ANALYSIS

ALUMINUM _____	\$ 8.50
<i>with P-2, P-221, P-205, or P-3</i>	
CHLORIDE _____	\$ 8.75
DRY MATTER _____	\$ 8.75
NITROGEN _____	\$ 9.50
NITRATE-NITROGEN _____	\$ 8.50
PHOSPHATE-PHOSPHORUS _____	\$ 8.50
SODIUM _____	\$ 4.25
<i>with P-2, P-212, P-205, or P-3</i>	
TOTAL CARBON _____	\$ 9.50

Plant analysis provides two approaches to enhancing fertilizer effectiveness. One is the diagnostic approach where plant analysis is made when there is an obvious growth problem in the field. A sample is taken from the poor growing area and compared to a sample from an adjacent normal growing area.

Ward Laboratories, Inc. suggests using this diagnostic approach for researching production problems. The comparative samples are very important for proper interpretation of the analysis. The testing fee for the normal comparative sample is one-half the regular fee.

The monitoring approach is used to confirm that the plant has proper nutrition. Plant samples should be taken while the crops are at the bloom (reproductive) stage of growth. Samples taken earlier than bloom stage contain higher levels of nutrients. For this reason, it is very important to identify the growth stage for proper interpretation.

WATER ANALYSIS

A close-up, high-speed photograph of water splashing from a faucet. The water is captured in mid-air, creating a dynamic spray of droplets and streams. The background is a solid, deep blue color, which makes the white and light blue water stand out. The faucet itself is partially visible, showing the handle and the spout where the water is coming from.

AGRICULTURAL WATER ANALYSIS

W-1	IRRIGATION WATER QUALITY _____	\$26.00
	<i>Bicarbonate, Boron, Calcium, Carbonate, Chloride, Magnesium, Nitrate, Potassium, Sodium, Sulfate, Total Hardness (CaCO₃), Total Alkalinity (CaCO₃), Sodium Adsorption Ratio (SAR), Electrical Conductivity, Adj. SAR, pH, Est. Total Dissolved Solids, Cation/Anion Balance</i>	
W-101	SUB-SURFACE IRRIGATION _____	\$72.25
	<i>Bicarbonate, Boron, Calcium, Carbonate, Chloride, Magnesium, Nitrate, Potassium, Sodium, Sulfate, Iron, Manganese, Total Hardness (CaCO₃), Total Alkalinity (CaCO₃), Sodium Adsorption Ratio (SAR), Electrical Conductivity, Adj. SAR, pH, Est. Total Dissolved Solids, Iron Bacteria, Acid Titration Curve, pHc, Cation/Anion Balance</i>	
W-2	NITRATE + SULFATE _____	\$9.75
W-3	NITRATE (NO₃ & NO₂) _____	\$7.50
W-4	LIVESTOCK SUITABILITY _____	\$25.00
	<i>Bicarbonate, Calcium, Carbonate, Chloride, Magnesium, Nitrate, Potassium, Sodium, Sulfate, Total Hardness (CaCO₃), Total Alkalinity (CaCO₃), Electrical Conductivity, pH, Est. Total Dissolved Solids, Cation/Anion Balance</i>	

HOUSEHOLD & COMMERCIAL WATER ANALYSIS

W-5	HOUSEHOLD MINERAL TEST _____	\$32.50
	<i>Bicarbonate, Calcium, Carbonate, Chloride, Fluoride, Iron, Magnesium, Nitrate, Potassium, Sodium, Sulfate, Total Hardness (CaCO₃), Total Alkalinity, (CaCO₃), Electrical Conductivity, pH, Est. Total Dissolved Solids, Cation/Anion Balance</i>	
W-7	HOUSEHOLD COLIFORM BACTERIA* _____	\$21.50
	<i>Coliform, E. Coli</i>	

*A special sampling procedure and bottle is required for bacteria testing. Please contact the laboratory for assistance. Bacteria samples can be dropped off Monday-Thursday 8-3pm only.

HOUSEHOLD & COMMERCIAL WATER ANALYSIS (CONTINUED)

W-501 BREWERS TEST _____ \$32.50

Bicarbonate, Calcium, Carbonate, Chloride, Iron, Magnesium, Nitrate, Phosphorus, Potassium, Sodium, Sulfate, Total Hardness (CaCO₃), Total Alkalinity (CaCO₃), Electrical Conductivity, pH, Est. Total Dissolved Solids, Cation/Anion Balance

W-903 WINE WATER TEST _____ \$54.00

Aluminum, Bicarbonate, Calcium, Carbonate, Chloride, Iron, Magnesium, Manganese, Nitrate, Potassium, Silica, Sodium, Sulfur, Total Hardness (CaCO₃), Total Alkalinity (CaCO₃), Turbidity, Electrical Conductivity, pH, Est. Total Dissolved Solids, Cation/Anion Balance

W-810 HYDROPONIC FERTILIZER TEST _____ \$62.25

Ammonium Nitrogen, Bicarbonate, Boron, Calcium, Carbonate, Chloride, Copper, Iron, Magnesium, Manganese, Molybdenum, Nitrate, Potassium, Sodium, Sulfate, Total Nitrogen, Total Phosphorus, Zinc, Electrical Conductivity, pH, Cation/Anion Balance

INDIVIDUAL WATER ANALYSIS

Aluminum _____ \$ 7.50

Ammonium _____ \$ 7.50

Boron _____ \$ 7.50

Carbonate/Bicarbonate _____ \$ 8.75

Chloride _____ \$ 7.50

Copper _____ \$ 7.50

Fecal Bacteria _____ \$21.50

Fluoride _____ \$ 7.50

Hardness (Calcium & Magnesium) _____ \$ 7.50

Iron _____ \$ 7.50

Iron Related Bacteria _____ \$20.75

Manganese _____ \$ 7.50

Molybdenum _____ \$ 7.50

Nitrite _____ \$ 7.50

Ortho Phosphorus _____ \$ 7.50

pH _____ \$ 7.50

Potassium _____ \$ 7.50

Silica _____ \$ 7.50

Sodium _____ \$ 7.50

Sulfur _____ \$ 7.50

Total Carbon _____ \$ 8.75

Total Dissolved Solids _____ \$10.75
(Gravimetric)

Total Organic Carbon _____ \$ 8.75

Total Nitrogen _____ \$ 8.75

Total Phosphorus _____ \$ 7.50

Total Suspended Solids _____ \$10.75
(Gravimetric)

Turbidity _____ \$ 7.50

Zinc _____ \$ 7.50

HEAVY METAL ANALYSIS (TOTAL)

Heavy Metals _____ \$21.50

Price per metal per sample

*Arsenic, Barium, Cadmium,
Chromium, Cobalt, Lead, Nickel,
Selenium, Strontium, Vanadium*

FERTILIZER & BIOSOLIDS ANALYSIS

FERTILIZER & LIME ANALYSIS

FERTILIZER ANALYSIS _____ **\$16.00 per element**

Boron, Calcium, Chloride, Copper, Iron, Nitrogen, Magnesium, Manganese, Potassium, Phosphorus, Sulfur, Zinc, Specific Gravity Included (Liquids)

SCREENING TEST (Approximate Fertilizer Analysis) _____ **\$68.75**

Calcium, Copper, Iron, Magnesium, Manganese, Nitrogen, Phosphorus, Potassium, Sulfur, Zinc, Specific Gravity Included (Liquids)

LIME PURITY %CaCO₃ _____ **\$23.50**

LIME QUALITY %ECC _____ **\$30.25**

Effective Calcium Carbonate (%ECC), Lime Purity (%CaCO₃), Moisture, Fineness of grind, Sieve Analysis (on 8-mesh, on 60-mesh, and through 60-mesh sieves)

MANURE, SLURRY, COMPOST & WASTEWATER ANALYSIS

MANURE & COMPOST STANDARD _____ **\$42.00**

pH, Boron, Calcium, Copper, Iron, Magnesium, Manganese, Total Nitrogen, Ammonium-Nitrogen, Nitrate-Nitrogen, Organic-Nitrogen, Phosphorus, Potassium, Sulfur, Zinc, Soluble Salts, Moisture, Dry Matter, SAR Sodium

MANURE & COMPOST STANDARD + ASH _____ **\$50.75**

MANURE & COMPOST STANDARD + TOTAL CARBON _____ **\$51.75**

Routine plus Total Carbon and C:N Ratio

Packaging Guidelines Manure/Slurry

If you are submitting manure samples please place them in a plastic container such as a Ziploc bag. Slurry samples need to be placed in a plastic bottle and then placed inside of a Ziploc bag. Sample containers are available upon request.

INDIVIDUAL ANALYSIS

Ash _____	\$ 8.50
Biological Oxygen Demand (5 day) _____	\$42.00
Bulk Density _____	\$ 7.50
Chemical Oxygen Demand _____	\$42.00
Chloride _____	\$ 8.50
Dissolved Oxygen _____	\$ 8.50
Dry Matter _____	\$ 8.50
Organic Carbon _____	\$10.75
Partial Alkalinity _____	\$13.00
Percent Dirt _____	\$12.00
pH & EC _____	\$ 8.50
Total Alkalinity _____	\$13.00
Total Carbon _____	\$ 9.25
Total Dissolved Solids _____	\$10.75
Total Suspended Solids _____	\$10.75
Total Solids _____	\$ 8.50

HEAVY METAL ANALYSIS (TOTAL)

Digest Fee _____ \$21.50/Sample

Heavy Metals _____ \$21.50/Metal/Sample

Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Strontium,
Vanadium


**All samples analyzed for heavy metals will be charged a \$20.00 digestion fee per sample regardless of the number of metals analyzed.*

NOTES

_____	_____
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SAMPLING PROCEDURES



All sample submissions must include name, address, phone number, sample ID, and desired analysis. Email address is suggested for rapid return on reports but is not required.

SOIL SAMPLING PROCEDURES

1. To take a soil sample, you will need a soil probe, soil auger, or shovel and a clean plastic bucket.
2. Collect 10 to 15 cores (if using a probe or auger) or furrow slices (if using a spade) 0 to 8 inches deep from a representative area. Composite samples of 10 to 15 cores at 0 to 8 inches can be used to represent an area up to 40 acres. If soil types vary greatly within a field, we recommend using zone sampling to isolate differences in soil types.
3. Surface soil samples should be taken to an 8-inch depth.
4. Subsoil samples should be taken from 8 to 36 inches or 8 to 24 inches and 24 to 36 inches to test for residual nitrate.
5. If cropping, fertilizing, and/or liming has not been applied uniformly in a field, then a separate sample should be taken from each management or soil area. If soil areas within a field are different in appearance (slope, drainage, color, or texture) each area should be sampled separately. Small areas may not need to be sampled, but they will give some indication of the variation within the field.
6. Composite surface soil samples should consist of a mixture of about 10 to 15 soil cores. Composite subsoil samples for the nitrate test should consist of 8 to 10 cores. Mix these cores thoroughly and fill the sample bag. Label the bag correctly and use this same identification on the soil information sheet.
7. Sample separately to avoid such areas as dead furrows, alkali spots, and terrace channels.
8. Cloth or paper soil test bags or a quart size zip lock bag may be used. Include soil sample information sheets with all necessary information.
9. Samples can be mailed to PO Box 788, Kearney, NE, 68848 or shipped to or dropped off at 4007 Cherry Ave., Kearney, NE 68847.

SOIL HEALTH SAMPLING PROCEDURES

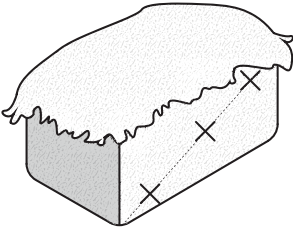
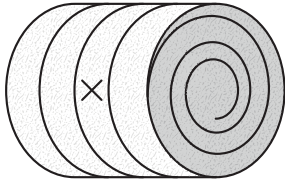
1. Collect all your samples for comparison on the same day if possible. Samples may be collected on different days but try to keep sampling events to one week or less if comparisons are to be made between the samples. This reduces changes that may take place if moisture or temperature fluctuates between sampling times.
2. Use a standard soil core sampler. **DO NOT** use any form of lubricants on the soil core sampler.
3. Take 10 to 15 cores 0 to 6 inches or 0 to 8 inches deep next to the plants or near the rooting structures. You may also choose the same depth that is normally used for a topsoil sample if it is consistent. Composite samples of 10 to 15 cores at 0 to 6 or 0 to 8 inches can be used to represent an area up to 40 acres. If soil types vary greatly within a field, we recommend using zone sampling to isolate differences in soil types.
4. Combine all the cores, preferably in a zip lock freezer bag or plastic-lined paper soil bag. **DO NOT** use cloth bags for submitting soil health samples.
5. Add all sample identification information you need to the sample bag and place in a cooler (a Styrofoam cooler with a lid works fine) or a regular box if shipment times are relatively quick.
6. Mark each sample and the shipping container with the specific soil health test(s) you wish to run to ensure proper handling once the sample arrives at the lab.
7. If sampling for PLFA analysis when temperatures are above 85 degrees Fahrenheit, freeze samples prior to shipping and use dry ice/ice packs unless shipping overnight.
8. Samples should remain near original soil temperature if left unfrozen. Dry ice/ice packs can be used if sampling during hot weather. Remember to treat all samples equally for individual sampling periods.
9. Samples may be frozen in a standard freezer for storage prior to shipment. This is especially useful and should be done if samples are being taken at different times.
10. Samples can be mailed to PO Box 788, Kearney, NE, 68848 or shipped to or dropped off at 4007 Cherry Ave., Kearney, NE 68847. When mailing samples, it is best to send them overnight in a cooler if not previously frozen. However, samples can be sent frozen in a cooler by regular mail in mild or cold weather.

FEED SAMPLING PROCEDURES

It is important to provide a representative feed sample to produce accurate nutritional information for livestock management. Before retrieving samples, consult with Ward Laboratories, Inc. personnel and/or follow procedures from a reliable source such as extension resources or the National Forage Testing Association (www.foragetesting.org). Several staff members at Ward Laboratories, Inc. are Certified Hay Samplers and can guide you through the sampling process.

1. Define 'lots' of feed to obtain a representative sample. A lot can consist of hay baled from a specific field, a stall of corn silage, a shipment of distiller's grains or a ration mix. Group your feeds as similarly as possible to distinguish each lot. For example, if you have one alfalfa field and another grass hay field you intend to bale, each field will represent a 'lot' and should be sampled separately. Do not mix them.

2. Each sample should be composed of several subsamples to properly represent the lot due to variation in all feeds. The National Forage Testing Association recommends a combination of 20 sub-samples as the sample for laboratory testing of hays and forages. For other feeds that are less variable in nature such as corn grain or distillers' by-products, 5 to 10 sub samples maybe acceptable.
- Always use a hay probe when sampling baled feeds and a scoop of some type for other feed samples to avoid missing fine materials with hand grabbed sub samples. Subsamples should be taken randomly. Do not target "good looking spots" or avoid "bad looking spots".
3. Ensure samples are taken from the outside of the bale or feed pile as well as from 12 to 18 inches inside the lot.
 4. If sampling baled hay, it is best to use a hay probe, which can be purchased from Ward Laboratories, Inc. Producers located near Ward Laboratories, Inc. may borrow a hay probe free of charge.
 5. Once you have obtained your sample place it in a quart size zip lock bag and send it to the laboratory for testing.



HAY

BALES: Sample 20 bales from each lot. Core all rectangular bales from the end and all round bales from the twine surface. Mix the samples thoroughly and use the alternate shoveling or quartering procedure to obtain a representative sample for analysis.

LOOSE HAY STACKS: Select 4 stacks from each cutting for sampling. Collect at least 3 core samples from the side of each stack, mix thoroughly and take a representative sample for analysis using the alternate shoveling or quartering procedure.

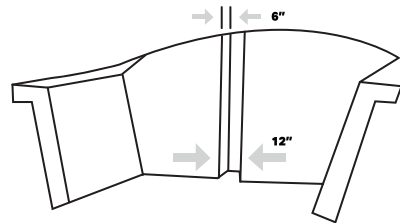
SILAGE

UPRIGHT SILO: Take random scoops of silage while unloading. Mix the samples thoroughly and take a representative sample for analysis using the alternate shoveling or quartering procedure.

HORIZONTAL SILO: Remove a column 6 inches by 12 inches wide on the open end of the silo. Mix the sample thoroughly and take a representative sample for analysis using the alternate shoveling or quartering procedure.

BUNK SAMPLE: Take 6 - 8 scoop samples from the bunk(s) as the ration is being unloaded. Mix the sample thoroughly and take a representative sample for analysis using the alternate shoveling or quartering procedure.

GRAIN SAMPLE: Take 5 random scoop samples from the bin or truck. Mix the sample thoroughly and take a representative sample for analysis using the alternate shoveling or quartering procedure.



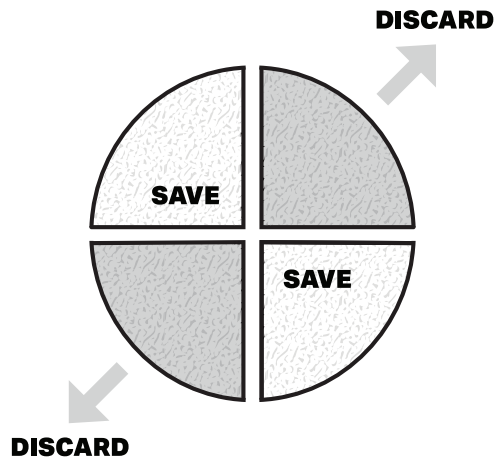
ALTERNATE OR FRACTIONAL SHOVELING PROCEDURE

1. Mix the sample.
2. Pour into a pile on a clean paper or plastic sheet.
3. Further mix the sample by pulling the corners of the sheet diagonally allowing the sample to tumble. Then turn the sheet a quarter turn. The lower right corner should be the upper right corner. Repeat the mixing process 8 times.
4. Arrange sample into a row.
5. Use a scoop such as a flat spatula to transfer scoops into sample bag.
6. Collect increments randomly along the row of feed and transfer into sample bag.
7. Repeat until the quart size zip lock bag is full.

QUARTERING PROCEDURE

Sometimes when forages and feeds are sampled, the total of the aggregate samples is too large and bulky to send into the laboratory. The total sample size can be properly reduced and still maintain a representative sample.

1. Mix the entire sample thoroughly.
2. Pour it into a pile on clean paper or plastic.
3. Divide the sample into four equal parts (quarters), saving the opposite two quarters.
4. If the sample is still too large, repeat the procedure until the proper sample size of one pint to a quart is obtained.
5. All samples should be placed in an airtight plastic bag and submitted to the laboratory for analysis.



LEAF & PLANT TISSUE SAMPLING PROCEDURES

1. Refer to the table below for proper sample timing, plant part to sample, and number of plants to sample.
2. Place samples in a paper bag, not plastic, and return to the lab with a completed submission form.

Field Crop	Stage of Growth	Plant Part to Sample	No. of Plants to Sample
CORN <i>Sampling after silks brown is not recommended.</i>	Seedling stage (Less than 12")	All the above ground portion	20 - 30
	Prior to tasseling	The top leaf with collar	15 - 25
	From tasseling to early silking	The entire leaf at the ear (or immediately below it)	15 - 25
SOYBEANS OR OTHER BEANS <i>Sampling after pods begin to fill is not recommended.</i>	Seedling stage (Less than 12")	All the above ground portion	20 - 30
	Initial flowering	Two or three fully developed leaves at the top of the plant	20 - 30
SMALL GRAIN <i>Sampling after pods begin to fill is not recommended.</i>	Seedling stage (Less than 12")	The above ground portion	50 - 100
	Boot to heading	The above ground portion	20 - 30
HAY, PASTURE OR FORAGE GRASSES	Just prior to seed head emergence or 4 to 6 weeks after clipping	Whole tops	20 - 30
ALFALFA	Bud stage to 1 st flower	The upper 1/3 of the plant	15 - 25
MILO	Very early heading	Second leaf from top of plant	15 - 25



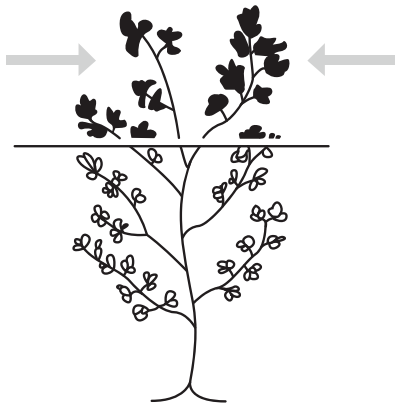
CORN

Prior to tasseling
The top leaf with collar



MILO

Second leaf from top of plant



ALFALFA

Bud stage to 1st flower
The upper 1/3 of the plant



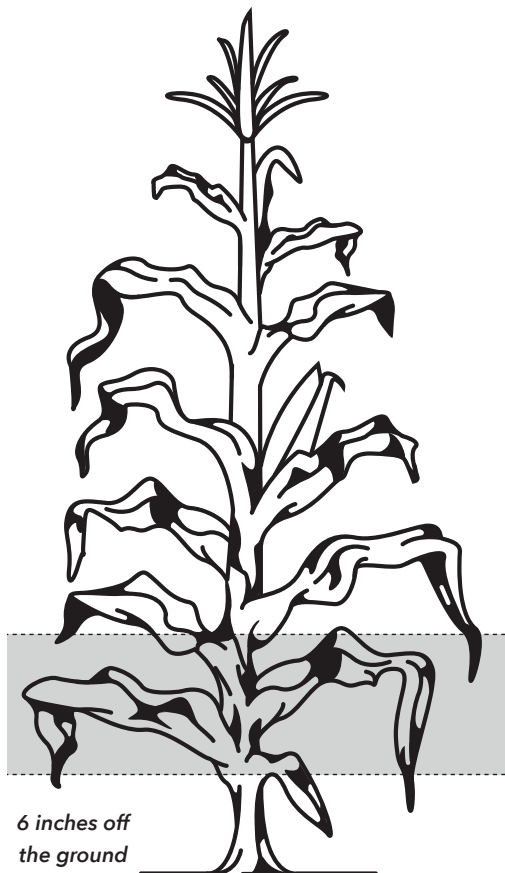
SOYBEANS OR OTHER BEANS

Two or three fully developed
leaves at the top of the plant

STALK NITRATE SAMPLING PROCEDURE

1. Samples should be taken one to three weeks after black layer on 80% of the kernels on most ears.
2. Cut 8 inches of the stalk 6 inches above the soil surface.
3. Remove all leaves from the stalk.
4. Include 10 to 15 stalks from a representative area. Sample areas should be determined based on differences in management or soil type.
5. Wrap the bundle of stalks in duct tape. Write your name and sample ID on the tape using a permanent marker. The following information should be included on a separate sheet with the samples: Name, Physical Address, Sample ID, Phone Number, Email.
6. Samples can be mailed to or dropped off at the lab.
7. Analysis will be reported in 2-3 business days upon arrival to the lab.

Sample 8 inches of the stalk
(remove leaf sheaths from sample)



WATER SAMPLING PROCEDURES

AGRICULTURAL WATER SAMPLING PROCEDURE

1. Use a clean plastic container for submitting your sample. Bottles can be obtained from the laboratory.
2. Rinse the container several times with water that is being sampled. Send at least one-half pint of water to be tested.
3. For irrigation water sampling, wells should be pumped several hours before sampling. Test wells should be sampled after pipe and screen are in place. Pump well for at least 10 hours before sampling. For livestock suitability water sampling, let the water run for ten minutes before sampling.
4. Samples of lakes, streams, and ponds should be taken from below surface.
5. If it is not possible to send the sample to the lab immediately after collection, refrigerate until it is sent.

HOUSEHOLD WATER SAMPLING PROCEDURE

1. Use a clean plastic container for submitting your sample. Bottles can be obtained from the laboratory.
2. Let water run for five minutes.
3. Rinse the container several times with water that is being sampled and then fill the sample bottle. Send at least one-half pint of water to be tested.
4. If it is not possible to send the sample to the lab immediately after collection, refrigerate until it is sent.

NOTES

BACTERIA WATER SAMPLING PROCEDURE

Please read carefully to insure accurate results. If you have any questions please call the lab at (308) 234-2418 prior to taking samples.

1. Samples will be accepted MONDAY THROUGH THURSDAY ONLY between the hours of 8 a.m. to 3 p.m.
2. Samples need to be received by the lab within 24 hours after sampling. Samples should be kept cool during transport.
3. The enclosed sterilized bottle contains a small amount of preservative. If analysis is required in addition to Coliform, a separate sampling bottle is required. (Please request a Water Testing Bottle).
4. Collect sample from an indoor water tap. Remove screen or strainer from spigot, (if one is present), and sterilize by flaming briefly with a match or lighter. You can also swab with rubbing alcohol. Allow water to run freely for FIVE MINUTES before collecting sample.
5. Avoid contaminating your sample. Carefully remove lid from enclosed sample bottle without touching the inside of the cap or threaded area of bottle.
6. **DO NOT** rinse bottle. Fill bottle to line. Replace lid at once.

PROFICIENCY PROGRAMS & MEMBERSHIPS



PROFICIENCY PROGRAMS

Agricultural Laboratory Proficiency (Soil, Water, Plant)
Association of American Feed Control Officials
Distillers Grains Technology Council Proficiency Program
National Forage Testing Association
North American Proficiency Testing Program (Soil, Water, Plant)
Magruder Fertilizer Check Sample Program

MEMBERSHIPS

Alliance for the Future of Agriculture in Nebraska
American Association for the Advancement of Science
American Chemical Society
American Oil Chemists Society
American Registry of Professional Animal Scientists
American Society of Agronomy
American Soybean Association
American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS) –
 Certified Professional Agronomist
 Certified Professional Soil Scientist
 Certified Crop Advisor
American Registry of Professional Animal Scientists –
 Professional Animal Scientist
Association of Official Analytical Chemists
Bio Nebraska Life Sciences Association
Colorado Cattlemen's Association
Council for Agricultural Science & Technology

Independent Agricultural Consultants of Colorado
Kansas Agribusiness Retailers Association
Kearney Area Chamber of Commerce
Missouri Agribusiness Association
National Alliance of Independent Crop Consultants
National Cattlemen's Beef Association
National Corn Growers Association
Nebraska Alfalfa Marketing Association
Nebraska Craft Brewers Guild
Nebraska Cattlemen
Nebraska Chamber of Commerce
Nebraska Diplomats Inc.
Nebraska Farm Bureau
Nebraska Independent Crop Consulting Association
Nebraska Poultry Industries
Oklahoma Cattlemen's Association
NIRS Forage and Feed Testing Consortium
Practical Farmers of Iowa
Rocky Mountain Agribusiness Association
Sigma Xi
Soil and Plant Analysis Council
Soil and Water Conservation Society of America
Soil Science Society of America
South Dakota Agribusiness Association
South Dakota Cattlemen Association
South Dakota Independent Crop Consultants Association
South Dakota Soil Health Coalition
Texas Ag Industries Association
Wyoming Stock Growers Association



MAILING ADDRESS
PO BOX 788
KEARNEY, NEBRASKA
68848

SHIPPING ADDRESS
4007 CHERRY AVENUE
KEARNEY, NEBRASKA
68847



800-887-7645
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