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Test	Description:	Price	Code:	Notes:
<b>NIR PACKAGES</b>				
NIR1 Package	The NIR 1 Analysis includes tests for Dry Matter, Moisture, Crude Protein, ADF Protein, NDF Protein, Soluble Protein, ADF, NDF, NDFom, Lignin, Starch, Sugar, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K) with pH by traditional method on an ensiled forage. Calculated values are provided for Available Protein, Adjusted Protein, Degradable Protein, NEL, NEM, NEG (OARDC Summative Energy Equation), and NFC.	\$ 17.75	A1	
NIR2 Package	The NIR 2 is the NIR 1 Analysis with wet-chemistry Minerals - Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), and Copper (Cu).	\$ 26.50	A2	
NIR3 Package	The NIR 3 is the NIR 2 Analysis plus wet-chemistry on Chloride (Cl) and Sulfur (S)."	\$ 34.25	A3	
NIR4 Package	The NIR 4 is the NIR 2 Analysis plus wet-chemistry on Crude Protein, ADF, and NDF.	\$ 40.50	A4	
NIR5 Package	The NIR 5 is the NIR 1 Analysis plus wet-chemistry on Crude Protein, ADF, and NDF.	\$ 29.00	A5	
NIR Plus Option	Provides 30 hr NDF Digestibility with Kd Rate, NDF Digestibility 120 and 240, uNDF120, uNDF240, an NIR evaluation of Fermentation acids (for ensiled forages) for NIR1-NIR5 as well as Indigestible Fiber, Total Fatty Acids, and Soluble Fiber. This option also includes a soil contamination probability index of Low, Medium or High (not available for corn grain). For Corn Silages, the NIR Plus Option also provides 12 hr NDF digestibility and qualitative assessment of 7 hr starch digestibility.	\$ 9.25	P	
CPM Plus Option	Provides Neutral Detergent Residue (NDR) in place of aNDF analysis	\$ -		
TMR Mixture Evaluation Package	(Set of 5 samples analyzed to assess mixer efficiency) NIR analysis with chemistry minerals. This package includes DM, CP, Soluble Protein, ADF, NDF, Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu. Dry Matter, Crude Protein, ADF, NDF, lignin, indigestible NDF, starch, ash,	\$ 125.00	A10	
Manure Package	Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K).	\$ 17.75	A1	
Distillers Package	The NIR 1 Analysis includes tests for Dry Matter, Moisture, Crude Protein, ADF Protein, NDF Protein, Soluble Protein, ADF, NDF, Lignin, Starch, Sugar, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K). Calculated values are provided for Available Protein, Adjusted Protein, Degradable Protein, NEL, NEM, NEG (OARDC Summative Energy Equation), and NFC.	\$ 17.75	A1	
Distillers Plus Option	Distillers analysis with qualitative evaluation for vomitoxin.	\$ 9.25	P	
Soybean Meal NIR Package	Dry Matter, Crude Protein, Crude Fiber, Fat, Calcium (Ca), Phosphorus (P).	\$ 17.75	A1	
Apparent Nutrient Digestibility	Includes a NIR Plus evaluation of a high group TMR and associated fecal matter to generate an evaluation of apparent NDF and starch digestibility.	\$ 59.00	ASD	TMR AND FECAL SAMPLE NEED TO COME TOGETHER

TMR Control - NIR	NIR analysis with chemistry minerals. This package includes DM, CP, Soluble Protein, ADF, NDF, 24 hour NDF Digestibility, Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, Na, Cl, S, Fe, Mn, Zn, Cu. Also included is an evaluation for peNDF, SPS (starch processing score), and the Penn State Particle Size Evaluation. Weekly contract price available.	\$ 64.00		
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**CHEMISTRY PACKAGES**

Standard Package	Includes Dry Matter, Moisture, Crude Protein, Unavailable Protein (Haylages only), Adjusted Protein, Soluble Protein, calculated Degradable Protein (Forages only), Acid Detergent Fiber (ADF), Neutral Detergent Fiber (NDF), Ash, NFC, TDN, NEL, NEM, NEG (energy values on forages only), RFV, and Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu with pH on an ensiled forage.	\$ 34.75	B1	
CPM Plus Package	Includes the Standard Analysis and Lignin, Fat, ADFCP, NDFCP, Chloride, Sulfur, Starch and Sugar. When combined with our Fermentation Analysis a Soluble Fiber is calculated.	\$ 79.50	B2	
RFV Package	Includes Dry Matter, Moisture, Crude Protein, ADF, NDF, calculated RFV (on hays and haylages), Adjusted Protein, NEL, NEM, NEG, & TDN.	\$ 22.25	B3	
Basic NDF Package	Dry Matter, Moisture, Crude Protein, ADF, NDF, Minerals (Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu), pH on ensiled forages, with calculated values for Adjusted Protein, TDN, NEL, NEG, and NEM.	\$ 30.75	B4	
Minerals Only	Mineral mixes must use this option. Includes Dry Matter, Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.	\$ 28.00	B6	
TMR Diagnostic Package	By chemistry; includes DM, CP, Soluble Protein, Ammonia, ADF, NDF, peNDF (physically effective NDF - Mertens) 24 hour NDF Digestibility, Lignin, Fat, Starch, SPS (starch processing score), 7 hour Starch Degradability, Sugar, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu, Lactic Acid, Acetic Acid, Butyric Acid, and the Penn State Particle Size Evaluation.	\$ 172.00	B7	
TMR Control - Chemistry	By chemistry; includes DM, CP, Soluble Protein, ADF, NDF, Starch, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu	\$ 78.00		
Animal Protein Package	Provides Dry Matter, Moisture, Crude Protein, Soluble Protein, Ash, Fat, Ca, P, Cl, and S.	\$ 56.00	B8	
Feed Mill Mixer Evaluation	Evaluation of Cp, Ash, Ca, P, Mg, Na, Cl, Fe, Mn, Zn, Cu on 10 samples. Includes report of analyses including average, SD, and COV for nutrients	\$ 198.75		

**COMPONENTS**

ADF	ADF	\$ 6.25	G1	
ADFom (ash free)	ADFom (ash free)	\$ 9.50	G2	
ADFCP	ADFCP	\$ 6.25	G3	
Ammonia Nitrogen	Ammonia	\$ 11.50	G5	
Ash	Ash	\$ 6.25	G6	
Boron	Boron	\$ 11.50		
Chloride	Chloride	\$ 6.50	G7	
Cobalt	Cobalt	\$ 39.00		
Crude Fiber	Crude Fiber	\$ 9.25	E9	
Crude Protein	Crude Protein	\$ 6.25		

Deg. Protein (strep. Griseus)	Deg. Protein	\$ 13.00	G9	
Dry Cow Option	Chloride, Sulfur	\$ 11.75	F10	
Dry Matter	Dry Matter	\$ 3.00	E6	
Ergonovine	Ergonovine	\$ 113.50		
Fat (Acid-Hydrolysis)	Fat (Acid-Hydrolysis)	\$ 36.75	E8	
Fat (Ether Extract)	Fat (Ether Extraction)	\$ 10.25		
Fecal Starch	Fecal Starch	\$ 12.25		IF YOU WANT THIS DONE BY WET CHEM THIS NEEDS TO BE ACCOMPANIED WITH A LETTER/PERMIT. THIS CAN BE DONE BY NIR IN HOUSE AT FAS
Gossypol	Gossypol	\$ 524.50		
Initial Peroxide (on liquid)	Initial Peroxide (on liquid)	\$ 31.75		
Initial Peroxide (on dry)	Initial Peroxide (on dry)	\$ 97.25		
Iodine	Iodine elemental	\$ 80.25		
Karl Fischer Moisture	Karl Fischer	\$ 48.50	E10	
KOH	KOH	\$ 39.00		
Lactose	Lactose	\$ 74.00		
Lead	Lead	\$ 39.00		
Lignin	Lignin	\$ 10.25	G14	
Micron Particle Size	Micron Particle Size	\$ 20.00	E11	
Molybdenum	Molybdenum	\$ 11.50	G15	
aNDF	aNDF	\$ 6.25	G16	
aNDFom (ash-free)	aNDFom (ash-free)	\$ 9.50	G17	
NDF-CP	NDF-CP	\$ 6.25	G18	
NDR	NDR	\$ 6.25	G19	
Nitrate	Nitrate	\$ 11.50	G20	
Non-Protein Nitrogen (NPN)	Non-Protein Nitrogen (NPN)	\$ 29.25	G21	
Particle Size Evaluation (Penn State Separator)	Particle Size Evaluation	\$ 8.00	F13	
Pepsin Digestibility (0.2% pepsin as per AOAC-includes crude protein determination)	Pepsin Digestibility	\$ 49.75		
Protein Dispersibility	(includes PDI, CP and Urease Activity)	\$ 45.50	G22	
Index				
Prolamin	Prolamin	\$ 36.00		
Prussic Acid (Cyanide)	Prussic Acid (Cyanide)	\$ 59.25		SAMPLES NEED TO BE FROZEN AND SENT ON ICE
Salt (as chloride)	Salt (as chloride)	\$ 6.50		
Selenium	Selenium (expected levels needed)	\$ 49.75	G24	EXPECTED LEVELS NEEDED
Soluble Protein	Soluble Protein	\$ 6.25	G25	
Starch	Starch	\$ 12.50	G26	
Starch (Gelatinized)	Starch (Gelatinized)	\$ 62.75		
Sugar	Sugar (ESC)	\$ 10.25	G27	
Sugar	Sugar (WSC)	\$ 10.25		
Sulfur	Sulfur	\$ 6.25	G28	

Trypsin Inhibitor	Trypsin Inhibitor	\$ 105.50		
Urea	Urea	\$ 29.25		
Urease Acitivity	Urease Acitivity	\$ 23.75	G29	
Vitamin A	Vitamin A	\$ 84.25		APPROXIMATE LEVELS NEEDED
Vitamin D	Vitamin D	\$ 129.75		APPROXIMATE LEVELS NEEDED
Vitamin E	Vitamin E	\$ 129.75		
<b>PROXIMATE</b>				
TAG 1 Package	Includes Dry Matter, Moisture, Crude Protein, Crude Fat, and Crude Fiber	\$ 26.50	E1	
TAG 2 Package	Includes Tag 1 plus Ash, Ca, and P.	\$ 36.75	E2	
TAG 3 Package	Includes Tag 1 plus Ash and Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu.	\$ 45.50	E3	
TAG 4 Package	Includes Dry Matter, Moisture, Ash, Ca, and P.	\$ 22.75	E4	
Protein Only	Protein (combustion)	\$ 6.25	E5	
Moisture Only	Moisture (Moisture loss drying at 135°C for 2 hrs)	\$ 6.50	E6	
Crude Fat	Fat (ether extraction)	\$ 10.25	E7	
Fat (acid hydrolysis)	Acid Hydrolysis Fat	\$ 36.75	E8	
Crude Fiber	Crude Fiber	\$ 9.25	E9	
Ash	Ash	\$ 6.25	G6	
Karl Fischer Moisture		\$ 46.25	E10	

<b>INVITRODIGESTIBILITY</b>				
NDF Digestibility	- Time points may include 6, 12, 24, 30, 48 or (iNDF at 240 hrs)	\$ 28.25	C1, C2, C3, C4, C5 RESPECTIVELY	
Invitro NDF Digestibility Time Point Series 6 points with Rates		\$ 132.75		
Invitro Starch Digestibility	Time points may include 2, 7, 24, 30 HRS	\$ 34.50	D1, D2, D3, D4 RESPECTIVELY	
Invitro Starch Digestibility Time Point Series 6 points with Rates		\$ 166.00		
Invitro Dry Matter	Time points as determined by client.	\$ 21.00		
Digestibility Invitro Dry Matter				
Digestibility Time Point Series 6 points Invitro		\$ 104.50		
NDF Basic RPE for Forages	30, 120, and 240 hour digestibility values Includes NDF and listed time points all on an organic matter basis;	\$ 61.25		
NDF Standard RPE for	All points are run 3x on different days for high accuracy; 4, 8, 12, 24, 48, 72, 120, and 240 hour values Includes NDF and listed time points all on an organic matter basis;	\$ 103.25		

Forages	All points are run 3x on different days for high accuracy; Special RPE Report with Vensim rates, pools, and lag			
NDF Basic RPE for	12, 72, and 120 hour digestibility values			
	Includes NDF and listed time points all on an organic matter basis;	\$ 61.25		
Ingredients	All points are run 3x on different days for high accuracy;			
NDF Standard RPE for	4, 8, 12, 24, 48, 72, 120, and 240 hour values			
	Includes NDF and listed time points all on an organic matter basis;	\$ 103.25		
Ingredients	All points are run 3x on different days for high accuracy; Special RPE Report with Vensim rates, pools, and lag			
MSPE Freeze Dry		\$ 139.00		
MSPE	Based on work by Dr. Debbie Ross and Dr. Mike Van Amburgh. An In Vitro evaluation of feed material is followed by treatment sequentially with acid and enzymes. Rumen availability as well as intestinal digestibility is provided	\$ 115.50		
<b>ANALYSIS OPTIONS</b>				
Micron Particle Size	Micron Particle Size	\$ 20.00	E11	
Fermentation	Includes Dry Matter, Titratable Acidity, Lactic Acid, Acetic Acid, Propionic Acid, Butyric Acid, Iso-butyric Acid, 1,2 Propanediol, Total VFA, pH, Lactic Acid/VFA ratio, Crude Protein equivalent from Ammonia, and Ammonia N as a percentage of total N.	\$ 25.75	F1	
Package				
Fermentation Analysis Plus Package	Includes fermentation analysis plus methyl acetate, ethyl acetate, methanol, ethanol, propyl acetate, 2-Butanol, 1-propanol, ethyl lactate, propyl lactate.	\$ 40.50		
Free Fatty Acids	Free Fatty Acids	\$ 27.25	F4	
Heavy Metals	Includes Aluminum, Antimony, Arsenic, Barium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Phosphorus, Potassium, Selenium, Sodium, Sulfur, Thallium, Zinc.	\$ 74.00	F5	
Mold Count	Yeast/Mold Count	\$ 25.75	F8	
Mold Identification	Mold/Yeast Count with Mold Identification	\$ 47.25	F9	
PDI/Urease	Protein Dispersibility Index	\$ 45.50	G23	
Selenium	Selenium (expected levels needed)	\$ 52.50	G24	EXPECTED LEVELS NEEDED
Urease Activity	Urease Activity	\$ 23.75	G29	
Acid Hyd. Fat	Fat (acid-hydrolysis)	\$ 36.75	E8	
CNCPS	Adds to the standard package fat, lignin, adin and ndin	\$ 20.25	F6	
Byproduct	Adds to the standard package fat, lignin, adin, ndin, sulfur and chloride	\$ 25.00	F7	
DCAD (CL, S)	DCAD (CL, S)	\$ 11.75	F10	
CSPS	Corn Silage Processing Score	\$ 20.00	F11	
PENDF	Physically Effective NDF	\$ 20.00	F12	
Particle Size	Particle Size Evaluation (Penn State Separator)	\$ 8.00	F13	
Molybdenum	Molybdenum	\$ 11.50	G15	
NPN	Non-Protein Nitrogen (NPN)	\$ 29.25	G21	
Micron Particle Size	Micron Particle Size	\$ 2.00	E11	
<b>WATER</b> (billed in Canadian dollars from FAS)				
Total Coliform and		\$ 46.35		SAMPLES MUST BE RECEIVED WITHIN 24 HOURS OF COLLECTION, MUST BE COLLECTED IN A BOTTLE WITH SODIUM THIOSULFATE. CAN BE RUN AT FAS
E.coli				
Nitrate Nitrogen and pH		\$ 20.63		

Livestock Suitability	Includes pH, hardness, total dissolved solids, Ca,P,Mg,K,Na,Fe,Mn,Zn,Cu,	\$ 55.88	LSP	
Package	chlorides, sulfates and nitrates			
pH	PH	\$ 9.00		
Alkalinity	Alkalinity	\$ 17.75		
<b>MANURE</b>				
Base Test Package 1	Total Nitrogen, P205, K2O, NH3, DM, Density	\$ 37.50		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
Base Test Package 2	Total Nitrogen, P205, K2O, NH3, DM	\$ 32.25		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
Base Test Package 3	Total Nitrogen, P205, K2O, NH3	\$ 29.25		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
Water Soluble Phos		\$ 11.25		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
Minerals	Ca,Mg,Na,Fe,Mn,Zn, & Cu	\$ 8.00		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
Volatile Solids		\$ 6.00		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
pH		\$ 5.75		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
Total Carbon (C/N)		\$ 25.75		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
Lagoon Analysis Package	pH, Nitrogen, Total Solids, Minerals	\$ 49.75		ORIGINAL MANURE SAMPLES NEEDING WET CHEM NEED A LETTER/PERMIT
<b>MYCOTOXINS</b>				
Mycotoxin Screen	Aflatoxin B1, B2, G1, G2, Deoxynivalenol, Zearalenone by HPLC	\$ 80.00		detection limits available upon request
Mycotoxin Screen Plus	Aflatoxin B1, B2, G1, G2, Deoxynivalenol, Zearalenone, Fumonisin B1, B2, B3, Ochratoxin by HPLC.	\$ 102.00		detection limits available upon request
Modified Mycotoxin 6	Aflatoxin B1, B2, G1, G2, Deoxynivalenol, Zearalenone, T-2 Toxin, Fumonisin B1, B2, B3, Ochratoxin by LC/MS/MS.	\$ 239.00		detection limits available upon request
Vomitoxin (DON) by HPLC	Deoxynivalenol	\$ 59.25		detection limits available upon request
Aflatoxin by HPLC	Aflatoxin B1, B2, G1, G2	\$ 41.50		detection limits available upon request
Zearalenone by HPLC		\$ 74.25		detection limits available upon request
Fumonisin by HPLC	Fumonisin B1, B2, B3	\$ 74.25		detection limits available upon request
Ochratoxin by HPLC		\$ 74.25		detection limits available upon request
<b>Test</b>	<b>Description:</b>	<b>Price</b>	<b>Code:</b>	<b>Notes:</b>
<b>AMINOACIDS</b>				
Cystine, Methionine	Cystine, Methionine	\$ 85.25		ANITICIPATED LEVELS NEEDED
Cystine, Methionine, Lysine plus 9 more	Cystine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, and Leucine	\$ 112.75		ANITICIPATED LEVELS NEEDED
Full Profile w/o Tryptophan	Cystine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Taurine, Hydroxyproline, Serine, Lanthionine, Tyrosine, Phenylalanine, Hydroxylysine, Ornithine, Histidine, and Agrinine	\$ 145.00		ANITICIPATED LEVELS NEEDED

Full Profile with Tryptophan	Cystine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Taurine, Hydroxyproline, Serine, Lanthionine, Tyrosine, Phenylalanine, Hydroxylysine, Ornithine, Histidine, Agrinine, and Tryptophan	\$ 176.00		ANITICIPATED LEVELS NEEDED
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