fraser ANALYTICAL SERVICES

www.fraseranalytical.com
604-557-1486
info@fraseranalytical.com

Test	Description	Price USD	Price CAD	Code	Notes
NIR PACKAGES					
NIR1 Package	The NIR 1 Analysis includes tests for Dry Matter, Moisture, Crude Protein, ADFCP, NDFCP, Soluble Protein, ADF, NDF, Lignin, Starch, ESC, WSC, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K) and pH on ensiled forage. Calculated values are provided for RFV (forage only), Available Protein, Adjusted Protein, Degradable Protein, NEl, NEm, NEg (NRC summative energy equations), NSC and NFC.	$24.50	$34.30	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).	$39.25	$54.95	A2	
NIR3 Package	The NIR 3 is the NIR 2 Analysis plus wet-chemistry on Chloride (Cl), Sulfur (S), and DCAD.	$49.75	$69.65	A3	
NIR4 Package	The NIR 4 is the NIR 2 Analysis plus wet-chemistry on Crude Protein, ADF and NDF.	$56.50	$79.10	A4	
NIR5 Package	The NIR 5 is the NIR 1 Analysis plus wet-chemistry on Crude Protein, ADF, and NDF.	$42.00	$58.80	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.	$12.25	$17.15	P	
Calibrate LEAF option	Leaves Enhance Alfalfa Forage test (LEAF) is a predictive equation that assists in determining leaf percentage of alfalfa samples.	$26.75	$37.45		
TMR Mixture Evaluation Package	(Set of 5 samples analyzed to assess mixer efficiency) NIR analysis with chemistry minerals. This package includes Dry Matter, Crude Protein, Soluble Protein, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, Cl, and S.	$248.75	$348.25	A10	
Manure Package	Provides Dry Matter, Crude Protein, ADF, NDF, Lignin, Starch, Ash, Ca, P, Mg, and K.	$24.50	$34.30	A1	
NIR 1 Non-Forage Ingredients	Almond hulls, Bakery, Beet Pulp, Brewers, Canola, Corn Distillers, Gluten Feed, Midds, SBM, and Small Grains.	$24.50	$34.30	A1	
Apparent Nutrient Digestibility	Includes a NIR1 Plus evaluation of a high group TMR and associated fecal matter to generate an evaluation of apparent NDF and starch digestibility.	$82.00	$114.80	APN	TMR AND FECAL SAMPLE NEED TO COME TOGETHER
Equine Basic	This NIR package includes Dry Matter, Moisture, Digestible Energy, NSC, NFC, RFV (hays and haylages only), Starch, Sugar (WSC and ESC), Crude Protein, Soluble Protein, ADFCP, NDFCP, Lignin, ADF, NDF, NDFom, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K).	$24.50	$34.30	EQ1	
Equine Lancer	This package includes Dry Matter, Moisture, Digestible Energy, NSC, NFC, RFV (hays and haylages only), Starch, Sugar, Crude Protein, Soluble Protein, ADFCP, NDFCP, Lignin, WSC, ADF, NDF, NDFom, Fat, Fatty Acids total), and Ash by NIR. Chemistry minerals are provided, superior analytically to NIR predictions, including Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), and Copper (Cu).	$39.25	$54.95	EQ2	
TMR Control - NIR Package	NIR analysis with chemistry minerals. This package includes Dry Matter, Crude Protein, Soluble Protein, ADF, NDF, ADFCP, NDFCP Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, Cl, and S. Also included is an evaluation for peNDF, SPS (starch processing score), and the Penn State Particle Size Evaluation.	$132.50	$185.50	TC	
Amino Acid Analysis	Only Available for Corn Silages	$36.50	$51.10		
uNDF RPE Precision TimePoint	Only Available for Corn Silages	$36.50	$51.10		
Fatty Acid Profile by NIR	Bypass fats only	$36.50	$51.10		
Oleic Acid by NIR	Soy products only	$36.50	$51.10		
Soluble Starch by NIR	Soluble Starch	$12.00	$16.80		

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CHEMISTRY PACKAGES					
Standard Package	Includes Dry Matter, Moisture, Crude Protein, Adjusted Protein, Soluble Protein, calculated Degradable Protein (Forages only), Acid Detergent Fiber (ADF), Neutral Detergent Fiber (NDF), Ash, (Energy values on forages only) TDN, NEl, NEm, NEg, RFV (for hays and haylages), and Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu with pH on an ensiled forage.	$56.75	$79.45	B1	
Standard Plus Energy	Standard Package plus Fat, Lignin, ADFCP, and NDFCP. Includes NFC. Provides Energy values for non-forage samples.	$92.75	$129.85	B9	
CNCPS Package (previously CPM Plus)	Includes the Standard Analysis and Lignin, Fat, ADFCP, NDFCP, Chloride, Sulfur, Starch, Sugar, TDN, NFC, NEl, NEm, and NEg. When combined with our Fermentation Analysis a Soluble Fiber is calculated.	$129.50	$181.30	B2	
RFV Package	Includes Dry Matter, Moisture, Crude Protein, ADF, NDF, calculated RFV (on hays and haylages), and Adjusted Protein. NEl, NEm, NEg and TDN on forages only.	$37.75	$52.85	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, NEm and Ash. (Energy values on forages only).	$51.25	$71.75	B4	
Minerals Only	Includes Dry Matter, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, and Ash.	$39.25	$54.95	B6	
Minerals Only (High Concentrate)	Includes Dry Matter, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, and Ash.	$60.25	$84.35		
TMR Diagnostic Package	Includes DM, Crude Protein, Soluble Protein, Ammonia, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Starch, 7-hour Starch Digestibility, 24-hour NDF Digestibility, Sugar, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu, Lactic Acid, Acetic Acid, Butyric Acid, peNDF, (physically effective NDF - Mertens), SPS (starch processing score) and the Penn State Particle Size Evaluation.	$351.25	$491.75	B7	
Animal Protein Package	Provides Dry Matter, Moisture, Crude Protein, Soluble Protein, Ash, Fat, Ca, P, Cl, and S.	$108.75	$152.25	B8	
Liquid Sample	Provides Dry Matter, Moisture, Crude Protein, Ammonia, Fat, Sugar, Ash, Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.	$109.75	$153.65	B10	
Liquid Sample with Karl Fischer Moisture	Above analysis with Karl Fischer moisture - appropriate when volatiles other than moisture are present in the sample.	$179.00	$250.60		
Feed Mill Mixer Evaluation		$295.00	$413.00	B12	
Equine Chemistry Basic	This package is similar to the Equine Lancer package but uses reference chemistry methods in place of more economical NIR. It provides Dry Matter, Moisture, Digestible Energy, NSC, NFC, RFV (hays and haylages only), Starch, WSC, Crude Protein, Soluble Protein, ADF, NDF, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), & Copper (Cu).	$96.00	$134.40	EQ3	
Equine Chemistry Complete	This package includes Dry Matter, Moisture, Digestible Energy, NSC, NFC, RFV (hays and haylages only), starch, Sugar, Crude Protein, Soluble Protein, WSC, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Sulfur (S), Chloride (Cl), Iron (Fe), Manganese (Mn), Zinc (Zn), and Copper (Cu).	$148.00	$207.20	EQ4	
COMPONENTS					
Please note a $12.95 CAD ($9.25 USD) handling fee will be added to any sample that is not requesting a package.					
Acid Insoluble Ash	Acid Insoluble Ash	$29.50	$41.30		
ADF	ADF	$13.25	$18.55	G1	
ADFom (ash free)	ADFom (ash free)	$17.50	$24.50	G2	
ADFCP (ADICP)	Must be run with ADF	$12.25	$17.15	G3	
Ammonia Nitrogen	Ammonia Nitrogen	$22.00	$30.80	G5	
Ash	Ash	$12.25	$17.15	G6	
Barium	Barium	$56.00	$78.40		
Boron	Boron	$12.25	$17.15		
Calories (BTU)		Call for pricing			
Carbon		$12.25	$17.15		
Chloride	Chloride	$17.50	$24.50	G7	
Cobalt	Cobalt	$54.25	$75.95		
Crude Fiber	Crude Fiber	$18.25	$25.55	E9	
Crude Protein	Crude Protein	$12.25	$17.15	G8	
Degradable Protein (*S. griseus*)	Must be run with Crude Protein.	$21.50	$30.10	G9	
Ergot / Fescue Alkaloids in Feedstuff		$191.75	$268.45		
Fat (Acid-Hydrolysis)	Fat (Acid-Hydrolysis)	$33.50	$46.90	E8	
Fat (Ether Extract)	Fat (Ether Extract)	$17.50	$24.50	E7	
Fecal Starch	Fecal Starch	$20.50	$28.70		REQUIRES A LETTER/PERMIT
Gossypol Free	For Cottonseed Extract and Meal	$559.25	$782.95		
Gossypol Total	For Cottonseed Extract and Meal	$381.75	$534.45		
Initial Peroxide on liquid materials		$44.25	$61.95		
Initial Peroxide on dry materials		$130.25	$182.35		

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Iodine Value on fats and oils		$73.25	$102.55		
Iodine, Elemental (Minerals & Metals)		$112.75	$157.85		
Karl Fischer Moisture		$69.25	$96.95	E11	
KOH	Must be run with Crude Protein	$51.75	$72.45		
Lactose		$75.00	$105.00		
Lead		$54.25	$75.95		
Lignin		$17.75	$24.85	G14	
Moisture Only (Dry Matter)	Moisture loss at 135°C (2 hrs for feed ingredients); 105°C (3 hrs for forages)	$5.25	$7.35	E6	
Molybdenum		$20.00	$28.00	G15	
NDF		$13.25	$18.55	G16	
aNDFom (ash-free)		$17.50	$24.50	G17	
NDFCP (NDICP)	Must be run with NDF	$12.25	$17.15	G18	
aNDF		$13.25	$18.55	G19	
Nitrate		$19.00	$26.60	G20	
Non-Protein Nitrogen (NPN)	Urea and ammonia, CPE basis	$24.00	$33.60	G21	
Pellet Durability		$20.00	$28.00		
Pepsin Digestibility	0.2% pepsin as per AOAC. Includes Crude Protein	$55.00	$77.00		
pH		$10.00	$14.00	G31	
Prolamin (grain only)		$41.75	$58.45		
Salt (as chloride)		$17.50	$24.50		
Selenium	Must provide expected levels	$64.50	$90.30	G24	
Soluble Protein	Must be run with Crude Protein	$12.25	$17.15	G25	
Starch		$20.50	$28.70	G26	
Starch (Gelatinized)		$71.25	$99.75		
Sugar (ESC)		$18.75	$26.25	G27	
Sugar (WSC)		$18.75	$26.25	G27a	
Sulfur		$12.25	$17.15	G28	
Trypsin Inhibitor		$100.00	$140.00		
Urease Activity	Soy products only	$21.00	$29.40	G29	
Vitamin A	Approximate levels needed	Call for pricing			
Vitamin D for premixes	Vitamin D for premixes (LOD 45,359 IU/lb)	Call for pricing			
Vitamin D (LC-MS/MS)	Vitamin D by LC-MS/MS (LOD 18.1 IU/lb)	Call for pricing			
Vitamin E	Vitamin E	Call for pricing			
PROXIMATE					
TAG 1 Package	Includes Dry Matter, Moisture, Crude Protein, Crude Fat and Crude Fiber.	$44.00	$61.60	E1	
TAG 2 Package	Includes Tag I plus Ash, Ca and P.	$58.50	$81.90	E2	
TAG 3 Package	Includes Tag I plus Ash and Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu.	$73.00	$102.20	E3	
TAG 4 Package	Includes Dry Matter, Moisture, Ash, Ca and P.	$37.00	$51.80	E4	
IN VITRO DIGESTIBILITY					
MSPE (freeze dry method)	Must be run with Crude Protein.	$218.00	$305.20		
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 and intestinal digestibility is provided. Must be run with Crude Protein.	$170.00	$238.00		
NDF Digestibility In Vitro Per Time Point	6, 12, 24, 30, 48 or 240 hrs (uNDF). Other time points may be available upon request. A request for a 72 hr or higher time point needs run with NDFom.	$40.50	$56.70	C1-C5, C7, C9 RESPECTIVELY	
NDF Digestibility In Vitro Time Point Series (6 points)	Select 6 time points	$237.00	$331.80	C12	
Starch Digestibility In Vitro Per Time Point	2, 7, 24, 30, 4, 12 hrs. Other time points may be available upon request.	$49.50	$69.30	D1-D6 RESPECTIVELY	
Starch Digestibility In Vitro Time Point Series (6 points)	Must be run with starch by chemistry	$289.75	$405.65	D7	
Dry Matter Digestibility In Vitro Per Time Point	4, 6, 12, 24, 30, 48, 72, 96, 120, or 240 hrs.	$34.75	$48.65		
Dry Matter Digestibility In Vitro Time Point Series (6 points)	Select 6 time points	$203.50	$284.90		
NDF Basic RPE (Rate Pool Evaluation) for Forages	12, 30, 120, and 240 hrs. Needs run with NDFom.	$158.00	$221.20	C10	
NDF Standard RPE for Forages	4, 8, 12, 24, 48, 72, 120, and 240 hrs. Needs run with NDFom.	$316.00	$442.40	C11	
NDF Basic RPE for Ingredients	12, 30, 72, and 120 hrs. Needs run with NDFom.	$158.00	$221.20	C10a	
NDF Standard RPE for Ingredients	4, 8, 12, 24, 48, 72 and 120 hrs. Needs run with NDFom.	$276.50	$387.10	C11a	
ROSS UIP	Total track protein digestibility and indigestibility. Needs run with Crude Protein.	$109.00	$152.60		

Test	Description	Price USD	Price CAD	Code	Notes
WET CHEMISTRY OPTIONS					
Berry Process Score		29.75	$41.65		
Fermentation	Includes Dry Matter, Lactic Acid, Acetic Acid, Propionic Acid, Butyric Acid, Iso-butyric Acid, 1, 2 - Propanediol, Total VFA, pH, Lactic Acid/VFA ratio, Crude Protein equivalent of Ammonia as a percentage of Dry Matter and Crude Protein	$44.50	$62.30	F1	
Fermentation Analysis Plus	Includes Fermentation Analysis as well as a breakdown of Alcohols, Acetates, and Lactates.	$57.00	$79.80	F1a	
Fatty Acid Profile, 30 meter	30 meter column: 22 fatty acids from C12 to C24, and total fatty acids.	$96.50	$135.10	F3	
Fatty Acid Profile, 100 meter	Other products requiring 100 meter column: C4 to C24 with trans fatty acids.	$145.00	$203.00	F3a	
Milk Fatty Acid Profile	100 m column: C4 to C24 with trans FAs, de novo, mixed, preformed, total saturated and unsaturated fatty acids, CLA, MUFA, and PUFA.	$145.00	$203.00		
Free Fatty Acids		$18.00	$25.20	F4	
Mold Count	Provides both Mold and Yeast counts.	$42.50	$59.50	F8	
Mold Identification	Mold and Yeast Count with Mold Identification	$69.50	$97.30	F9	
PDI/Urease (soy products only)	Protein Dispersibility Index and Urease Activity. Must be run with CP	$64.75	$90.65	G23	
Micron Particle Size		$32.50	$45.50	E12	
DCAD (CL, S)	Must also include a package with wet chemistry minerals to calculate DCAD value.	$29.75	$41.65	F10	
Soluble Starch by Wet Chemistry		$33.75	$47.25	G30	
CSPS	Corn Silage Processing Score. Must be run with NIR or wet chem starch	$29.75	$41.65	F11	
peNDF	Physically Effective NDF. Needs to be run with NDF or a package with NDF	$31.50	$44.10	F12	
Particle Size	Penn State Separator	$21.50	$30.10	F13	
Test Weight		$16.00	$22.40		
Trace Elements	Includes: Cobalt, Copper, Iron, Manganese, Molybdenum, Selenium, Zinc	$86.00	$120.40	F14	
Toxic Elements	Includes: Arsenic, Lead, Chromium, Mercury	$86.00	$120.40	F15	
WATER					
Total Coliform and E.coli	100ml SAMPLES MUST BE RECEIVED WITHIN 24 HOURS OF COLLECTION AND IS RUN AT FAS	$31.50	$74.25	W1	MUST BE COLLECTED IN A BOTTLE WITH SODIUM THIOSULFATE
pH		$10.00	$14.00	W2	
Nitrate Nitrogen and pH		$22.00	$30.80	W3	
Livestock Suitability Package	Includes pH, hardness, total dissolved solids, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, chlorides, sulfate, and nitrate.	$58.50	$81.90	W4	
Alkalinity		$18.75	$26.25	W5	
Toxic Elements (Fluid Elements)	Fluid Elements (in ppm: Antimony, Arsenic, Barium, Cadmium, Copper, Iron, Lead, Manganese, Mercury, Phosphorous, Selenium, Sodium, Sulfur, Thallium and Zinc)	$92.00	$128.80	W7	
PLANT TISSUE ANALYSIS					
Standard	Provides N, P, K, Ca, Mg, Na, S, Fe, Mn, Zn, Cu & B	$60.25	$84.35	L1	
Trace Minerals each	Cadmium, Cobalt, Lead or Nickel, priced per mineral.	$54.25	$75.95	L2	
Molybdenum		$20.00	$28.00		
Nitrate		$19.00	$26.60	L5	
Nitrogen		$12.25	$17.15		
Carbon		$12.25	$17.15	L4	
Chloride		$17.50	$24.50		
Sulfur		$12.25	$17.15	L6	
MANURE **(Original manure samples needed wet chem need a letter/permit)**					
Base Test Package 1	Total Nitrogen, Organic Nitrogen, P2O5, K2O, NH4+-N, Total Solids, Density	$55.50	$77.70		
Base Test Package 2	Total Nitrogen, Organic Nitrogen, P2O5, K2O, NH4+-N, Total Solids	$49.00	$68.60		
Water Soluble Phosphorus	PSC included	$18.50	$25.90		
Minerals (with manure package)	Ca, P, K, Mg, Na, Fe, Mn, Zn, and Cu	$22.50	$31.50		
Volatile Solids		$12.00	$16.80		
pH		$10.00	$14.00		
Total Carbon	Provides Total Carbon to Nitrogen Ratio	$12.25	$17.15		

Test	Description	Price USD	Price CAD	Code	Notes
MYCOTOXINS					
Mycotoxin Basic	Aflatoxin (B1, B2, G1, G2), Deoxynivalenol, and Zearalenone	$130.75	$183.05	T1	
Mycotoxin Plus	Aflatoxin (B1, B2, G1, G2), Deoxynivalenol, Zearalenone, Fumonisin (B1, B2, B3), T-2, HT-2, and Ochratoxin A	$195.50	$273.70	T1a	
Mycotoxin Premier	Aflatoxin (B1, B2, G1, G2), Deoxynivalenol, Zearalenone, Fumonisin (B1, B2, B3), T-2, HT-2, 3-Acetyl DON, 15-Acetyl DON, Ochratoxin A, 3 Acetyl Don, 15 Acetyl Don, Citrinin, Fusarenon X, Neosolaniol, and Diacetoxyscirpenol (DAS)	$323.50	$452.90	T1b	
Mycotoxin, each individual	Aflatoxin (B1, B2, G1, G2), Deoxynivalenol, Zearalenone, Fumonisin (B1, B2, B3), T-2, HT-2, 3-Acetyl DON, 15-Acetyl DON, Ochratoxin A, 3 Acetyl Don, 15 Acetyl Don, Citrinin, Fusarenon X, Neosolaniol, or Diacetoxyscirpenol (DAS)	$87.50	$122.50		
IN SITU ANALYSIS					
MSPE In Situ	Must be run with crude protein	$215.00	$301.00		
Protein Digestibility In Situ	Rumen Undegradable Protein (RUP) at 16 hrs.	$140.75	$197.05	I1	
Dry Matter Digestibility In Situ Per Time Point	24, 30, or 48 hrs. Other time points may be available upon request.	$103.50	$144.90	I4	
Starch Digestibility In Situ Per Time Point	7, 16, or 24 hrs. Other time points may be available upon request.	$127.50	$178.50	I2	
NDF Digestibility In Situ Per Time Point	6, 24, 30, 48, 96, or 120 hrs.Other time points may be available upon request.	$140.75	$197.05	I3	
AMINO ACIDS (Must be run with Crude Protein)					
Cystine, Methionine, Lysine plus 9 more	Cysteine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, and Leucine.	$145.50	$203.70	H1	
Full Profile without Tryptophan	Cysteine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Serine, Tyrosine, Phenylalanine, Ornithine, Histidine, and Arginine.	$198.50	$277.90	H2	
Full Profile with Tryptophan	Cysteine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Serine, Tyrosine, Phenylalanine, Ornithine, Histidine, Arginine, and Tryptophan.	$228.50	$319.90	H3	
Total Lysine		$114.25	$159.95		
Total Methionine		$114.25	$159.95		
Tryptophan		$114.25	$159.95		