

**SERVICES:** We specialize in soil, plant and water analyses for crop production and environmental projects. Ten Certified Crop Advisors are available throughout California for consultation and advising on soil fertility, plant nutrition, crop production, salinity management, irrigation management and soil reclamation. Additional services include: crop loss investigation, diagnosis of crop production problems, crop feasibility studies, nitrogen management plans, sediment and erosion control plans, soil moisture monitoring, monitoring and management of domestic and wastewater systems, sample collection service (soil, plant tissue and water), monitoring well sampling and technical reports for businesses and regulatory agencies.

**TURNAROUND TIME:** Number of working days for reported results after sample is at the Fresno lab, depending on the backlog. Allow extra time for sample shipment, report preparation and delivery.

**TERMS:** Net 30 days. New customers without established credit will be required to pay in advance.

**PRICES:** Listed prices are for samples submitted to the laboratory and are subject to change without notices.

**MINIMUM INVOICE FEE:** \$25.00 We accept Visa, MasterCard and Discover credit and debit cards. Please note there is a 3% convenience fee for credit cards.

**FEES PER HOUR:**

Consulting	\$125.00 - \$250.00
Legal Testimony	\$300.00 - \$500.00
Research Staff	\$125.00
Sample Collection (Portal to Portal)	\$95.00
Support Staff	\$95.00

**QUALITY CONTROL DOCUMENTS:** Emailed copies are included at no charge.

**DISCOUNTS:** Available for volume and contractual work. Please call for a quote.

**SAMPLING:** Sample containers are provided at no charge. Sampling services are available upon request. Please call for a quote.

**SAMPLE STORAGE:** After analyses, soil and tissue samples are stored for 30 days; water is stored for 21 days. If requested, samples can be held longer for a monthly storage fee of \$6.00 per sample.

**RUSH SAMPLES:** Results required in less than normal turnaround time are "rush". Rush samples must be authorized by the Laboratory Director. A 100% surcharge will be applied in most cases. For 24 to 48-hour turnaround 200% surcharge may result. Weekend or holiday work requires individual quotes.

**FOREIGN SAMPLES:** We are authorized to receive imported soil & plant tissue for analyses. As these samples require special handling, there is an extra \$8.00 per sample for 15 samples or less. For larger groups, special handling charges will be quoted.

**HAZARDOUS MATERIAL SAMPLES:** These will be returned to client for disposal.

**REFERENCES:** S or B - Soil, Plant and Water Reference Methods for the Western Region, 2<sup>nd</sup> ed., 2003

*SM* - Standard Methods for the Examination of Water and Wastewater

*Hndbk* - Diagnosis and Improvement of Saline and Alkali Soils, Handbook 60, L.A. Richards, 1954

*SSSA* - Soil Science Society of America Book Series, No. 5, 1996

*AOAC* - Association of Official Analytical Chemists

*TMECC* - Test Methods for the Examination of Composting and Compost

*RMMA* - Recommended Methods of Manure Analysis

*CDFA* - California Department of Food & Agriculture, Feed & Fertilizer, July 1988, 3D: Gypsum, Method A

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**PLANT TISSUE ANALYSIS**

**Grape Petiole Analysis:**

G1: NO <sub>3</sub> -N, P, K .....	5
G2: NO <sub>3</sub> -N, P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu .....	5
G2+TN: NO <sub>3</sub> -N, P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu, TN.....	5
G3: NO <sub>3</sub> -N, P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu, Cl.....	5
G3+TN: NO <sub>3</sub> -N, P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu, Cl, TN.....	5

**Leaf Analysis:**

L1: N, P, K .....	5
L2: N, P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu .....	5
L3: N, P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu, Cl.....	5

**Petiole Analysis:**

P1: NO <sub>3</sub> -N, PO <sub>4</sub> -P, K .....	5
P2: NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu .....	5
P3: NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu, Cl .....	5

**Alfalfa Analysis:**

Fractioned: AA1 - AA4	Baled: AA5 & AA6	
AA1: Top Third: B, Mo, Cu .....		5
AA2: Middle Third Stems: PO <sub>4</sub> -P, K .....		5
AA3: Middle Third Leaves: SO <sub>4</sub> -S .....		5
AA4: All of the Above .....		5
AA5: Baled: K, B, Mo, Cu, Total: P, S .....		5
AA6: K, B, Mo, Cu, PO <sub>4</sub> -P, SO <sub>4</sub> -S, Total: P, S .....		5

**Crop Removal Analysis:**

CRA1: Moisture, N, P, K, Ash .....	9
CRA2: Moisture, N, P, K, Ash, Zn, Mn, Na, B, Ca, Mg, Fe, Cu .....	9
CRA3: Moisture, N, P, K, Ash, Zn, Mn, Na, B, Ca, Mg, Fe, Cu, Cl.....	9

**Individual Plant Tissue Component Analysis:**

(Add only \$10 for additional elements on the same extract and method: \* = extract method B4.20; \*\* = Method B3.10)

* Aluminum (Al) .....	B4.20 .....	5
Ash .....	TMECC 03.02-B .....	9
* Boron (B) .....	B4.20 .....	5
* Calcium (Ca) .....	B4.20 .....	5
Carbon © .....	B2.20 .....	5
CDFA Pesticide Screen .....	:	7
** Chloride (Cl) .....	B3.10 .....	5
* Copper (Cu) .....	B4.20 .....	5
* Iron (Fe) .....	B4.20 .....	5
* Magnesium (Mg) .....	B4.20 .....	5
* Manganese (Mn) .....	B4.20 .....	5
Moisture % .....	B1.10 .....	5
* Molybdenum (Mo) .....	B4.20 .....	5
** Nitrate Nitrogen (NO <sub>3</sub> -N) .....	B3.10 .....	5
Nitrogen (N) .....	B2.20 .....	5
** Phosphate (PO <sub>4</sub> -P) .....	B3.10 .....	5
* Phosphorus (P) .....	B4.20 .....	5
** Potassium (K): extractable .....	B3.10 .....	5
* Potassium (K): digestible .....	B4.20 .....	5
* Sodium (Na) .....	B4.20 .....	5
* Sulfur (S) .....	B4.20 .....	5
** Sulfate Sulfur (SO <sub>4</sub> -S) .....	B3.10 .....	5
* Zinc (Zn) .....	B4.20 .....	5

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**SOIL ANALYSIS**

**Basic Fertility:**

BF1: NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn .....	5
BF2: NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, pH <sub>s</sub> .....	5
BF3: NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn, extractable Ca, Mg, Na .....	5

**Fertility Assay:**

FA1: SP, pH <sub>s</sub> , EC <sub>e</sub> , Ca, Mg, Na, Cl, sol K, ESP, B, GR or LR (buffer pH), NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn .....	5
FA2: SP, pH <sub>s</sub> , EC <sub>e</sub> , Ca, Mg, Na, ESP, B, GR or LR (buffer pH), NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn plus DTPA extractable Mn, Fe, Cu and ammonium acetate extractable Ca, Mg, Na expressed as meq/100 g .....	5
FA3: SP, pH <sub>s</sub> , EC <sub>e</sub> , Ca, Mg, Na, ESP, B, GR or LR (buffer pH), NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn plus DTPA extractable Mn, Fe, Cu and ammonium acetate extractable Ca, Mg, Na expressed as meq/100 g and percentage of <u>estimated</u> CEC plus Al and H if needed .....	5
FA3+OM: FA3 plus organic matter .....	5
FA4: SP, pH <sub>s</sub> , EC <sub>e</sub> , Ca, Mg, Na, ESP, B, GR or LR (buffer pH), NO <sub>3</sub> -N, PO <sub>4</sub> -P, K, Zn plus DTPA extractable Mn, Fe, Cu and ammonium acetate extractable Ca, Mg, Na expressed as meq/100 g and percentage of <u>measured</u> CEC plus estimated exchangeable acidity .....	7
+Cl: Add Chloride (Cl) to any Fertility Assay .....	5
+OM: Add Organic Matter (OM) to any Fertility Assay .....	5
MA1: Sand, Silt, Clay, Textural Class ..... S14.10 .....	5
MA2: Sand, Silt, Clay, Textural Class, plus Organic Matter, Moisture, CEC .....	7
Rock, % by weight.....	5
Laser Particle Size Distribution ASTM 4464.....	10-15

**Soil Health Packages:**

SH1: TN, TOC, OM, C:N ratio .....	7
*SH2: TN, TOC, OM, C:N ratio, Bulk Density***, EC, pH .....	7
**SH3: TN, TOC, OM, C:N ratio, Bulk Density*** plus FA3 (see above) .....	7

\*SH2 includes all required indicators for Regenerative Organic Certified (when soil texture is added in the first year)  
 \*\*SH3 meets all required and several additional recommended tests for Regenerative Organic Certification  
 \*\*\*Bulk Density requires collecting in a bulk density sample cylinder

**Heavy Metals (40CFR Part 503):**

As, Cd, Cr, Pb, Mo, Ni, Se, Zn, Hg (As, Pb, Se, Hg 15 working days) .....	15
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**Dairy Soil:**

DS1: NO <sub>3</sub> -N (0-1', 1-2') .....	5
DS2: FA1 (0-1'); NO <sub>3</sub> -N (1-2') .....	8
DS3: FA1 (0-1'); NO <sub>3</sub> -N (1-2', 2-3') .....	8

**Individual Soil Component Analysis:**

(Add only \$10 for additional elements on the same extract and method: \* = extract method S6.10; \*\* = S5.10; \*\*\*= S1.6)

Aluminum (Al) (KCl extractable) .....	SSSA, p 526 .....	5
*** Bicarbonate (HCO <sub>3</sub> ), soluble .....	S1.30 .....	5
*** Boron (B), soluble .....	S1.50 .....	5
Bulk Density .....	Hndbk 60.38 .....	5
*** Calcium (Ca), soluble .....	S1.60 .....	5
** Ammonium Acetate extractable .....	S5.10 .....	5
Carbon: Total Organic - TOC (Total C, less carbonates, if present) ....	S9.30, S1.10, S13.10.....	7
Carbon:Nitrogen ratio .....	S9.30, S1.10, S13.10.....	7
Cation Exchange Capacity (Ba saturation and CaSO <sub>4</sub> displacement) ..	S10.20 .....	7
*** Chloride (Cl), soluble .....	S1.40 .....	5
* Copper (Cu), extractable .....	S6.10 .....	5
Electrical Conductivity (EC <sub>e</sub> ) .....	S1.20 .....	5
Field Capacity (FC), 1/3 bar .....	ASTM D6836 .....	7

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**SOIL ANALYSIS (continued)**

Gypsum Requirement (GR) .....	Hndbk 60.22(d).....	5
* Iron (Fe), extractable .....	S6.10 .....	5
<u>Lime:</u> Content, quantitative (CaCO <sub>3</sub> equivalence) .....	S13.10 mod .....	7
Presence (LP), qualitative .....	Hndbk 60-23a .....	5
Requirement (LR) (Buffer pH) .....	S2.50 .....	5
*** Magnesium (Mg), soluble .....	S1.60 .....	5
** ammonium acetate extractable .....	S5.10 .....	5
* Manganese (Mn), extractable .....	S6.10 .....	5
Moisture, (%) .....	Hndbk 60-26 .....	5
Nematode Identification .....	:	8
<u>Nitrogen:</u> Ammonia (NH <sub>4</sub> -N) .....	S3.50 .....	5
Kjeldahl (TKN) .....	S8.10 .....	7
Nitrate (NO <sub>3</sub> -N) .....	S3.10 .....	5
Total N (NO <sub>3</sub> -N + TKN) .....		10
Organic (Org-N) (Calculation of TKN & NH <sub>4</sub> -N) .....		7
or Org-N (Calculation of TN(combustion), NO <sub>3</sub> -N & NH <sub>4</sub> -N) .....		7
Total (Combustion) .....	S9.30 .....	5
Organic Matter: (LOI) .....	S9.20 .....	7
Permanent Wilting Point (PWP), 15 bar .....	ASTM D6836 .....	7
pH <sub>s</sub> value .....	S1.10 .....	7
Phosphorus, Total .....	S16.10 .....	7
Phosphate (PO <sub>4</sub> -P), extractable (Olson) .....	S4.10 .....	5
Phosphate (PO <sub>4</sub> -P), extractable (weak Bray) .....	S4.20 .....	5
Phylloxera .....	:	6
Phytophthora .....	:	15
*** Potassium (K), soluble .....	S1.60 .....	5
** ammonium acetate extractable.....	S5.10 .....	7
Total .....	S16.10 .....	5
Saturation Percentage (SP) .....	S1.00 .....	5
*** Sodium (Na), soluble .....	S1.60 .....	5
** ammonium acetate extractable .....	S5.10 .....	5
Sulfur, Total .....	S16.10 .....	5
Sulfate (SO <sub>4</sub> -S), extractable .....	S11.10 .....	5
Sulfate (SO <sub>4</sub> -S), soluble .....	S1.70 .....	5
Verticillium Wilt .....	:	20-25
* Zinc (Zn), extractable .....	S6.10 .....	5

**POTTING MIXES** (Growing Media)

Fertility Assay: SP,pH, EC <sub>e</sub> , B, Ca,Mg, Na,K, Zn, Cl, NO <sub>3</sub> -N, PO <sub>4</sub> -P, Cu, Fe, Mn (all water soluble) .....	6
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**ORGANIC SOIL AMENDMENT** (Manure, Compost, etc.) 1 quart, plastic bag

Depending on matrix, methods from TMECC or RMMA.

OSA1: Moisture, N, P, K .....	7
OSA2: Moisture, N, P, K, Ash, OM, C:N ratio, pH & EC (1:5), Ca, Mg, Na, B, Fe, Cu, Mn, Zn, S .....	10
OSA3: Moisture, N, P, K, Ash, OM, C:N ratio, pH & EC (1:5), Ca, Mg, Na, B, Fe, Cu, Mn, Zn, S, Cl .....	12
OSA4: Heavy Metals (40CFR Part 503): As, Cd, Co, Cu, Cr, Pb, Mo, Ni, .....	15
Se, Zn, Hg, V: (15 working days)	

**DAIRY MANURE**

DM1: Moisture, N, P, K .....	7
DM2: Moisture, N, P, K, Ash, Ca, Mg, Na, S, Cl .....	10

**SOIL AMENDMENT ANALYSIS** Sample Size: 1 pint, plastic bag

GA1: Gypsum plus Moisture (CaSO <sub>4</sub> ·2H <sub>2</sub> O, Moisture) .....	10
GA2: GA1 plus P, K, Al, As, Ba, B, Ca, Cd, Cr, Co, Cu, Fe, Pb, .....	10
Li, Mg, Mn, Hg, Mo, Ni, Se, Si, Ag, Na, Sr, S, Sn, Ti, V, Zn	

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**FERTILIZER ANALYSIS**

FRT1: Nitrogen ..... B2.20 ..... 5  
 FRT2: N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O ..... : 5  
 FRT3: N, P, P<sub>2</sub>O<sub>5</sub>, K, K<sub>2</sub>O, Al, As, Ba, B, Ca, Cd, Cr, Co, Cu, Fe, Pb, ..... 10  
 Li, Mg, Mn, Hg, Mo, Ni, Se, Si, Ag, Na, Sr, S, Sn, Ti, V, Zn

**FORAGE AND FEED ANALYSIS** Sample Size: 1-1½ pounds, plastic bag  
 (entire sample used); feeds reported on “as received basis”.

**Individual Component Analysis:**

Ash .....TMECC 03.02-B..... 9  
 Crude Fiber ..... : 6  
 Crude Protein ..... B2.20 plus calc ..... 6  
 Fat ..... : 6  
 Moisture ..... B1.10 ..... 6  
 Neutral Detergent Fiber (NDF) ..... : 6  
 Acid Detergent Fiber (ADF) ..... : 6

**Feed/Hay Analysis:**

RFV: DM, Moisture, Acid Detergent Fiber, Crude Protein,NDF, calculated RFV (on hay  
 and haylage only) adjusted protein, NEI, Nem, Neg, TDN on Forages only ..... : 8  
 Basic NDF: RFV plus Minerals (Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu) pH on ensiled forages.  
 Calculated adjusted protein, Ash, TDN, NEI, Neg, Nem for forages only..... : 8  
  
 TAG1: DM, Moisture, Crude Protein, Crude Fat, Crude Fiber..... : 6  
 TAG1 Analysis plus Ash..... : 6  
 TAG2: TAG1 Analysis plus Ash, Calcium, Phosphorus ..... : 6

**FOOD SAFETY Swab Analyses**

**Bacteriology - Swab Analyses**

Coliform/E. coli, MPN Petrifilm ..... : 7  
 Listeria, Genus, P/A ..... : 7  
 Listeria, Genus, P/A - with confirmation..... : 7  
 Salmonella, P/A ..... : 7  
 Salmonella, P/A - with confirmation ..... : 7  
 E. coli, 0157:H7, P/A ..... : 7  
 E. coli 0157:H7 Confirmation ..... : 14  
 APC (Aerobic Plate Count) ..... : 7  
 Enterobacter ..... : 7  
 T. Coli Petrifilm ..... : 7  
 E. Coli Petrifilm ..... : 7  
 Swab Kit includes treated sponge & sterile packaging (per kit) .....  
 Pack of 20 Swab Kits (per pack) .....  
 Pack of 100 Swab Kits (per pack) .....

**WATER ANALYSIS**

**Agricultural**

Ag Suitability: (250 ml plastic) ..... 5  
 pH, EC, Cl, HCO<sub>3</sub>+CO<sub>3</sub>, SO<sub>4</sub>, NO<sub>3</sub>-N, SAR, SAR<sub>adj</sub>, LI (Langelier Index),  
 Dissolved: Ca, Mg, B, Na, Fe, Mn  
pH Titration Curve: (7.0, 6.8, 6.5, 6.0, 3.0, 2.0) ..... (1 liter plastic) ..... : 7

**Regional Water Board Monitoring Samples (Submitted)**

Region 5: RB5 w/Geo Tracker (NO<sub>3</sub>-N+NO<sub>2</sub>-N) (250 ml plastic)  
 1st Year: First sample ..... 8  
 Additional samples for 1st year (with the same Irrigated Lands Coalition Member ID#) ..... 8  
 2nd Year: Annual samples ..... 8  
 Additional samples (with same Irrigated Lands Coalition Member ID#) ..... 8

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Wastewater Analysis

Wastewater General Mineral: (1 liter plastic, 250 ml plastic w/HNO<sub>3</sub>) ..... 15  
 Alkalinity (OH, CO<sub>3</sub>, HCO<sub>3</sub>), EC, SO<sub>4</sub>, Cl, pH, TDS, Hardness, NO<sub>3</sub>-N  
 LI (Corrosivity), Total: P, K, Ca, Mg, Na, Fe, Mn, Cu, Zn

Dairy Water Analysis

Process Water Analysis: (1 liter plastic, 250 ml plastic w/HNO<sub>3</sub>, 250 ml plastic w/H<sub>2</sub>SO<sub>4</sub>)  
 DPW1: EC, pH, NO<sub>3</sub>-N, NH<sub>4</sub>-N, TKN, TDS, TP, TK ..... 12  
 DPW2: DPW1 plus HCO<sub>3</sub>, CO<sub>3</sub>, Cl, SO<sub>4</sub>, Total: Ca, Mg, Na ..... 15

Well Water Analysis: (1 liter plastic)  
 DWW1: EC, pH, NO<sub>3</sub>-N, Field NH<sub>4</sub>-N\* ..... 10  
 DWW2: DWW1 plus HCO<sub>3</sub>, CO<sub>3</sub>, Cl, SO<sub>4</sub>, TDS, Dissolved: Ca, Mg, Na ..... 10  
 \*NH<sub>4</sub>-N will be run if Field NH<sub>4</sub>-N is detected ..... 10

Canal Water Analysis: (1 liter plastic)  
 DCW1: EC, NO<sub>3</sub>-N, TDS ..... 15

Livestock Drinking Water Analysis:  
 LDW1: pH, EC, Est TDS, Total Alkalinity, Ca, Mg, K, Na, Fe, Mn, Cu, Zn, B, F, Cl, SO<sub>4</sub>, ..... 7  
 NO<sub>3</sub>-N, NO<sub>2</sub>-N (1-1 liter plastic; 1-250 ml plastic w/HNO<sub>3</sub>)  
 LDW2: LDW1 plus Inorganic Scan I ..... : 20  
 (2-1 liter plastic, unpreserved & 2-250 ml plastic w/HNO<sub>3</sub>)

WATER ANALYSIS

**Bacteriology Water Analyses**

Coliform, E. coli, P/A SM 9223B ..... (Sterilized w/Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) ..... 3  
 Coliform, E. coli, MPN SM 9223B ..... (Sterilized w/Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) ..... 3  
 Coliform, Fecal, E. coli, MPN (MTF 1x10) ..... (Sterilized w/Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) ..... : 10  
 E. coli 0157:H7 ..... (Sterilized w/Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) ..... : 8  
 Listeria, Genus, P/A ..... (Sterilized w/Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) ..... : 7  
 Salmonella, P/A ..... (Sterilized w/Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) ..... : 7  
 Heterotrophic Plate Count (HPC)..... (Sterilized w/Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) ..... : 7  
 Bacteriological **Friday/weekend** samples above, add \$18 per sample ..... : 10-14

**Household - Nonregulatory** (1 liter plastic, 250 ml plastic w/HNO<sub>3</sub>)

Household: pH, EC, Cl, HCO<sub>3</sub>+CO<sub>3</sub>, SO<sub>4</sub>, NO<sub>3</sub>-N, SAR, SAR<sub>adj</sub>, LI (Langelier Index), ..... 10  
 Alkalinity, Hardness, Dissolved: Ca, Mg, B, Na, Fe, Mn

**Regulatory Domestic Water Analysis**

General Mineral: Alkalinity (OH, CO<sub>3</sub>, HCO<sub>3</sub>), EC, SO<sub>4</sub>, Cl, pH, TDS, Hardness, Corrosivity,  
 W/O MBAS NO<sub>3</sub>-N, Ca, Mg, Na, Fe, Mn, Cu, Zn ..... 10  
 (1-1 liter plastic; 1-250 ml plastic w/HNO<sub>3</sub>)

General Mineral: Alkalinity (OH, CO<sub>3</sub>, HCO<sub>3</sub>), EC, SO<sub>4</sub>, Cl, pH, MBAS, TDS, Hardness, Corrosivity,  
 W/MBAS NO<sub>3</sub>-N, Ca, Mg, Na, Fe, Mn, Cu, Zn ..... : 10  
 (2-1 liter plastic; 1-250 ml plastic w/HNO<sub>3</sub>)

General Physical: Color, Odor, Turbidity ..... (1 liter amber glass) ..... : 10

Copper and Lead: (First-draw) ..... (1 liter plastic) ..... : 12

Inorganic Scan I: Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Fluoride,  
 Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Silver, Thallium ..... : 20  
 (1 liter plastic, unpreserved & 2-250 ml plastic w/HNO<sub>3</sub>)

Inorganic Scan II: Inorganic Scan I plus Cyanide ..... : 20  
 (1 liter plastic, unpreserved; 2-250 ml plastic w/HNO<sub>3</sub> & 250 ml plastic w/NaOH)

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**WATER ANALYSIS (continued)**

Radioactivity:

Gross Alpha: (2-1 liter plastic w/HNO <sub>3</sub> ) .....	14
Uranium: (250 ml plastic w/HNO <sub>3</sub> ) .....	14
<u>Total Radium EPA 903:</u> (1 liter plastic) .....	14
Radium 226: (1 liter plastic) .....	28
Radium 228: (1 liter plastic) .....	28

Organic:

<u>Organic EPA 504:</u> Ethylene dibromide (EDB), Dibromochloropropane (DBCP)..... (3-40 ml VOA w/Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	15
<u>Organic EPA 505:</u> Endrin, Lindane, Methoxychlor, Toxaphene, Chlordane, Heptachlor, (replaces EPA 508) Heptachlor epoxide .....	21
(3-40 ml VOA w/Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	
<u>Organic EPA 507:</u> Alachlor, Atrazine, Simazine, Thiobencarb .....	15
(run by EPA 525.3) (2-1 Liter Amber glass bottles w/Ascorbic,EDTA,KH <sub>2</sub> Ct)	
<u>Organic EPA 515.1:</u> Bentazon; 2,4-D; 2,4,5-TP, Picloram .....	15
(1 liter amber glass)	
<u>Organic EPA 525.3:</u> Screen .....	15
(2-1 Liter Amber glass bottles w/Ascorbic,EDTA,KH <sub>2</sub> Ct)	
<u>Organic EPA 531.1:</u> Carbofuran .....	10
(1-40 ml amber VOA w/MCAA buffer+Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	
<u>Organic EPA 547:</u> Glyphosate .....	20
(1-40 ml VOA amber w/Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	
<u>Organic EPA 548:</u> Endothall .....	15
(1-40 ml VOA amber w/Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	
<u>Organic EPA 549:</u> Diquat .....	15
(1 liter amber plastic w/Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	
<u>Organic EPA 1613:</u> Dioxin .....	15
(2-1 Liter amber glass, unpreserved)	

<u>Volatile Organic EPA 524 (GC/MS) Reg &amp; Unreg:</u> (Set of 3 VOA w/HCl) .....	15
Partial List: 1,1,1-Trichloroethane; Trichloroethylene; 1,1-Dichloroethylene; Benzene; Xylenes; Monochlorobenzene; Ethylbenzene; 1,3-Dichloropropene; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; 1,2-Dichloroethane; Vinyl; chloride; Carbon tetrachloride; 1,4-Dichlorobenzene; 1,1,2-Trichloroethane; Cis-1,2-Dichloroethylene; Trans-1,2- Dichloroethylene; 1,1-Dichloroethane; Trichlorofluoromethane (Freon 11); 1,2-Dichloropropane; 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	

**Individual Water Component Analysis (1 liter plastic, unless indicated; call for specifics):**

**All total metals (digested) are \$5.00 more than the dissolved metals listed below.**

(Add only \$10 for additional elements on the same extract and method: \* = SM 3120-B/EPA200.7; \*\* = EPA 300)

Acidity .....	SM 2310-B .....	5
Alkalinity (as CaCO <sub>3</sub> ) .....	SM 2320-B .....	5
Aluminum (Al) .....	EPA 200.7 .....	10
Asbestos, EPA 100.2 (fibers >0.5 um) .....	(2-1 liter plastic or glass wrapped in foil) .....	10
Asbestos, EPA 100.2 (fibers >10 um) .....	(2-1 liter plastic or glass wrapped in foil) .....	10
Arsenic .....	EPA 200.8 .....	10
Barium (Ba) .....	EPA 200.8 .....	10
Beryllium (Be) .....	EPA 200.8 .....	10
* Boron (B) .....	SM 3120-B/EPA 200.7 .....	5
Bromate (BrO <sub>3</sub> ) ... (250 ml amber Glass w/EDA) .....	EPA 317.0 .....	10
Bromide .....	EPA 300.1 .....	10
Cadmium (Cd) .....	EPA 200.8 .....	10
* Calcium (Ca) .....	SM 3120-B/EPA 200.7 .....	5

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**WATER ANALYSIS (continued)**

Carbon: Total Organic .....	(250 ml plastic w/H <sub>2</sub> SO <sub>4</sub> ) .....	SM 5310-B (NPOC) .....	10
Carbonate and Bicarbonate (CO <sub>3</sub> , HCO <sub>3</sub> ) .....		SM 2320-B.....	5
** Chloride (Cl) .....		EPA 300.0 .....	5
* Chromium (Cr), Total .....		EPA 200.8 .....	10
Hexavalent (Cr VI) .....	(250 ml plastic w/(NH <sub>4</sub> OH/NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ) .....	EPA 218.6 .....	10
Color .....	(1 liter amber glass) .....	SM 2120-B .....	10
* Copper (Cu).....		SM 3120-B/EPA 200.7 .....	10
Cyanide (CN) .....	(250 ml plastic w/NaOH) .....		10
DBCP .....	(3 Vials w/Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) .....	EPA 504 .....	10
Electrical Conductivity (EC), Specific Conductance .....		SM 2510-B .....	4
** Fluoride (F) .....		EPA 300.0 .....	5
Haloacetic Acids (HAA5) ...	(250 ml amber glass w/NH <sub>4</sub> Cl).....	EPA 552.3.....	10
Hardness (Calculation from Ca+Mg) .....		SM 2340-B/EPA 200.7 .....	5
* Iron (Fe): .....		SM 3120-B/EPA 200.7 .....	5
Ferrous (Fe) .....	(500 ml plastic w/HCl) .....		21
Iron Bacteria.....	(1-100 mL Sterile Plastic Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ).....		10
Laser Particle Size Distribution ASTM 4464.....	(250 ml plastic).....		10-15
Lead (Pb) .....		EPA 200.8 .....	15
MTBE .....	(Set of 2 Vials w/HCl) .....	EPA 524 .....	15
* Magnesium (Mg) .....		SM 3120-B/EPA 200.7 .....	5
* Manganese (Mn) .....		SM 3120-B/EPA 200.7 .....	5
Mercury (Hg) .....		EPA 7470 or 7471 .....	10
Molybdenum (Mo) .....		EPA 200.8 .....	10
Nickel (Ni) .....		EPA 200.8.....	5
Nitrogen: Ammonia (NH <sub>4</sub> -N) .....		SM 4500-NH3-H .....	10
Un-ionized (NH <sub>3</sub> -N) (calc pH, Field Temp) .....			10
** Nitrate (NO <sub>3</sub> -N) .....		SM 4500-NO3-F/H/EPA 300.0 .....	5
** Nitrite (NO <sub>2</sub> -N) .....		SM 4500-NO2-B/EPA 300.0 .....	5
Organic (Org N) (TKN - NH <sub>4</sub> -N) .....			10
Kjeldahl (TKN) .....		SM 4500-NH3- H/D/EPA 351.2 .....	10
Total N (NO <sub>3</sub> -N + TKN) .....			10
Odor, Threshold .....	(1 liter amber glass) .....	SM 2150-B .....	10
Oil & Grease .....	(1 liter glass w/HCl) .....	EPA 1664A .....	10
Oxygen, Dissolved (DO)(done in-field) .....	(Sampling Kit) .....		10
Oxygen Demand, Biochemical (BOD5) ...	(1 liter plastic) .....	SM 5210-B .....	7
Oxygen Demand, Chemical (COD) .....		SM 5220-D .....	7
pH value .....		SM 4500-H B .....	4
Perchlorate .....	(1 liter plastic) .....	EPA 314.0 .....	12
** Phosphorus: Phosphate, Ortho (PO <sub>4</sub> -P).....	(Sampling Kit).....	EPA 300.0 .....	5
Total (P, digested) .....		EPA 200.7 .....	7
* Potassium (K) .....		SM 3120-B/EPA 200.7 .....	5
Selenium (Se) .....		EPA 200.8 .....	10
* Silica (SiO <sub>2</sub> ) Total .....		SM 3120-B/EPA 200.7 .....	5
Silver (Ag) .....		EPA 200.8 .....	10
* Sodium (Na) .....		SM 3120-B/EPA 200.7 .....	5
Solids: Total (Total Solids) .....		SM 2540-B .....	7
Total Filterable (Total Dissolved Solids) .....		SM 2540-C .....	7
Volatile Dissolved Solids .....		EPA 160.4 .....	9
Fixed Dissolved Solids .....		EPA 160.4 .....	9
Total Nonfilterable (Total Suspended Solids) ..		SM 2540-D .....	7
Settleable Matter (Settleable Solids) .....		SM 2540-F .....	5
** Sulfate (SO <sub>4</sub> ) .....		EPA 300.0 .....	5
Sulfide Hydrogen (H <sub>2</sub> S) .....	(1 liter plastic) .....		10
Sulfide Total .....	(1 liter plastic w/Zn Acetate) .....		10
* Sulfur (S) .....		SM 3120-B/EPA 200.7 .....	5
Surfactants (MBAS) .....	(1 liter plastic) .....	SM 5540-C .....	10

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**WATER ANALYSIS (continued)**

Thallium (Tl) .....	EPA 200.8 .....	:	10	
Trihalomethanes, Total (TTHM) ....(3 VOA w/Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) .....	EPA 524.2.....	:	10	
1,2,3 Trichloropane (TCP) .....	(Set of 3 VOA amber glass w/HCL) .....	:	10	
Turbidity .....	(1 liter amber glass) .....	SM 2130-B .....	:	4
Vanadium (V) .....	EPA 200.8 .....	:	10	
* Zinc (Zn) .....	SM 3120-B/EPA 200.7 .....	:	5	

**SUPPLIES (taxable items)**

- 3-Foot "T" handle Soil Sampler (AMS)
- 3-Foot "T" handle Soil Sampler (JMC)
- Soil sampler with stationary foot pedal (JMC)
- 3-Foot Ratcheting "Backsaver" Soil Sampler (JMC)
- 5-Foot Auger (4' ext, 2 ¼" Mud Auger, Cross Handle)
- Replacement and extension parts available upon request
- pH Paper (package of 100)
- Cl<sub>2</sub> Test Strips
- NH<sub>4</sub>-N Test Strips
- Hanna Cl<sub>2</sub> Checker Kit
- Reagent 25/pk
- Chlorine gallon of NSF Certified

**REFERENCE MATERIALS (taxable items)**

- Western Fertilizer Handbook, 9<sup>th</sup> Edition
- Western Fertilizer Handbook, 3<sup>rd</sup> Horticulture Edition

**Sampling is available. Please call your Dellavalle Consultant or Technician for a quote.**

*Analyses to be subcontracted to outside laboratories are noted with a ":" following the price. Additional analyses may be subcontracted at any time at the discretion of Dellavalle Laboratory. Should analyses be subcontracted, it will be to a laboratory currently and appropriately certified for that analysis.*

*Submission of samples to Dellavalle Laboratory for analysis without specifying details - including, but not limited to: required methods, reporting limits, or quality control restrictions - indicates that the methods for which Dellavalle Laboratory maintains accreditation are sufficient and all other details are to be left to Dellavalle Laboratory's expertise.*

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