

Analytical Catalog 2020

PLANT TISSUE ANALYSIS

Grape Petiole Analysis:

G1: NO ₃ -N, P, K	5
G2: NO ₃ -N, P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu	5
G2: plus TN	5
G3: G2 plus Cl	5
G3: G3 plus TN	5

Leaf Analysis:

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

Petiole Analysis:

P1: NO ₃ -N, PO ₄ -P, K	5
P2: NO ₃ -N, PO ₄ -P, K, Zn, Mn, Na, B, Ca, Mg, Fe, Cu	5
P3: P2 plus Cl	5

Alfalfa Analysis: Fractioned: AA1-AA4

AA1: Top Third: B, Mo, Cu	5
AA2: Middle Third Stems: PO ₄ -P, K	5
AA3: Middle Third Leaves: SO ₄ -S	5
AA4: All of the Above	5
AA5: Baled: K, B, Mo, Cu, Total: P, S	5
AA6: K, B, Mo, Cu, PO ₄ -P, SO ₄ -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: CRA2 plus Cl	9

Individual Plant Tissue Component Analysis:

(* = add only \$10 for additional elements on the same extract and method,once one has been selected)
 ("**" = extract method B4.20, "****" = method B3.10)

* Aluminum (Al)	B4.20	5
* Boron (B)	B4.20	5
* Calcium (Ca)	B4.20	5
** 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	3
* Molybdenum (Mo)	B4.20	5
** Nitrate Nitrogen (NO ₃ -N)	B3.10	4
Nitrogen (N)	B2.20	4
** Phosphate (PO ₄ -P)	B3.10	4
* Phosphorus (P)	B4.20	5
** Potassium (K): extractable	B3.10	4
* Potassium (K): digestible	B4.20	5
* Sodium (Na)	B4.20	5
* Sulfur (S)	B4.20	5
** Sulfate Sulfur (SO ₄ -S)	B3.40	5
* Zinc (Zn)	B4.20	5

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SOIL ANALYSIS

Basic Fertility:

BF1: NO ₃ -N, PO ₄ -P, K, Zn	4
BF2: NO ₃ -N, PO ₄ -P, K, pH _s	4
BF3: BF1 plus extractable Ca, Mg, Na	4

Fertility Assay:

FA1: SP, pH _s , EC _e , Ca, Mg, Na, ESP, B, GR or LR (buffer pH), NO ₃ -N, PO ₄ -P, K, Zn	5
FA1: Plus Cl	5
FA2: FA1 plus DTPA extractable Mn, Fe, Cu and ammonium acetate	5
extractable Ca, Mg, Na expressed as meq/100 g	
FA3: FA2 plus <i>estimated</i> CEC, extractable Ca, Mg, K and Na expressed as	5
percentage of <i>estimated</i> CEC plus Al and H, if needed	
FA3: Plus OM	5
FA4: FA2 plus <i>measured</i> CEC, <i>estimated</i> exchangeable acidity and cations	7
expressed as percentage <i>measured</i> of CEC	
MA1: Sand, Silt, Clay, Textural Class S14.10	6
MA2: MA1 plus Organic Matter, Moisture, CEC	8
Rock, %	6

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 Nitrogen

DS1: NO ₃ -N (0-1', 1-2')	5
DS2: FA1 (0-1'); NO ₃ -N (1-2')	8
DS3: FA1 (0-1'); NO ₃ -N (1-2', 2-3')	8

Individual Soil Component Analysis:

(* = add only \$10 for additional elements on the same extract and method, once one has been selected)
 ("**" = extract method S6.10, "****" = method S5.10)

Aluminum (Al) (KCl extractable)	SSSA, p 526	5
Bicarbonate (HCO ₃), soluble	S1.30	5
Boron (B), soluble	S1.50	5
Bulk Density	Hndbk 60.38	3
<u>Calcium (Ca)</u> , soluble	S1.60	5
ammonium acetate	S5.10	5
<u>Carbon:</u> Total	S9.30	5
Organic	S9.30, S13.10 mod	10
Organic (LOI, calc)	S9.20	7
Cation Exchange Capacity (Ba saturation and CaSO ₄ displacement)	S10.20	7
Chloride (Cl), soluble	S1.40	5
* Copper (Cu), extractable	S6.10	5
Electrical Conductivity (EC _e)	S1.20	5
Field Capacity (FC), 1/3 bar	Hndbk 60.30	7
* Iron (Fe), extractable	S6.10	4
<u>Lime:</u> Content, quantitative (CaCO ₃ equivalence)	S13.10 mod	7
Presence (LP), qualitative	Hndbk 60-23a	4
Requirement (LR) (Buffer pH)	S2.50	4
** Magnesium (Mg), soluble	S1.60	4
ammonium acetate	S5.10	5
* Manganese (Mn), extractable	S6.10	4
Moisture, (%)	Hndbk 60-26	3

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SOIL AMENDMENT ANALYSIS Sample Size: 1 pint, plastic bag

GA1: Gypsum plus Moisture (CaSO ₄ ·2H ₂ 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	

FERTILIZER ANALYSIS

FRT1: Nitrogen	B2.20	4
FRT2: N, P ₂ O ₅ , K ₂ O	B2.20	5
FRT3: N, P, P ₂ O ₅ , K, K ₂ 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”.

Alfalfa Hay Evaluation:

A1: Moisture, Acid Detergent Fiber, Crude Protein, TDN	6
A2: AI plus NDF	6
TDN (Calculation of ADF, Moisture)	6

Proximate/Feed Analysis:

F1: Moisture, Fat, Crude Protein, Crude Fiber, Ash, TDN, NFE	6
F2: F1 Analysis plus Calcium, Phosphorus	6

FOOD SAFETY Swab Analyses

Bacteriology - Swab Analyses

Coliform/E. coli, MPN Petrifilm	7
Listeria, Genus, P/A	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
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

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

Regional Water Board Monitoring Samples Submitted

Region 3: RB3 w/Geo Tracker (Ag suit w/Homeowner1)	8
RB3 only (Ag Suit w/Homeowner1, no Geo Tracker)	8
RB3 NO ₃ -N only (w/Geo Tracker)	8
Region 5: RB5 w/Geo Tracker (NO ₃ -N+NO ₂ -N)	8
Registration Fee (One time per Irrigated Lands Coalition Member ID#)	

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Wastewater Analysis

<u>Wastewater General Mineral:</u> (1 liter plastic)	15
Alkalinity (OH, CO ₃ , HCO ₃), EC, SO ₄ , Cl, pH, TDS, Hardness, LI (Corrosivity), Total: P, K, Ca, Mg, Na, Fe, Mn, Cu, Zn, (No MBAS)	
<u>Storm Water Runoff:</u>	
EC, pH, TSS, <i>Oil & Grease</i> (250 ml plastic, 1 liter amber glass w/HCl)	12
EC, pH, TSS, TOC (250 ml plastic, 250 ml plastic w/H ₂ SO ₄)	10

Dairy Water Analysis

<u>Process Water Analysis:</u>	
DPW1: EC, pH, NO ₃ -N, NH ₄ -N, TKN, TDS, TP, TK	12
DPW2: DPW1 plus HCO ₃ , CO ₃ , Cl, SO ₄ , Total: Ca, Mg, Na	15
<u>Well Water Analysis:</u>	
DWW1: EC, pH, NO ₃ -N, Field NH ₄ -N*	10
DWW2: DWW1 plus HCO ₃ , CO ₃ , Cl, SO ₄ , TDS, Dissolved: Ca, Mg, Na	10
*NH ₄ -N will be run if Field NH ₄ -N is detected	10
<u>Canal Water Analysis:</u>	
DCW1: EC, NO ₃ -N, TDS	15

WATER ANALYSIS

Bacteriology Water Analyses

Coliform, E. coli, P/A SM 9223	(Sterilized w/Na ₂ S ₂ O ₃)	6
Coliform, E. coli, MPN SM 9223	(Sterilized w/Na ₂ S ₂ O ₃)	7
Coliform, Fecal, E. coli, MPN (MTF 1x10)	(Sterilized w/Na ₂ S ₂ O ₃)	7
E. coli 0157:H7	(Sterilized w/Na ₂ S ₂ O ₃)	8
Listeria, Genus, P/A	(Sterilized w/Na ₂ S ₂ O ₃)	7
Salmonella, P/A	(Sterilized w/Na ₂ S ₂ O ₃)	7
Bacteriological Friday/weekend samples above, add \$15 per sample		5

Homeowner - Nonregulatory

HO1: Alkalinity, EC, Ca, Cl, Fe, Mg, NO ₃ -N, Na, Hardness, pH .. (1 liter plastic)	6
HO2: HO1 plus Ag Suit (1 liter plastic)	10

Regulatory Domestic Water Analysis

<u>General Mineral:</u> (2-1 liter plastic; 1-250 ml plastic w/HNO ₃)	10
Alkalinity (OH, CO ₃ , HCO ₃), EC, SO ₄ , Cl, pH, <i>MBAS</i> , TDS, Hardness, Corrosivity, Ca, Mg, Na, Fe, Mn, Cu, Zn	
<u>General Physical:</u> (500 ml glass)	3
Color, Odor, Turbidity	
<u>Copper and Lead:</u> (1 liter plastic)	12
(First-draw)	
<u>Inorganic Scan I:</u> (1 liter plastic, unpreserved & 2-250 ml plastic w/HNO ₃)	20
Aluminum, <i>Antimony</i> , <i>Arsenic</i> , Barium, Beryllium, Cadmium, Chromium, Fluoride, <i>Lead</i> , <i>Mercury</i> , Nickel, Nitrate, Nitrite, <i>Selenium</i> , Silver, <i>Thallium</i>	
<u>Inorganic Scan II:</u> (1 liter plastic, unpreserved; 2-250 ml plastic w/HNO ₃ & 500 ml plastic w/NaOH)	20
Inorganic Scan I plus <i>Cyanide</i>	
<u>Radioactivity:</u>	
Gross Alpha: (2-1 liter plastic w/HNO ₃)	14
Uranium: (500 ml plastic w/HNO ₃)	14
<u>Total Radium 224, 225, 226:</u> (1 liter plastic)	14
Radium 226: (1 liter plastic)	28
Radium 228: (1 liter plastic)	28

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WATER ANALYSIS (continued)

Organic:

<u>Organic EPA 504:</u> (3-40 ml VOA w/Na ₂ S ₂ O ₃)	15
Ethylene dibromide (EDB), Dibromochloropropane (DBCP)	
<u>Organic EPA 507:</u> (1 liter amber glass)	15
Alachlor, Atrazine, Simazine, Thiobencarb	
<u>Organic EPA 508:</u> (1 liter amber glass)	20
Endrin, Lindane, Methoxychlor, Toxaphene, Chlordane, Heptachlor, Heptachlor epoxide	
<u>Organic EPA 515.1:</u> (1 liter amber glass)	15
Bentazon; 2,4-D; 2,4,5-TP	
<u>Organic EPA 525.2:</u> (1 liter amber glass)	15
Screen	
<u>Organic EPA 531.1:</u> (1-40 ml amber VOA w/MCAA buffer+Na ₂ S ₂ O ₃)	10
Carbofuran	
<u>Organic EPA 547:</u> (1-40 ml VOA amber w/Na ₂ S ₂ O ₃)	20
Glyphosate	
<u>Organic EPA 548:</u> (250 ml amber glass w/Na ₂ S ₂ O ₃)	15
Endothall	
<u>Organic EPA 549:</u> (1 liter amber plastic w/Na ₂ S ₂ O ₃)	15
Diquat	
<u>Volatile Organic EPA 524 (GC/MS) Reg & 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):

(* = add only \$10 for additional elements on the same extract and method, once one has been selected)
 (** = extract method EPA 200.7, (***) = method EPA 300.0)

Acidity (as CaCO ₃)	SM 2310-B	5
Alkalinity (as CaCO ₃)	SM 2320-B	5
* Aluminum (Al)	SM 3120-B/EPA 200.7	5
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	15
* Barium (Ba)	SM 3120-B/EPA 200.7	5
* Beryllium (Be)	SM 3120-B/EPA 200.7	5
* Boron (B)	SM 3120-B/EPA 200.7	5
Bromate (BrO ₃)		10
Bromide	EPA 300.1	10
* Cadmium (Cd)	SM 3120-B/EPA 200.7	5
* Calcium (Ca)	SM 3120-B/EPA 200.7	5
Carbon: Total Organic	(250 ml plastic w/H ₂ SO ₄) ... SM 5310-B (NPOC)	6
Carbonate and Bicarbonate (CO ₃ , HCO ₃)	SM 2320-B	4
** Chloride (Cl)	EPA 300.0	5
* Chromium (Cr), Total	SM 3120-B/EPA 200.7	5
Total (1 ppb)	EPA 200.8	15
Hexavalent (Cr VI)	(50 ml plastic w/Borate/HCO ₃ /CO ₃)	15
Color	SM 2120-B	3
* Copper (Cu), Domestic	SM 3120-B/EPA 200.7	5

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WATER ANALYSIS (continued)

Individual Water Component Analysis (continued):

(1 liter plastic, unless indicated; call for specifics)

(* = add only \$10 for additional elements on the same extract and method, once one has been selected)

("**" = extract method EPA 200.7, "***" = method EPA 300.0)

Cyanide (CN)	(500 ml plastic w/NaOH)	:	10
DBCP	(3 Vials w/Na ₂ S ₂ O ₃)	EPA 504	10
Electrical Conductivity (EC), Specific Conductance	SM 2510-B	:	4
** Fluoride (F)	EPA 300.0	:	5
Haloacetic Acids (HAA5)	SM 6251	:	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)	:	10
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	:	15
* Molybdenum (Mo)	SM 3120-B/EPA 200.7	:	5
* Nickel (Ni)	SM 3120-B/EPA 200.7	:	5
Nitrogen: Ammonia (NH ₄ -N)	SM 4500-NH3-H	:	10
Un-ionized (NH ₃ -N) (calc pH, Field Temp)		:	10
** Nitrate (NO ₃ -N)	SM 4500-NO3-F/H/EPA 300.0	:	5
** Nitrite (NO ₂ -N)	SM 4500-NO2-B/EPA 300.0	:	5
Organic (Org N) (TKN - NH ₄ -N)		:	10
Kjeldahl (TKN)	SM 4500-NH3- H/D/EPA 351.2	:	10
Total N (NO ₃ -N + TKN)		:	10
Odor, Threshold	(500 ml glass)	SM 2150-B	3
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 ₄ -P)	(Sampling Kit) EPA 300.0	:	5
* Total (P, digested)	EPA 200.7	:	7
* Potassium (K)	SM 3120-B/EPA 200.7	:	5
Residue: Identification		:	15
Selenium (Se)	EPA 200.8	:	15
Sheathed Bacteria		:	15
* Silica (SiO ₂) Total	SM 3120-B/EPA 200.7	:	5
* Silver (Ag)	SM 3120-B/EPA 200.7	:	5
* 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 ₄)	EPA 300.0	:	5
Sulfide Hydrogen (H ₂ S)	(1 liter plastic)	:	10
Sulfide Total	(1 liter plastic w/Zn Acetate)	:	10

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WATER ANALYSIS (continued)

Individual Water Component Analysis (continued):

(1 liter plastic, unless indicated; call for specifics)

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("**" = extract method EPA 200.7, "***" = method EPA 300.0)

* Sulfur (S)	SM 3120-B/EPA 200.7	5
Surfactants (MBAS)	SM 5540-C	5
Thallium (Tl)	EPA 200.8	15
Thalomethanes, Total (TTHM)	EPA 551	10
1,2,3 Trichloropropane (TCP)	(Set of 3 VOA Amber glass, unpreserved)	10
Turbidity	SM 2130-B	3
Vanadium (V)	EPA 200.8	15
* 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 1/4" Mud Auger, Cross Handle)
Replacement and extension parts available upon request
- pH Paper (package of 100)
- Cl₂ Test Strips
- NH₄-N Test Strips
- Hanna Cl₂ Checker Kit
- Reagent 25/pk
- Chlorine gallon of NSF Certified

REFERENCE MATERIALS (taxable items)

- Western Fertilizer Handbook, 9th Edition
- Western Fertilizer Handbook, 3rd 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.