

METHODS USED AT WESTERN LABORATORIES FOR SOILS

Parameter	Units	Method-Number	Methods
pH	Unit	S-2.10	1:2 Soil:Water Ratio
pH SMP Buffer	Unit	S-2.50	SMP Single Buffer pH
Soluble Salts	mmhos/cm	S-2.10	Soil:Water Ratio 1:2
Organic Matter	%	S-9.10	LOI – Loss of Ignition
Lime	%	Fizz	Effervescence 2N HCL
Nitrates – NO ₃	ppm	S-3.10	Cadmium Reduction/KCL Extraction *FIA
Ammonium – NH ₄	ppm	S-3.50	KCL Extraction/Exchangeable *FIA
Phosphorus – Basic Soils	ppm	S-4.10	Olsen-Sodium Bicarbonate
Phosphorus – Acid Soils	ppm	S-4.20	Bray Extraction
Potassium	ppm	S-5.10	Ammonium Acetate – **ICP
Calcium	ppm	S-5.10	Ammonium Acetate - **ICP
Magnesium	ppm	S-5.10	Ammonium Acetate - **ICP
Sodium	ppm	S-5.10	Ammonium Acetate - **ICP
Zinc	ppm	S-6.10	***DTPA Extractable - **ICP
Iron	ppm	S-6.10	***DTPA Extractable - **ICP
Manganese	ppm	S-6.10	***DTPA Extractable - **ICP
Copper	ppm	S-6.10	***DTPA Extractable - **ICP
Sulfate	ppm	S-5.10	Ammonium Acetate - **ICP
Boron	ppm	S-6.10	***DTPA Extractable/Sorbitol - **ICP
Texture	Unit		By feel
Official Texture	%	S-14.10	Hydrometer
Cation Exchange Capacity - CEC	meq/100g	S-10.20	Measured
Total Phosphorus	%	P-4.10	Nitric Acid/Peroxide Wet Ash
ESP = % Na of CEC		S-1.60	Ammonium Acetate -** ICP
Total N & Total C	%	522	Elementar N/ C Combustion

*FIA - Flow Injection Analysis **ICP – Inductive Coupled Plasma ***DTPA – Diethylenetriaminepentaacetic acid