soiltest farm consultants, inc.

GENERAL SOIL TEST INTERPRETATION GUIDE

ELEMENT	UNITS	TYPICAL RANGE IN SOILS*	EXESSIVE
Nitrate	ppm-N	2 - 75	>100
Nitrate	lbs-N/ac-ft	10 - 300	>400
Ammonium	ppm-N	1 - 20	>60
Ammonium	lbs-N/ac-ft	5 - 80	>250
Phosphorus-Olsen	ppm-P	2 - 60	>100
Phosphorus-Morgan	ppm-P	1 - 40	>60
Phosphorus-BrayP1	ppm-P	10 - 150	>200
Potassium	ppm-K	50 - 700	>900
Sulfur	ppm-S	5 - 50	>100
Boron	ppm-B	0.1 - 2.0	>3
Zinc	ppm-Zn	0.1 - 20	>40
Manganese	ppm-Mn	0.1 - 40	>60
Copper	ppm-Cu	0.1 - 10	>20
Iron	ppm-Fe	0.1 - 100	>250
Calcium	meq/100g	3 - 50	>75
Magnesium	meq/100g	1 - 20	>30
Sodium	meq/100g	0.1 - 10	>3
Chloride	ppm-Cl	5 - 50	>150
pH	s.u.	4 - 8	<5 or >8
Soluble Salts	m.mho/cm	0.1 - 10	>4
Organic Matter	%	0.1 - 12	--
Bulk Density	M lbs/ac-ft	3 - 4.5	--
	g/cc	1-1.5	--

1g/cc = 62.43 lbs/cu-ft

* Element concentrations are based on a dry-weight soil test extractable measurement, not a total digest.

A FEW CONVENIENT CONVERSION FACTORS

MULTIPLY	BY	TO OBTAIN
mg/kg K in soil	1.2	mg/kg K2O in soil
mg/kg P is soil	2.3	mg/kg P2O5 in soil
mg/kg NO_3-N in soil	4.0*	lbs NO_3-N/Acre foot
mg/kg NH_4-N in soil	4.0*	lbs NH_4-N/Acre foot

			Target Range, % of CEC	
meq/100g K	391	mg/kg K	2 - 5	
meq/100g Na	230	mg/kg Na	< 1	
meq/100g Ca	200	mg/kg Ca	65-85	} 70
meq/100g Mg	121.5	mg/kg Mg	6-12	
meq/100g Al	90	mg/kg Al		
meq/100g Fe	186	mg/kg Fe		

*This conversion factor will vary depending on the bulk density of the soil. For 80% of the soils in the Columbia Basin a factor of 4.0 to convert from ppm to lbs/acre foot would be very close.
A factor of 3.2 would be appropriate for many higher organic soils west of the Cascades