

COMPILATION OF ROUTINE AGRICULTURAL SOIL ANALYSIS REPORTS

16 soil samples were taken by landholders across the Watershed Landcare Region in June and July 2014.

Displayed here is the Range of the 16 results (from lowest to highest) and their Median value (ie the 'middle value' in the list, or in this case with an even number in the list, the average of the two middle values).

				MEDIAN	RANGE
Method	Nutrient		Units		
Morgan 1	Calcium	Ca	mg/kg	563	153 - 1269
	Magnesium	Mg		127	44 - 325
	Potassium	K		103	38 - 208
	Phosphorus	P		2.1	1.0 - 8.7
Bray1 Colwell Bray2	Phosphorus	P	mg/kg	2.9	1.9 - 50.6
				10	3 - 63
				6	3 - 87
KCl	Nitrate Nitrogen	N	mg/kg	3.7	0.7 - 44.8
	Ammonium Nitrogen			5.0	1.1 - 39.4
	Sulfur			S	7.1
1:5 Water	pH		units	5.72	4.93 - 6.89
	Conductivity		dS/m	0.043	0.021 - 0.163
Calculation	Organic Matter		% OM	3.6	1.9 - 6.3
Ammonium Acetate + Calculations	Calcium	Ca	cmol ⁺ /Kg	4.63	1.12 - 13.45
			kg/ha	2080	503 - 6036
			mg/kg	928	225 - 1372
	Magnesium	Mg	cmol ⁺ /Kg	1.48	0.43 - 4.73
			kg/ha	402	116 - 1288
			mg/kg	179	52 - 575
	Potassium	K	cmol ⁺ /Kg	0.48	0.13 - 1.02
			kg/ha	417	115 - 895
mg/kg			186	51 - 400	
Sodium	Na	cmol ⁺ /Kg	0.07	0.03 - 0.25	
		kg/ha	34	16 - 130	
		mg/kg	15	7 - 58	
KCl	Aluminium	Al	cmol ⁺ /Kg	0.04	0.02 - 0.80
			kg/ha	8	4 - 162
			mg/kg	4	2 - 72
Acidity Titration	Hydrogen	H ⁺	cmol ⁺ /Kg	0.17	0.00 - 0.93
			kg/ha	1	0 - 21
			mg/kg	0	0 - 9

				MEDIAN	RANGE
Method	Nutrient		Units		
Calculation	Effective Cation Exchange Capacity (ECEC)		cmol ⁺ /Kg	6.62	2.11 - 17.90
Base Saturation Calculations	Calcium	Ca	%	69.0	44.7 - 75.1
	Magnesium	Mg		21.0	13.4 - 29.4
	Potassium	K		6.4	3.9 - 14.4
	Sodium - ESP	Na		1.0	0.3 - 3.8
	Aluminium	Al		0.5	0.2 - 15.1
	Hydrogen	H ⁺		0.4	0.0 - 17.5
Calculation	Calcium/ Magnesium Ratio		ratio	3.2	1.8 - 5.2
DTPA	Zinc	Zn	mg/kg	2.5	0.5 - 91.8
	Manganese	Mn		32	2 - 83
	Iron	Fe		206	24 - 456
	Copper	Cu		0.9	0.3 - 4.6
CaCl ₂	Boron	B	mg/kg	0.48	0.20 - 0.88
	Silicon	Si		43	17 - 76
LECO IR Analyser	Total Carbon	C	%	2.06	1.08 - 3.59
	Total Nitrogen	N	%	0.15	0.10 - 0.28
Calculation	Carbon/ Nitrogen Ratio		ratio	11.5	9.8 - 15.8
	Basic Texture				
	Basic Colour				
Calculation	Chloride Estimate		equiv. ppm	27	14 - 105

				MEDIAN	RANGE
Method	Nutrient		Units		
Total Acid Extractable	Calcium	Ca	mg/kg	1,211	284 - 3,810
	Magnesium	Mg		540	181 - 3,897
	Potassium	K		1,264	451 - 2507
	Sodium	Na		<50	<50
	Sulfur	S		148	103 - 441
Total Acid Extractable	Phosphorus	P	mg/kg	206	133 - 495
Total Acid Extractable	Zinc	Zn	mg/kg	35	7 - 434
	Manganese	Mn		515	32 - 1,740
	Iron	Fe		19,888	3,244 - 35,896
	Copper	Cu		8.8	2.5 - 36.1
	Boron	B		<2	<2 - 4
	Silicon	Si		797	404 - 2,055
	Aluminium	Al		8,329	2,779 - 19,175
Total Acid Extractable	Molybdenum	Mo	mg/kg	0.5	0.3 - 1.6
	Cobalt	Co		8	1 - 21
	Selenium	Se		<0.5	<0.5 - 0.9

EAL Soil Testing Notes

1. All results as dry weight - 40°C oven dried soil crushed to <2mm
2. Methods from Rayment and Lyons, 2011. *Soil Chemical Methods*
3. Soluble Salts included in Exchangeable Cations - NO PRE-WASH
4. 'Morgan 1 Extract' adapted from 'Science in Agriculture', 'Non-Toxic Farming' and Lamonte Soil Handbook.
5. Guidelines for phosphorus have been reduced for Australian soils
6. Indicative guidelines are based on 'Albrecht' and 'Reams' concepts
7. Total Acid Extractable Nutrients indicate a store of nutrients
8. Contaminant Guides based on 'Residential with gardens and accessible soil including childrens daycare centres, preschools, primary schools, town houses or villas' (NSW EPA 1998).
9. Information relating to testing colour codes is available on Sheet 2 - "*Understanding you soil results*"

Calculations

1. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm
2. 1 cmol⁺/Kg = 1 meq/100g; 1 Lb/Acre = 2 ppm (parts per million); kg/ha = 2.24 x ppm; mg/kg = ppm
3. Conversions for 1 cmol⁺/Kg = 230 Kg/Hectare Sodium, 780 Kg/Ha Potassium, 240 Kg/Ha Magnesium, 400 Kg/Ha Calcium
4. Organic Matter = %C x 1.75
5. Chloride Estimate = EC x 640 (most likely over-estimate)
6. ECEC = sum of the exchangeable cations cmol⁺/Kg
7. Base saturation calculations = (cation cmol⁺/Kg) / ECEC x 100
8. Ca/Mg ratio from the exchangeable cmol⁺/Kg results