ALBRECHT AND REAMS SOIL ANALYSIS REPORT (Page 1 of 1)

Desirable levels used as guide for results- Reams tests are in red.

	Nutrient		Units	Standard Methods	Desirable Level Heavy Soil	Desirable Level Medium Soil	Desirable Level Light Soil	Desirable Level Sandy Soil
			Block ID: Crop: Client:					
Soluble Tests & Morgan Extract	Calcium	Ca	ppm	Modified Morgan Extract- (Andersen, 2000)	1150	750	375	175
	Magnesium	Mg	ppm	Modified Morgan Extract- (Andersen, 2000)	160	105	60	25
	Potassium	K	ppm	Modified Morgan Extract- (Andersen, 2000)	113	75	60	50
	Phosphorus (Morgan)	P	ppm	Modified Morgan Extract- (Andersen, 2000)	15	12	10	5
	Phosphorus (Bray 1)	P	ppm	9E2 (Rayment and Higginson- Note 2)	45 note 8	30 note 8	24 note 8	20 note 8
Soluble Tests & Colwell + Bray 2 Phoshorus Extract	Phosphorus (Colwell)	P	ppm	9E1 (Rayment and Higginson- Note 2)	80	50	45	35
	Phosphorus (Bray 2)	P	ppm	NCRRP, 221, 1998 (Note 11)	90 note 8	60 note 8	48 note 8	40 note 8
	Nitrate	N	ppm	Modified Morgan Extract- (Andersen, 2000)	15	13	10	10
	Ammonia	N	ppm	Modified Morgan Extract- (Andersen, 2000)	20	18	15	12
	Sulphur	S	ppm	Modified Morgan Extract- (Andersen, 2000)	40	30	25	25
	pH (1:5 water)		units	4A1 (Rayment and Higginson- Note 2)	6.5	6.5	6.3	6.3
	Conductivity (1:5 water)		µS/cm	3A1 (Rayment and Higginson- Note 2)	200	150	120	100
	Organic Matter		%	6B3 (Modified from Rayment and Higginson- Note 2)	5.5	4.5	3.5	2.5
Ammonium Acetate Equiv. Extract	Calcium	Ca	$cmol^+/Kg$	15B1 (Rayment and Higginson- Note 2)	15.6	10.8	5.0	1.9
		Ca	kg/ha		6250	4300	2000	750
		Ca	ppm		3125	2150	1000	375
	Magnesium	Mg	$cmol^+/Kg$	15B1 (Rayment and Higginson- Note 2)	2.4	1.7	1.2	0.6
		Mg	kg/ha		580	400	290	150
		Mg	ppm		290	200	145	75
	Potassium	K	$cmol^+/Kg$	15B1 (Rayment and Higginson- Note 2)	0.6	0.5	0.4	0.3
		K	kg/ha		470	380	300	200
		K	ppm		235	190	150	100
	Sodium	Na	$cmol^+/Kg$	15B1 (Rayment and Higginson- Note 2)	0.30	0.26	0.22	0.11
		Na	kg/ha		138	120	101	51
		Na	ppm		69	60	51	25
	Aluminium	Al	$cmol^+/Kg$	15B1 (Rayment and Higginson- Note 2)	0.6	0.5	0.5	0.2
		Al	kg/ha		108	90	81	27
		Al	ppm		54	45	41	14
	Hydrogen	H^+	$cmol^+/Kg$	15G1 (Rayment and Higginson- Note 2)	0.6	0.5	0.5	0.2
		H^+	kg/ha		12	10	9	3
		H^+	ppm		6	5	5	2
	Cation Exchange Capacity		$cmol^+/Kg$	15J1 (Rayment and Higginson- Note 2)	20.0	14.0	7.0	3.5
Percent Base Saturation	Calcium	Ca	%	Calculations	77.0	76.0	69.0	60.0
	Magnesium	Mg	%	Calculations	12.0	12.0	16.0	20.0
	Potassium	K	%	Calculations	3.0	3.5	5.0	8.0
	Sodium	Na	%	Calculations	1.5	2.0	3.0	3.0
	Hydrogen	H+	%	Calculations	6.5	6.5	7.0	9.0
	Aluminium	Al	%	Calculations				
	Calcium/ Magnesium Ratio		ratio	Calculations	6.42	6.33	4.31	3.00
SMP	BUFFER pH		units	NCRRP, 221, 1998 (Note 11)	6.7	6.7	6.7	6.7
Micronutrients	Zinc	Zn	ppm	12A1 (Rayment and Higginson- Note 2)	6.0	5.0	4.0	3.0
	Manganese	Mn	ppm	12A1 (Rayment and Higginson- Note 2)	25	22	18	15
	Iron	Fe	ppm	12A1 (Rayment and Higginson- Note 2)	25	22	18	15
	Copper	Cu	ppm	12A1 (Rayment and Higginson- Note 2)	2.4	2.0	1.6	1.2
	Boron	B	ppm	12C2 (Rayment and Higginson- Note 2)	2.0	1.7	1.4	1.0
Acid Extract	Molybdenum	Mo	ppm	Method USEPA3050 Digest - ICPMS	2.0	1.7	1.4	1.0
	Cobalt	Co	ppm	Method USEPA3050 Digest - ICPMS	40	30	25	20
	Selenium	Se	ppm	Method USEPA3050 Digest - ICPMS	2	1.5	1	0.5
$CaCl_2$ Extract	Aluminium	Al	ppm	Inhouse	..	..	..	..
	Silicon	Si	ppm	Inhouse	50	45	40	35
Total Nutrients	Total Carbon	C	%	LECO CNS Analyser	3.1	2.6	2.0	1.4
	Total Nitrogen	N	%	LECO CNS Analyser	0.30	0.25	0.20	0.15
	Carbon/ Nitrogen Ratio		ratio	Calculations	10 to 12	10 to 12	10 to 12	10 to 12

Notes:

1: Cation Exchange Capacity = sum of the exchangeable Mg, Ca, Na, K, H and Al
2: Albrecht Methods from Rayment and Higgins, 1992. Australian Laboratory Handbook of Soil and Water Chemical Methods.
3: Reams available nutrient testing adapted from 'Science in Agriculture' and 'Non-Toxic Farming' and Lamonte Soil Handbook.
4. All results as dry weight; ppm = mg/Kg air dried soil sieved at 2mm (ie. lightly ground)
5. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm
6. 1 $cmol^+/Kg$ = 1 meq/100g; 1 Lb/Acre = 1 Kg/Ha; 2 x ppm (parts per million) = kg/Ha
7. Conversions for 1 $cmol^+/Kg$ = 460 Kg/Hectare Sodium ; 780 Kg/Ha Potassium ; 240 Kg/Ha Magnesium ; 400 Kg/Ha Calcium.
8. Guideline values for phosphorus have reduced in accordance with Australian soils
9. Acid Extract is concentrated nitric acid digest of soil at ratio 1:5; soil:acid
10. Organic Matter = (%C Total Carbon - %C Carbonate Carbon) x 1.75
11. North Central Regional Publication No. 221, 1998. Recommended Chemcial Soil Test Procedures for the North Central Region.

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