

# REAMS AND CEC SOIL ANALYSIS REPORT

Olives, Mudgee



BioAg Soil Sample #:				1818	1819	Desirable	Desirable	Desirable	Desirable
Block ID:				1	2	Level	Level	Level	Level
Client:				Sample	Sample	Level	Level	Level	Level
Nutrient		Units	JA1415/1	JA1415/2	Heavy Soil	Medium Soil	Light Soil	Sandy Soil	
Soluble Tests & Morgan Extract	Calcium	Ca	ppm	341	159	1150	750	375	175
	Magnesium	Mg	ppm	116	49	160	105	60	25
	Potassium	K	ppm	111	64	113	75	60	50
	Phosphorus (Morgan)	P	ppm	12.0	3.0	..	..	..	..
	Phosphorus (Bray 1)	P	ppm	50.8	26.4	45 <sup>note 8</sup>	30 <sup>note 8</sup>	24 <sup>note 8</sup>	20 <sup>note 8</sup>
Soluble Tests & Bray 2 Phosphorus Extract	Phosphorus (Bray 2)	P	ppm	68.7	31.3	90 <sup>note 8</sup>	60 <sup>note 8</sup>	48 <sup>note 8</sup>	40 <sup>note 8</sup>
	Nitrate	N	ppm	9.4	1.3	15	13	10	10
	Ammonia	N	ppm	3.8	1.1	..	..	..	..
	Sulphur	S	ppm	16	5	40	30	25	25
	pH (1:2 water)		units	6.59	6.23	6.5	6.5	6.3	6.3
	Conductivity (1:5 water)		µS/cm	171	52	200	150	120	100
	Organic Matter		%	1.79	0.86	5.5	4.5	3.5	2.5
Ammonium Acetate Equiv. Extract	Calcium	Ca	cmol <sup>+</sup> /Kg	3.77	1.74	15.6	10.8	5.0	1.9
	Magnesium	Mg	cmol <sup>+</sup> /Kg	1.30	0.63	2.4	1.7	1.2	0.6
	Potassium	K	cmol <sup>+</sup> /Kg	0.40	0.29	0.6	0.5	0.4	0.3
	Sodium	Na	cmol <sup>+</sup> /Kg	0.10	0.02	0.30	0.26	0.22	0.11
	Hydrogen	H+	cmol <sup>+</sup> /Kg	0.0	0.0	1.2	1.0	0.3	0.7
	Aluminium	Al	cmol <sup>+</sup> /Kg	0.0	0.1	..	..	..	..
	Cation Exchange Capacity		cmol <sup>+</sup> /Kg	5.57	2.84	20.0	14.0	7.0	3.5
Percent Base Saturation	Calcium	Ca	%	67.7	61.1	77.0	76.0	69.0	60.0
	Magnesium	Mg	%	23.3	22.2	12.0	12.0	16.0	20.0
	Potassium	K	%	7.2	10.3	3.0	3.5	5.0	8.0
	Sodium	Na	%	1.8	0.8	1.5	2.0	3.0	3.0
	Hydrogen	H+	%	0.1	0.9	6.5	6.5	7.0	9.0
	Aluminium	Al	%	-0.1	4.7	..	..	..	..
	Calcium/ Magnesium Ratio		ratio	2.90	2.75	6.42	6.33	4.31	3.00
SMP	BUFFER pH		units	7.28	7.13	6.7	6.7	6.7	6.7
Micronutrients	Zinc	Zn	ppm	2.0	1.5	6.0	5.0	4.0	3.0
	Manganese	Mn	ppm	26.5	15.4	25	22	18	15
	Iron	Fe	ppm	18.33	30.99	25	22	18	15
	Copper	Cu	ppm	1.9	2.1	2.4	2.0	1.6	1.2
	Boron	B	ppm	0.3	0.1	2.0	1.7	1.4	1.0
Acid Extract	Molybdenum	Mo	ppm	0.40	0.24	2.0	1.7	1.4	1.0
	Cobalt	Co	ppm	4.45	1.85	40	30	25	20
	Selenium	Se	ppm	0.3	0.2	..	..	..	..
Total Nutrients	Total Carbon	C	%	1.02	0.49	..	..	..	..
	Total Nitrogen	N	%	0.11	0.07	..	..	..	..
	Carbon/ Nitrogen Ratio		ratio	9.4	7.4	10 to 12	10 to 12	10 to 12	10 to 12
Ammonium Acetate Equiv. Extract	Calcium	Ca	kg/Ha	1,507	695	6,250	4,300	2,000	750
	Magnesium	Mg	kg/Ha	311	151	580	400	290	150
	Potassium	K	kg/Ha	312	229	470	380	300	200
	Sodium	Na	kg/Ha	46	10	138	120	101	51
	Hydrogen	H+	kg/Ha	0	1	..	..	..	..
	Aluminium	Al	kg/Ha	0	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. not crushed)
5. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm
6. 1 cmol<sup>+</sup>/Kg = 1 meq/100g; 1 Lb/Acre = 1 Kg/ Hectare (ie. Ha) = 2 ppm (parts per million)
7. Conversions for 1 cmol<sup>+</sup>/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