

# MEHLICH 3 NUTRIENT SOIL ANALYSIS REPORT

22nd of October, 2010 - Lab Job No. B5000

				Low	High
<b>Sample/Block ID:</b>				Clay	clay
<b>Crop:</b>				Pasture	desirable
<b>Client:</b>				Dairy	level
Extraction	Nutrient	Symbol	Units	B1220/4	heavy soil
Morgan	Calcium	Ca	mg/kg	5606	1150
	Magnesium	Mg	mg/kg	776	160
	Potassium	K	mg/kg	167	113
	Phosphate	P	mg/kg	45	
	Nitrate Nitrogen	N	mg/kg	20	15
	Ammonium Nitrogen	N	mg/kg	40	*
Mehlich 3 Bray 2	Phosphorus	P	mg/kg	154	
	Phosphorus	P	mg/kg	292	90
KCl	Sulfur	S	mg/kg	56	40
1:5 Water	pH		units	6.1	6.5
	Conductivity		dS/m	0.329	0.2
Calculation	Chloride Estimate		equiv ppm	211	
Calculation	Organic Matter		% OM	17.4	5.5
Mehlich 111 extractable exchangeable cations	Calcium	Ca	kg/ha	11028	6250
	Magnesium	Mg	kg/ha	1775	580
	Potassium	K	kg/ha	444	470
	Sodium	Na	kg/ha	136	138
	Aluminium	Al	kg/ha	39	*
Calculations	Cation Exchange Capacity		M.E./100g	32.0	20
	Total Cation Exchange (inc. H/ Al)		M.E./100g	37.2	
<b>Base Saturation Calculations</b>	<b>Calcium</b>	<b>Ca<sup>2+</sup></b>	%	66.6	77
	<b>Magnesium</b>	<b>Mg<sup>2+</sup></b>	%	17.9	12
	<b>Potassium</b>	<b>K</b>	%	1.4	3
	<b>Sodium</b>	<b>Na</b>	%	0.7	1.5
	<b>Hydrogen</b>	<b>H<sup>+</sup></b>	%	13.5	6.5
	<b>Other Bases</b>	<b>Al<sup>3+</sup></b>	%	0.5	
Calculation	Calcium/ Magnesium Ratio		ratio	3.7	6.42
DTPA	Zinc	Zn	mg/kg	14	6
	Manganese	Mn	mg/kg	112	25
	Iron	Fe	mg/kg	286	25
	Copper	Cu	mg/kg	5.5	2.4
CaCl <sub>2</sub>	Boron	B	mg/kg	1.2	2
CaCl <sub>2</sub>	Silicon	Si	mg/kg	108	
LECO IR Analyser	Total Carbon	C	%	9.92	*
	Total Nitrogen	N	%	0.83	*
Calculations	Carbon/ Nitrogen Ratio		ratio	12.0	10 to 12
PCSM	Paramagnetism		µcgs	<10	> 300
Total Acid Extractable	Molybdenum	Mo	mg/kg	1.16	2
	Cobalt	Co	mg/kg	3.5	40
	Selenium	Se	mg/kg	0.66	1 to 3

1: Cation Exchange Capacity = sum of the exchangeable Mg, Ca, Na, K, H and Al

2: Reams available nutrient testing adapted from 'Science in Agriculture', 'Non-Toxic Farming' and Lamonte Soil Handbook.

3. All results as dry weight; ppm = mg/Kg air dried soil sieved at 2mm (ie. not crushed)

4. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm

5. 1 cmol<sup>+</sup>/Kg = 1 meq/100g; 1 Lb/Acre = 2 ppm (parts per million); **kg/ha = 2.24 x ppm**

6. Conversions for 1 cmol<sup>+</sup>/Kg = 460 Kg/Ha Sodium ; 780 Kg/Ha Potassium ; 240 Kg/Ha Magnesium ; 400 Kg/Ha Calcium.

7. Chloride calculation of Cl mg/L = EC x 640 (considered as an estimate, most likely over-estimate)

8. Organic Matter = (%C Total Carbon - %C Carbonate Carbon) x 1.75

9. Phil Callahan Soil Meter: 0-100 cgs is considered a poor soil; 100-300 a good soil; 300+ an excellent soil

10 Sample digested with Aqua Regia acid for total nutrients/salts/metals.