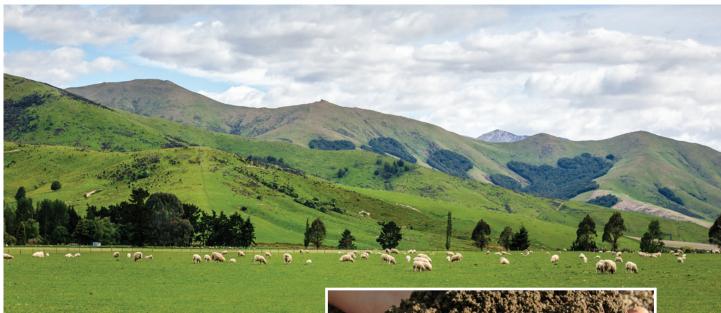
Why do we use **SUPERIOR** Why do we us our soil test?



Understanding Superior's soil test

Superior's soil test compares each soil element against the ideal quantity and ratio for your crop and farm. The table below right is a typical example of the information we gain from this test, which is used to develop your customised Superior Fertiliser and Soil Management Plan:

Why do we only use our soil test?

Soil test results vary between laboratories due to different methods used and nonstandardisation of protocols between laboratories.

For example, the standardisation of a soil test method involves defining parameters such as These elements the solution mixed with the soil, how much will influence pH solution is used, how long you shake a sample, structure of you what control or reference soil is used to calibrate instruments and compare your soil with, and so on.

Our fertiliser recommendations use rules specific to our soil test and would have to be recalibrated if we were to use an alternative laboratory. Even after recalibration there is no guarantee the outcomes would be consistent.

Our tests are processed by an independent laboratory in Missouri, United States, ensuring a faster turnaround, better value for money.



Soil Test

and drive the

	Base Satu	ration Percentage		Soil pH Organic Matt Nitrogen (N)		6.20 6.90 123.20	r your soil will h
	Dase Jatu	ration Fercentage	Desired %	Available%	Excess/[Deficit]%	Outcome	
	Calcium	(Ca++) (60—72%)	68.00%	71.44%	3.44%	Good This d	compares what
	Magnesium	(Mg++) (10–12%)	12.00%	6.74%	(5.26%)	Very Deficient you h	ave available
	Potassium	(K+) (2.5–7.5%)	5.00%	3.48%	(1.52%)	Minimum again	st what is most
	Sodium	(Na+) (0.5–2.5%)	1.50%	1.14%	(0.36%)		able and an out
	Total Base Sa	aturation (T.B.S.)	86.50%	82.80%	(3.70%)		
	Expressed	pressed as kgs/ha					
			red(kgs/ha)	Available(kgs/ha)	Excess/(Deficit)	Outcome	
	Calcium	(Ca)	4,198	4,410	212	Good	
	Magnesium	Potassium (K) 620		250	(195)	Very Deficient	
				419	(183)	Minimum	
	Sodium (Na) 106 Phosphates (P205) 500		81	(26)	OK		
			443	(57)	Good		
	Sulphate - S	Sulphate - S (SO4) 112		7	(105)	Very Deficient	
	Trace Elements						
	Boron	Desired(kgs/ha)			Excess/(Deficit)	Outcome	
	Iron			4.5 1.084.2	1.1	Excellent Excellent	
	Manganese	1004		96.3	(203.7)	Very Low	
	Copper	(Cu) 11.2		96.3	(203.7)	Extremely Deficient	
	Zinc	(Zn)	20.2	7.6	(112,5)	Very Deficient	
	Cobalt	(Co)	3.4	1.3	(12.0)	Deficient	
	Molybdenum	(Mo)	0.1	1.0	()		
Note: values in brackets denote deficiencies							

Sample Depth C.E.C. (M.E.)

10cm C.E.C tells us how much 13.78 fertiliser your soil will hold 6.20

come

Why do we use our soil test?

Phosphate Levels: Olsen versus Bray?

Superior uses both the Olsen and Bray phosphate (P) tests as suitability depends on whether the soil is alkaline or acidic.

The Bray-P2 test is a more reliable measure of plant available P on neutral (pH 7) or acid (pH < 7) soils, whereas the Olsen method is more reliable for in highly calcareous (lime containing) or alkaline soils (pH > 7.4).

It is therefore very important to use the correct test as using a Bray-P2 test on an alkaline soil tends to underestimate available P, whereas the same goes for using the Olsen on an acidic soil. Phosphorus (P) is an essential element for all plants, so it's important to know if the soil provides a sufficient concentration of P for optimum plant growth.

Since the majority of New Zealand soils are acidic, we commonly use the Bray-P2, but we still strike soils that have high pH's and therefore require an Olsen test. The Bray test has an advantage in that it measures any phosphate available from reactive phosphate rock (RPR) applications, which is important if you've been applying RPR. This is a major shortcoming of the Olsen test as it will not pick up reactive phosphate rock (RPR) residues.

Finally, it is important to remember that we use different scales for measuring phosphate levels when using Olsen and Bray tests. For example, a reading of 500kg/ha of available phosphate on an acid soil is excellent, whereas 125kg/ha is excellent on an alkaline soil.





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