# Profitability Production & Sustainability Now Utilising Qlabs Technology



"Sheep were dying and cattle were not conceiving ... we applied the Qlabs recommendations and... within 8 months we saw great results, no dead lambs, heifers and cows actually cycling, wow!" Bruce Donald, Hawkes Bay farmer



Qlabs.Ltd info@qlabs.co.nz freephone 0800 857733 www.qlabs.co.nz

### **TESTIMONIALS**

The avocado industry is going through a period of very poor crop set ... we took [Qlab's] advice ... initially pretty scary [and] we are now seeing very good results with consistent growing and better crops than some of our neighbours. **Don Fraser** 

Dip Ag, Dip VFM, MNZIPIM Bay of Plenty.

I was at my wits end trying to achieve what was regarded as average production from my asparagus block. Upon hearing of Qlabs work, contacted them to give me a complete overview as to what was happening. The rest is history and with the first application of minerals last year (1998) we noticed a huge improvement. Several other asparagus growers are reporting the same results as myself after applications of minerals recommended by Qlabs.

#### MJ & FA Clark Partnership Hastings

In all we've been farming now for 21 years. Our farm is 300 acres in all - one third flats and two thirds rolling land - all next to the sea. Using Qlabs soil testing and fertiliser programme has made a great improvement to our pasture particularly so on the flat land. Whilst clover growth has improved on the entire farm there have been huge benefits to the clover growth on the flats. An added benefit is that we now don't need to under-sow (with further money savings) as the clover growth is so strong.

### Owen Adams

**Thames Farmer** 

Ray is an expert on pasture and animal nutrition. He fully understands about how all these elements of farming come together to affect animal health, the soil and production targets. Qlabs have given us a terrific run on animal health issues. Ray's got his finger on the pulse and our animals don't get sick and don't die anymore! Ray has our farm systems in balance and we have the results to back this up.

#### Keith Shadbolt

**Canterbury Farmer** 

We planted our first 1000 olives in 2001. Whilst the advice and information we got provided adequate results initially, by 2010 we realised we were going nowhere fast and looked elsewhere for help ... we heard about Qlabs soil testing and growing programmes and so in 2011... moved to them for a soil testing/fertiliser regime. Since then the growth of the trees and the increase in crop yield has been quite dramatic and to achieve that we apply only the recommended ground fertiliser from Qlabs annually and no longer do leaf tests or apply foliar fertilisers. A huge saving in time and money!

#### Sue & Malcolm Nowill

Olive Growers, Wairarapa

Following Qlabs recommendations we have noticed a lot more worms in our soil and less moss. Stock health has improved also. The lambs are a more even line with a very small tail end, sold as store stock and we are selling them earlier as well because they are finishing quicker. Last season we had a record harvest of hay that was full of clover as a result of using Qlabs mixes.

#### **Tim & Mary Stokes**

**King Country Farmers** 

Life's good now that we are back in the drivers seat and animal health is an absolute breeze. To date we have very few cows with mastitis and no metabolic problems whatsoever. The other big plus with Qlabs recommendations is we have very few weeds, neither ragwort or thistles. Now the farm of 330 hectares and 530 dairy cows is run with just 2 people (farm owner and 1 employee).

David & Shelwyn Gardner Manawahe

# Open Letter to All NZ Producers describing the benefits to you of Qlabs Production Technologies

### Dear Producers,

At Qlabs our entire programme is science-based. We are an ASPAC Certified laboratory and an independent family-owned business.

The science of our systems is underpinned by testing and evaluating the nutrient status of your soil. We'll then provide you with a custom designed plant specific fertiliser programme which will optimise your soil's production potential regardless of whether your system is conventional or organic. Customers tell us that this overwhelmingly increases production and profitability.

Qlabs programmes are coordinated soil, plant, and animal nutrition based, and it is the combination of these three important factors that delivers the results.

An exciting ground breaking addition to Qlabs programmes gives all farmers the ability to manage the urinary nitrogen from their livestock.

We'll leave the last words to our happy clients;

"We are happy, the accountants and bank manager are happy, it doesn't get much better than that" Bruce & Jenni Cotman Te Kauwhata



"We believe there is a huge untapped potential in New Zealand production systems just waiting to be realised, we enjoy helping producers unlock that potential. There is no greater satisfaction in agriculture than being witness to the enjoyment farmers get out of farming successfully."

Qlabs owned by ex-farmers working for conventional and organic farmers.

Change is exciting, not something to be feared. We all need to invigorate our pioneering spirit. This has served us well in the past and we will certainly need it to rise to the challenge of the future.

As producers and consumers, we all need to pro-actively determine the future of New Zealand food production.

# **The Qlabs Programme**

The Qlabs programme takes the guess work out of soil management, plant production and animal performance. The programme is specifically designed to scientifically test soil and herbage, giving the producer a full scientific report on the overall condition of their land, plants and animals.

This leads to an individually designed fertiliser and feed programme to make improvements where needed. It's a prescription for the producer to get on the front foot and pro-actively manage their productions systems - conventional or organic.

## So How Does It Work?

The Qlabs programme is designed to test the two primary components of your system - the soil and the plant. These test results will provide critical information, allowing adjustments to be made proactively. From these reports fertiliser, feed and nutritional programmes can be individually designed to suit specific systems conventional or organic.

labs - "soils for life"

What Tests Are Undertaken? Soil

Test to find out exactly what condition the soil is in. This will allow for improvements and corrections in imbalances and deficiencies.

## Herbage

Herbage tests are used to determine indicators of animal performance and nitrogen utilisation efficiency.



Client's Lucerne grown organically, never been sprayed.

# Managing Livestock Efficiency Is To Your Advantage

Achieving Nitrogen Utilisation Efficiency at optimum levels will virtually negate both the environmental issues and your animals wasting this essential nutrient, eating away at your bottom line and impacting on the environment.

We all know the Milk Urea Nitrogen (MUN) analysis tells you how much nitrogen is in your herd's milk. MU levels that are too high or low are caused by unbalanced nutrition regardless of what you are feeding. Underfeeding or overfeeding of protein can rob you of your profits. Feeding an unbalanced protein to carbohydrate ratio can decrease feed efficiencies, increase feed costs and lower production.

By analysing your pasture or crop, we can provide an accurate assessment of how much nitrogen the animal is ingesting and partitioning for production, all of this nitrogen comes from the diet. When an animal eats too much protein relative to energy, they excrete the excess in their urine, a lost opportunity.



Nitrogen Utilisation Efficiency is at the optimum levels for your animals.



SOIL REPORT

**Mr A Sample-Only** Address: Farmers Rd RD 91 Sheepton Lab No:10

5.8

6.6

9.1

181

pH units

pH units

LOI %:

kg/ha

Sample: **Block One** Crop: Grass / Pasture Date reported: 03/10/2003 **Regime:** Organic Consultant: Raymond Burr

pH (Using CaCl Extraction) pH (Using deionised water) Loss-on-Ignition (approx. Organic Matter) Approx. Potential Nitrogen release

Element Analysis	ppm	Kg/Ha	Desired Kg/Ha	Deficit Kg/Ha	Excess kg/ha
Calcium	1 530	3.060	3 283	223	
Magnesium	140	280	435	155	
Potassium	91	181	471	289	
Sodium	120	241	83		157
Phosphorus					
Bray P1:	17	34	54	20	
As P <sub>2</sub> O <sub>5</sub>	39	78	124	46	
Bray P2:	35	70			
Sulphate	34	68	60		8
Boron	0.50	1.0	3	2.0	
Iron	110	220	300	80	
Manganese	10.0	20	150	130	
Copper	0.6	1.3	8	6.7	
Zinc	10.5	21.1	20		1.1
Cobalt	0.25	0.50	3	2.5	

C.E.C. me/100g	12.1			
<b>Base saturation</b>		Cations in me/100g	Available %	Desired %
Calcium		7.6	63.4	68
Magnesium		1.2	9.7	15
Potassium		0.2	1.9	5
Sodium		0.5	4.3	1.5

2.50

Neutralisable Acidity Value Based on Lime Requirement: The report details test results for available elements.

Boron extraction 1:2 soil: 0.01M Calcium chloride solution.

Ca - Mg - K - Na - Using Ammonium Acetate Extraction with AAS finish.

C.E.C. is the measure of the sum of Calcium - Magnesium - Potassium - Sodium and Neutralisable Acidity. Trace element using EDTA extraction with AAS finish.

Sulphate: Calcium phosphate extraction with Barium chloride reagent and colourmetric finish.

This soil sample was dried to a constant weight and sifted to a powder before analysis. Qlabs is a certified ASPAC Laboratory.

#### Qlabs

(Certified by the Australasian Soil and Plant Analysis Council Inc 2008. Member of ASPAC) Ph. (06)-857-7333 E-mail: info@qlabs.co.nz 4 Victoria Street, Waipawa, 4210

Printed 24/1/2018, Page 1



Client: Mr A Sample-Only, Sheepton

Sample Block One

Reported Date: 03/10/2003

Warning: The maximum application rate of this mix should not exceed 952 Kg/Ha for grazing animals This is not an application rate. Application rate is determined by your budget.



S (Sulphur) : P (Phosphorus) : Ca (Calcium) : Mg (Magnesium) : K (Potassium) B (Boron) : Fe (Iron) : Mn (Manganese) : Cu (Copper) : Zn (Zinc) : Co (Cobalt)

This graph above depicts the nutrient status of your soil in % of each element's desired level.

### Mixing Form: Rorison Minerals ORGANIC FERTILISER MIX

Ingredient	Kgs/Tonne	Comments	
Potassium sulphate	212		
Limestone	190		
Magnesium carbonate	184		
RPR	180		
Manganese sulphate	121		
Iron carbonate	93		
Copper sulphate	9		
Ulexite	7		
Cobalt sulphate	4		
Total	1000	Bulk density:	1.37

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 Ph. (06)-857-7333
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 4 Victoria Street, Waipawa, 4210

Lab No:3516



pH (Using CaCl Extraction)

pH (Using deionised water)

Sample:LucerneCrop:LucerneDate reported:19/02/2016Regime:Conventional

**Mr A Sample-Only** 

Address: Sheepton

Consultant: Self Sample

 pH units
 5.2

 pH units
 6.0

 LOI %:
 8.5

 kg/ha
 170

Loss-on-Ignition (app Approx. Potential Nit	LOI 9 kg/ha	%: 8.5 170			
Element Analysis	ррт	Kg/Ha	Desired Kg/Ha	Deficit Kg/Ha	Excess kg/ha
Calcium	1,918	3,836	4,372	536	
Magnesium	149	298	546	248	
Potassium	373	746	829	83	
Sodium	21	42	105	63	
Phosphorus					
Bray P1:	94	187	54		133
As P <sub>2</sub> O <sub>5</sub>	215	429	124		305
Bray P2:	149	298			
Sulphate	59	117	60		57
Boron	1.17	2.3	3	0.7	
Iron	83	165	300	135	
Manganese	16.4	33	150	117	
Copper	0.9	1.8	8	6.2	
Zinc	2.3	4.7	20	15.3	
Cobalt	0.16	0.32	3	2.7	

C.E.C. me/100g	15.2			
<b>Base saturation</b>		Cations in me/100g	Available %	Desired %
Calcium		9.6	63.2	72
Magnesium		1.2	8.2	15
Potassium		1.0	6.3	7
Sodium		0.1	0.6	1.5

3.30

Neutralisable Acidity Value Based on Lime Requirement:

The report details test results for available elements.

Boron extraction 1:2 soil: 0.01M Calcium chloride solution.

Ca - Mg - K - Na - Using Ammonium Acetate Extraction with AAS finish.

C.E.C. is the measure of the sum of Calcium - Magnesium - Potassium - Sodium and Neutralisable Acidity. Trace element using EDTA extraction with AAS finish.

Sulphate: Calcium phosphate extraction with Barium chloride reagent and colourmetric finish.

This soil sample was dried to a constant weight and sifted to a powder before analysis. Qlabs is a certified ASPAC Laboratory.

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 Ph. (06)-857-7333

 E-mail: info@qlabs.co.nz

 4 Victoria Street, Waipawa, 4210



Lab No: 3516

Sample Lucerne

r life" Reported Date: 19/02/2016

Warning: The maximum application rate of this mix should not exceed 1358 Kg/Ha for grazing animalsThis is not an application rate. Application rate is determined by your budget.

Total Deficit 3379 kg/Ha.



S (Sulphur) : P (Phosphorus) : Ca (Calcium) : Mg (Magnesium) : K (Potassium) B (Boron) : Fe (Iron) : Mn (Manganese) : Cu (Copper) : Zn (Zinc) : Co (Cobalt)

This graph above depicts the nutrient status of your soil in % of each element's desired level.

## Mixing Form: Rorison Minerals CONVENTIONAL FERTILISER MIX

Ingredient	Kgs/Tonne	Comments	
Limestone	417		
Magnesium carbonate	267		
Iron carbonate	143		
Manganese sulphate	99		
Muriate of Potash	49		
Zinc sulphate	13		
Copper sulphate	7		
Cobalt sulphate	4		
Borate 48	1		

	Total	1000		Bulk density:	1.50	
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(	Ph. (06)-857-7333	E-mail: info@	qlabs.co.nz	4 Victoria Stre	et, Waipawa, 4210	



Q Labs 4 Victoria st Waipawa 4210

Client: Mr A Farmer Feed Type: Pasture & Grazing Plants Animal Type: Cattle Consultant: Client Tel: 06 8577333 Fax: 06 8577999 A/h: 021 783 539 Email: info@qlabs.co.nz

Sample Name: Ryegrass Lab No: 12-123-18 Date: 10.1.18 Address: 123 Sheepton rd Sheepton 1234

Major and impor	tant compo	nents							
		Unit	DM basis	optimum (DM)	As fed		optimum (As Fed)		
Dry Matter	'DM'	%			13.6	More th	an 30 % DM required		
Metabolisable energ	gy (ME)	MJ/Kg	12.3		1.7				
Total Carbohydrates	s* (CHO)	%	41.7	152	6		Projected maximum intake	of feed	
Crude Protein* %		%	36.9	17	5.0		On a DM basis		
Fat		%	8.6	3 to 5	1.2		Percent of body weight		2.6
Total digestible nutr	rients (TDN)*	TDN	76.0	68 to 72			Kg maximum intake for an animal o	of 50kg	1.3
Neutral detergent fit	ore (NDF)	%	45.5	34	6		Kg maximum intake for an animal o	of 500kg	16
Acid detergent fibre	(ADF)	%	18.1	less than 21	2.5		On an As Fed basis		
Ash		%	12.8	less than 5	1.7		Percent of body weight		19.4
Nitrate Nitrogen		mg/kg	0	<1000			Kg maximum intake for an animal o	of 50kg	9.7
							Kg maximum intake for an animal o	of 500kg	116

Fibre and Carbohydrates	Unit	DM Basis	optimum (DM)
DDM	%	74.8	
Crude Fibre	%	13.1	15 to 20
Digestible Crude Fibre	%	7.9	10.65
Nitrogen Free extract NFE	%	29	
Digestible NFE	%	23	
NFC Non Fibre Carb	%	-4	35

Electrolytes	Unit	DM Basis	optimum (DM)
Potassium	%	4.41	4.41
Calcium	%	0.10	2.21
Phosphorus	%	0.23	1.47
Magnesium	%	0.15	1.10
Sodium	%	0.22	0.74
Sulphur	%	0.92	0.15

Nitrogen Utilisation	Unit	result	optimum
Urea Fermentation Potential	g/kg	-78.0	more than 0
Milk Urea Nitrogen	mg/dL	49	16
Nitrogen Utilisation Efficiency	%	3	26
Urinary Nitrogen	g/day	710	257

Protein	Unit	DM Basis	optimum (DM)
Digestible Protein	%	29.7	10.64
Metabolisable Protein	%	5.2	
NPN (Non-Protein-Nitrogen	%	1.72	

Energy	Unit	DM Basis	optimum (DM)
Relative Feed Value	RFV	153	
Digestible energy	MJ/Kg	13.9	
NE.maintenance	MJ/Kg	9.38	
NE.Lactation	MJ/Kg	8.43	
NE.gain	MJ/Ka	6.41	

Trace elements	Unit	DM Basis	optimum (DM)
Iron	ppm	515	50 to 100
Manganese	ppm	63	40 to 60
Zinc	ppm	77	20 to 40
Copper	ppm	16	4 to 10

Electrolytes and traces analysed using Atomic Absorbtion and colourmetric analysis after digestion.B55 - NDF, ADF and Crude Fibre were analysed gravimetrically

-Crude fat was analysed on a sohxlet set

-Dry matter reported on 20 hour drying at 60°C, followed by 4 hours at 105°C. Ash reported on 3 hours in the furnace at 550°C

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Q Labs 4 Victoria st Waipawa 4210 Tel: 06 8577333 Fax: 06 8577999 A/h: 021 783 539 Email: info@qlabs.co.nz

Client: Mr B Farmer Feed Type: Silages/Haylages Animal Type: Cattle Consultant: Client Sample Name: Cereal silage Lab No: 13-321-18 Date: 10.1.18 Address: 321 Sheepton road Sheepton 1234

> 1.8 0.9

> > 11

4.6 2.3

27

Major and impor	tant compo	nents				
		Unit	DM basis	optimum (DM)	As fed	optimum (As Fed)
Dry Matter	'DM'	%			40.4	More than 30 % DM required
Metabolisable energ	gy (ME)	MJ/Kg	11.7		4.7	
Total Carbohydrate	s* (CHO)	%	90.9	69	37	Projected maximum intake of feed
Crude Protein* %		%	3.9	17	1.6	On a DM basis
Fat		%	2.2	3 to 5	0.9	Percent of body weight
Total digestible nuti	rients (TDN)*	TDN	71.8	68 to 72		Kg maximum intake for an animal of 50kg
Neutral detergent fi	bre (NDF)	%	65.0	34	26	Kg maximum intake for an animal of 500kg
Acid detergent fibre	(ADF)	%	32.9	less than 21	13.3	On an As Fed basis
Ash		%	3.0	less than 5	1.2	Percent of body weight
Nitrate Nitrogen		mg/kg	0	<1000		Kg maximum intake for an animal of 50kg
		·	• •			Kg maximum intake for an animal of 500kg

Fibre and Carbohydrates	Unit	DM Basis	optimum (DM)
DDM	%	63.3	
Crude Fibre	%	22.3	15 to 20
Digestible Crude Fibre	%	13.4	10.65
Nitrogen Free extract NFE	%	69	
Digestible NFE	%	55	
NFC Non Fibre Carb	%	26	35

Electrolytes	Unit	DM Basis	optimum (DM)
Potassium	%	0.38	0.48
Calcium	%	0.09	0.24
Phosphorus	%	0.05	0.16
Magnesium	%	0.12	0.12
Sodium	%	0.02	0.08
Sulphur	%	0.21	0.15

Nitrogen Utilisation	Unit	result	optimum
Urea Fermentation Potential	g/kg	28.1	more than 0
Milk Urea Nitrogen	mg/dL	-8	16
Nitrogen Utilisation Efficiency	%	44	26
Urinary Nitrogen	g/day	-81	257

Protein	Unit	DM Basis	optimum (DM)
Digestible Protein	%	-0.4	10.64
Metabolisable Protein	%	4.9	
NPN (Non-Protein-Nitrogen	%	3.01	

Energy	Unit	DM Basis	optimum (DM)
Relative Feed Value	RFV	91	
Digestible energy	MJ/Kg	13.1	
NE.maintenance	MJ/Kg	8.78	
NE.Lactation	MJ/Kg	7.80	
NE.gain	MJ/Kg	5.90	

Trace elements	Unit	DM Basis	optimum (DM)
Iron	ppm	148	50 to 100
Manganese	ppm	19	40 to 60
Zinc	ppm	15	20 to 40
Copper	ppm	8	4 to 10

Electrolytes and traces analysed using Atomic Absorbtion and colourmetric analysis after digestion.B55

- NDF, ADF and Crude Fibre were analysed gravimetrically

-Crude fat was analysed on a sohxlet set

-Dry matter reported on 20 hour drying at 60°C, followed by 4 hours at 105°C. Ash reported on 3 hours in the furnace at 550°C

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# **New Zealand Has Vast Untapped Potential**

What is a drought? The traditional sense is defined by a "long period of abnormally low rainfall", but the amount of rainfall, or even irrigation, is arguably less than half the bigger picture: the remainder is capturing and retaining moisture in the soil. A hilltop paddock not far from Cambridge is a good place to start. In the heart of one of the worst droughts in memory, there grows plentiful pasture in a paddock surrounded by brown, crisp and short feed.

Father and daughter John and Janie Taylor run this family sheep and beef farm in the heart of the Waikato.

Three years ago, they found themselves disillusioned with the mainstream fertiliser approach and began to learn more about soil and nutrition.

"We thought thats got to be the approach we have to take, in terms of feeding the plants to feed the animals, and get a better result around our animal fertility, lambing percentages and all the rest, "Says Janie.



"For forty years or so, its always been a hay paddock, and a silage paddock, so its always had a lot of grass taken off and not fed back onto it", adds John.

"We found the worms don't like phosphate: when you put phosphate down in the ground, you see the worms all shriveling, trying to escape from the Sulphuric acid.

"Sure reactive rock phosphate is much slower acting, but it lasts for a heck of alot longer. It grows all year round, where as super phosphate gives you a sudden burst of growth, then stops. Thats the way we saw it".

The Taylor's contacted Hawkes Bay [Qlabs], to see if a fresh approach would bring fresh results.

Their directive was to establish a high production permanent pasture without the use of sprays or urea.[Qlabs] came calling. [They] found the paddock, on mairoa ash soils, over run with Californian thistles, and aimed to take it through a crop and then into permanent pasture.[Qlabs] took a series of soil samples, then produced a customised mineral fertiliser programme based on this soil audit which was processed through their Waipawa laboratory. The minerals were formulated to bring all 12 soil essential nutrient elements up to their optimum levels and the paddock was sown in March 2011. The Taylors were advised that a germination period would first have to be endured.

Some weeds came through the first year, but in the second year the pasture "Just went mad," say Janie.

"We've just been amazed at the palatability of the feed. The stock just go mad for it."

With no irrigation, no spray of any sort...no nitrogen, the proof of the pudding is in the eating.



So it may be the time to ask the Taylor's mob of lambs "When we shifted the lambs out recently, they were that desperate to get back in they lifted the gate of the hinges and all came back into the paddock again," says John.

The soil is the plants rumen..."If you have a healthy soil, you have a healthy plant, a healthy animal and a healthy environment...its all interwoven. Soil physics, biology and chemistry: If one fails, it can lead to the failure of the other two.

"The fertiliser programme was specifically designed to grow the type of plants that the Taylors wanted to grow," says Raymond, speaking about the prairie grass and clover mix in the paddock.

...Likewise, there is no one single cultivation technique that can be applied to all soils. They must be treated individually.

# SOIL FERTILITY DICTATES PLANT SPECIES

**Before** 

Life's good now that we are back in the drivers seat and animal health is an absolute breeze. To date we have very few cows with mastitis and no metabolic problems whatsoever. The other big plus with [Qlabs] recommendations is we have very few weeds, neither ragwort or thistles. The first year on the farm we had to turn a blind eye to weeds. Environment Bay of Plenty helped by supplying cinnabar caterpillars for the ragwort.

11 months later.

We did have an extremely high density of ragwort on a couple of hillsides until we applied around one tonne per hectare of the recommended fertilizer and to date those hillsides are clean of any undesirable weeds. As the farms owners we endeavoured to keep our farm as clean as possible; we had three workers with one employee always saddled up to a knapsack using around \$8000 per year of chemical and an extra crew of four for a week. Now the farm of 330 hectares and 530 dairy cows is run with just 2 people (farm owner and 1 employee). [Qlabs] really has put enjoyment back into farming; both with peace of mind and financially. We are impressed, thanks **Dave Gardner** 

The Qlabs technology has benefits for cropping production systems by reducing the amounts of nitrogen based fertiliser required. Crop health and production outcomes are often enhanced.



"This maize crop yield ranged from 16.5 to 19.5 tonnes/Ha of dried grain, across 26 hectares. No nitrogen was used at all." Josh & George Buckman - Hawkes Bay

# **Regional Suppliers of Customised Blends**



Qlabs owned by ex-farmers working for farmers .



Freephone: 0800 857733 Email: info@qlabs.co.nz Web: www.qlabs.co.nz