Precision Agriculture and its Benefits

- Craige Mackenzie -

Email: craige@agrioptics.co.nz
Profit Mapping

It's hard to be Green when you're in the Red
Getting Connected

We’re a Connected Farm

- 3G connection - farm office and machinery
- Wi-Fi connection - farm office and irrigators, soil moisture probes
- 3G connection - Irrigators, software server and cell-phones
- 3G connection - wells and irrigation auditor
- GPS on all irrigators, combine and tractors - all with auto-steer

Rural Connectivity is a huge issue for NZ development
Soil Testing: Combining Paddocks

- Lime
- Phosphorus
- Nitrogen

VARIABLE RATE APPLICATION:
- Application from traditional testing 75 tonnes
- Total application reduced to 10 tonnes
- Saving total $2,925. $ 195/ha
Electromagnetic (EM) Mapping

- Different pattern to S-Map
- GIS site specific detail
- Accurate to individual farm
- Makes targeted management easier
- Useful going forward for informing Overseer inputs
Irrigation Management

• We’ve come a long way with technology, hardware and science. We use variable rate irrigation (VRI)

• Get an accurate understanding of the spatial variability of soils. We use data from EM Survey

• Understand the water holding capacity of each soil type to be irrigated

• Situate soil moisture probes by zone and water holding capacity
What does the Future look like?

- Finger printing of our specialty products.
- Adding value to our products.
- Feeding an increasing wealthy market not just greater population.
- Paddock to plate tracking of products.
- Reduced inputs with greater value of output.
- Retaining the right to farm.
- Making our Farmers more profitable.
- Increased levels of sustainability both environmental and financial.
- Focus on water quality as a showcase for the world.
Robotics in Horticulture
Virtual Fencing in Action
Hyperspectral Imaging: Fenix Airborne Sensor
Exciting times for Agriculture - What tools to choose?
Climate Change
- how to reduce our footprint

• Measure/ Model/ Mitigate

• Reduce Emissions intensity

• Use irrigation wisely

• Good sustainable farming practices and the most profitable farming practices go hand in hand.

www.impressions.org
"The best way to predict your future is to create it."
Abraham Lincoln