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Precision Horticulture Review

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Tools / Technologies

- Machine guidance – 2cm autosteer
- Soil moisture probes
- Soil & Plant testing – add GPS recording
- Accurate Farm Map
- Measure the soil / landscape (EC, elevation & pH)
- Measure the crop (imagery, sensors & yield)

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Start with a farm map!

Accurate areas
Measuring tool
Lease & contractor rates
Productivity / area
Irrigation design
Farm logistics
OH&S plan
Etc...

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Measure the Crop

- In-season calibration of management
- Post season review of performance
- Paddock variability – uniform crop
- Irrigation performance
- Rapid disease detection

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High Resolution Imagery

Crop Biomass Index
plant biomass / greenness

Use maps as a guide for crop Scouting

Measure ALL aspects of the Cropping system

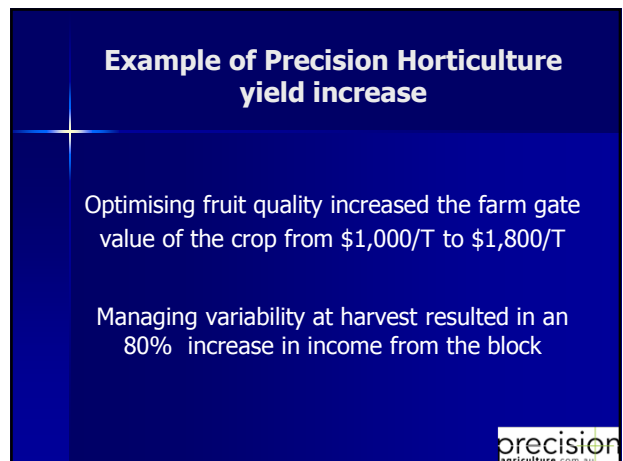
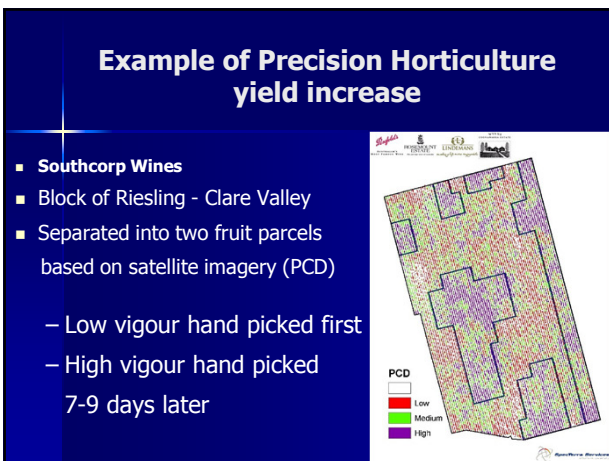
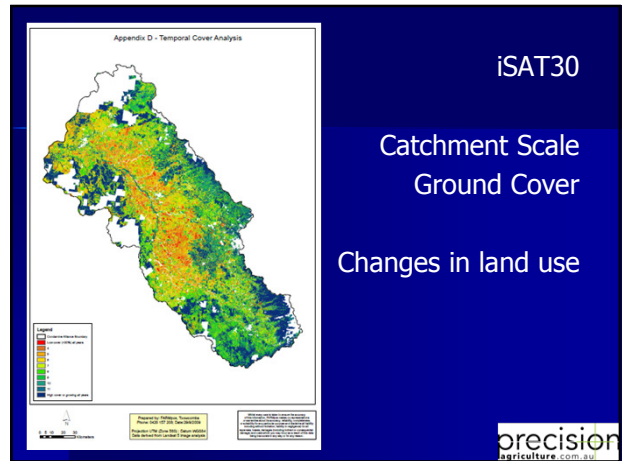
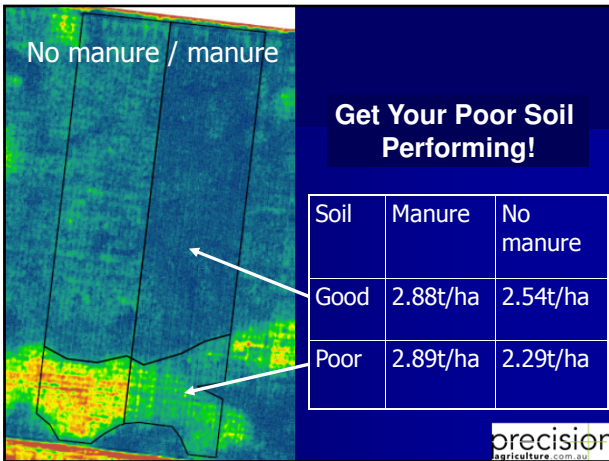
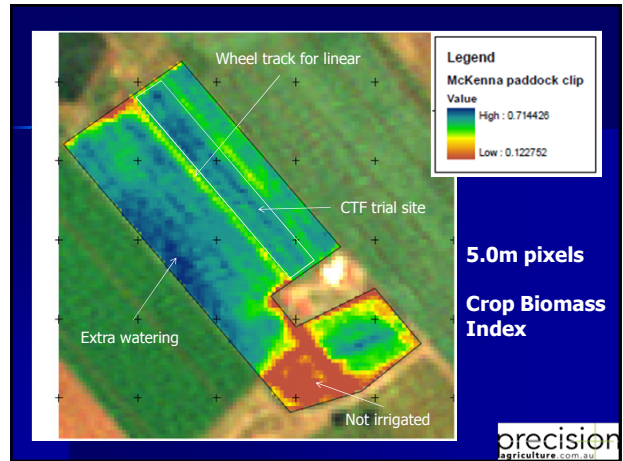
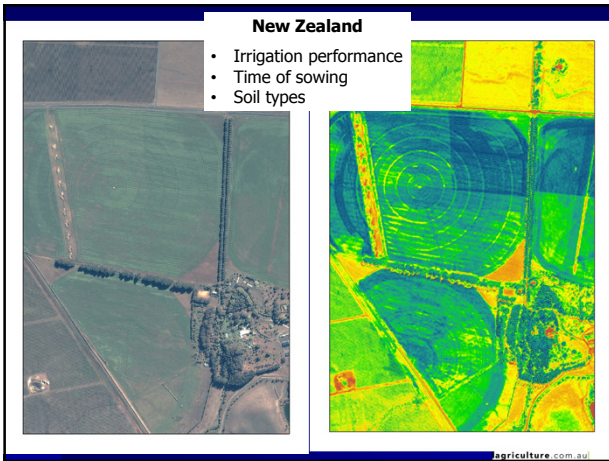
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High Resolution Imagery

0.5 – 5.0m pixels

- Irrigation performance
- Surface water issues
- Machinery wheel tracks
- Early disease detection
- Measure variability

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Tractor mounted crop sensors

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Yield Mapping – manage risk / \$\$\$

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Potato Yield Hundred Weight/acre	
Weighted	500 + 0.0 Acres
Field	450 - 500 0.2 Acres
Average	400 - 450 0.2 Acres
	350 - 400 0.1 Acres
	300 - 350 0.2 Acres
	250 - 300 1.0 Acres
	200 - 250 10.0 Acres
	150 - 200 21.0 Acres
	100 - 150 6.0 Acres
	0 - 100 0.9 Acres

Measure the Soil

- Soil texture / water holding capacity
- Soil pH
- Soil nutrient loads
- Elevation / topography

- Optimise fertiliser and water!!!
- Financial & Environmental benefits...

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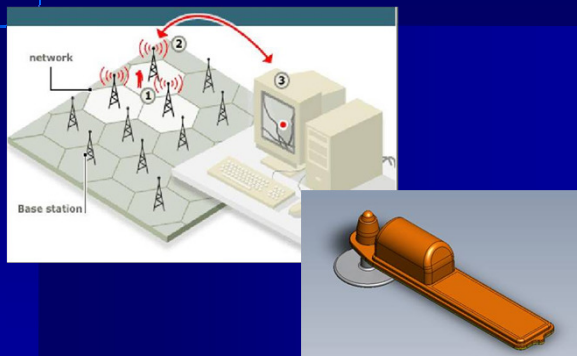
Strategic Soil Sampling with GPS

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Elevation maps for drainage and layouts

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Real-time Livestock Tracking



Precision Horticulture Summary

Use PA technologies to *measure* horticultural farming systems
 Start with autosteer / straight lines / CTF
 Manage surface water & irrigation
Industry Project: understand paddock variability
 Address key constraints first
 Focus on the question NOT the technology
 Consider variable rate *if* economical