An update on Controlled Traffic Farming for vegetables in Tasmania

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What is CTF?

CTF keeps all paddock traffic in the same wheel tracks year after year

Plants grow better in soft soil

Wheels work better on roads

Compacted permanent wheel tracks  Friable crop growth zone
What does CTF need?

• Compatible track and working widths to align compacted wheel tracks
• GNSS guidance for accuracy of tracking
• Farm layout to manage erosion, surface drainage and field logistics
Why do it?

• 50 – 75% less fuel use and tractor time, reduced equipment investment

• Improved soil structure, biology, drainage, aeration, porosity, infiltration and water holding capacity

• Reduced run-off and erosion
Why do it?

- Improved yield and quality
- Improved timeliness for crop management and additional cropping
- Facilitates zero-till and drip irrigation techniques
- Enables inter-row drilling and relay cropping
Recent HAL Project

Review of barriers to CTF in Tasmanian vegetable industry

Key issues:

• Equipment configurations and integration
• Farm layout
• Identifiable pathways forwards
Recent HAL Project

Equipment configurations and integration

- Track widths – 1.6 – 3.3 m
- Tyre widths – 240 – 775 mm
- Working widths – 0.8 – 9.0 m
Recent HAL Project

Farm layout – as is
Recent HAL Project

Farm layout – with existing infrastructure
Recent HAL Project

Farm layout – with modified infrastructure
Recent HAL Project

Pathways forwards

Machinery integration and SCTF

• Decide on a track width – 2.0 m
• Modular implement widths – e.g. 2, 4, 6 m cultivation
• GNSS guidance with location repeatability

► SCTF without including the harvester
Current NLP Project

On-farm demonstration of CTF for intensive cropping

- Onions grown Aug 07 – Apr 08
- Initial indications – improved infiltration rate, water storage, root growth, reduced power
- Potatoes sown Nov 08, harvest Mar 09
Some observations

Conventional

CTF
Some observations

Conventional

CTF

Post – planting soil resistance

Post – harvest soil resistance
Some observations
Current TIAR Project

Demonstration of CTF potatoes at FRDS

• Cultivation prepared Jun 08

• Potatoes sown Nov 08 - standard row spacing, various densities, 2 m wheel tracks

• Harvest Mar 09
Current TIAR Project
Current TIAR Project
Current TIAR Project
Submitted Projects

- Development and demonstration of CTF for root vegetables (HAL)
- Grower visit to European CTF workshop, June 2009 (HAL)
- Economic and GHG model of conventional and CTF farming systems (HAL)