



# **Growcom Reef Rescue Case Study Series**

**Herbicide Management – Spot Sprayer**

**Burnett Mary Regional Group**

**Robert Doyle**



# Macadamia production – a group of privately owned orchards, managed by MACADAMIA FARM MANAGEMENT P/L, Bundaberg, Queensland

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## **Background**

- Macadamia nuts for processing
- 16 farms
- All irrigated

## **Production area**

- 564ha

# Tree line weed management – Current Practice

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*'It is crucial to keep the tree floor relatively weed free, so as to harvest mechanically',* said Scott Gregson-Allcott, manager of Macadamia Farm Management.

A double sided herbicide boom (4 jets/side) applied a continuous path of chemical, under the tree line.

# Tree line weed management – Current Practice

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*“Occasionally there were sections of the tree line with minimal weed pressure and herbicide was being wasted”, said Mr. Allcott.*

Opportunistic weeds recolonizing through the mulch layer.

# Tree line weed management – New Practice

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Herbicide is only applied when the sensor senses a growing plant.

Whilst no weed is detected the jet is switched off.

We modified our existing herbicide rig, by adapting the Weedseeker® sensors to it.

# New Practice – spot spraying



*“The jet next to the tree line applies 1 type of herbicide and the outer 3 jets apply a different herbicide”, Mr. Allcott explains.*

The rig is set up with 2 different herbicide tanks, and 2 pumps running simultaneously.

# New Practice - spot spraying

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## System Features

All jets:

- operate independently of each other
- each cover approximately a 400mm swath

# New Practice - spot spraying



## System Features

Cab display:

- can override sensors
- can adjust sensitivity



# New Practice - spot spraying

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## Economic Benefits

- estimated 50% savings to herbicide & water
- savings on labour & fuel

*“We trialed the Weedseeker® and quickly saw the dollar savings we would make, by having the system full time”, explains Mr. Allcott.*

*“The system cost us just over \$22 000 to buy and install. Through the Reef Rescue funding program we were successful in gaining a grant to cover 50% of our out of pocket expenses”, says Mr. Allcott.*

# New Practice - spot spraying

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## Environmental Benefits

- reduced risk of herbicide lost
- bare soil particles not receiving pesticides
- Improved soil health
- addressing consumer concerns

*“The macadamia industry is aware of the consumer pressures our industry is coming under and both growers and processors are working to meet the challenges”, Mr. Allcott says.*

# New Practice - spot spraying

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## Forecast \$ savings per year

- Herbicide \$26 000
- Labour \$12 000
- Fuel \$2 500

Total in excess of \$40 000 saved per year

Pay back period is less than 12 months.

Mr. Allcott explains *“the forecast budget on the Weedseeker® shows it should pay for itself within 1 year’. ‘There are not many agricultural inputs that can do that”*

Growcom is pleased to acknowledge and thank our funders and project partners in the delivery of the Caring for our Country Reef Rescue program



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