

WeedSeeker®

2012



The Weedseeker® Selective
Spray Unit

Reef Rescue Case Study: WeedSeeker®

For the past two years Mackay Canegrower Rod Lamb has been working with BSES Limited to adapt the WeedSeeker® Selective Spraying technology for use in the cane industry.

Commonly used in broad acre crops, WeedSeeker® uses infra-red light emitting diodes to emit light downwards to detect weeds. Light reflected back is captured by sensors and analysed for the light spectrum of green plants.

When detected spray nozzles fire a small amount of herbicide on top of the plant.

The use of this technology in broad acre crops has resulted in the reduction of herbicide by up to 80 per cent. Traditionally, in broadacre this technology has been used on boom sprays and only recently has been fitted to inter-spray hoods for use in-crop.

For use in the cane industry, Rod has fitted the diodes and sensors to inter-row spray shields for use in plant and ratoon crops. The benefit of using this technology is that when there is no weed under the sensor the nozzle will not spray; compared to conventional spraying in which a continuous stream of

herbicide is applied regardless of whether or not a weed is present.

Trials:

During the last spray season Mr Lamb has been trialling the innovative technology to see whether the conversion is worthwhile in the cane industry.

Mr Lamb sprayed two paddocks using the WeedSeeker®, one paddock was 6.5 hectares and the other 20 hectares. The weed pressure varied between the two paddocks with the larger paddock having slightly higher weed pressure.

Reef Rescue is funded through
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Results:

The result of using the WeedSeeker® highlighted the potential savings from the reduction in the use of herbicide. The WeedSeeker® sprayed 13 per cent of the inter-row in the smaller paddock and 27 per cent of the inter-row in the larger paddock which is what was expected due to the higher weed pressure. Using the conventional shielded spray method 100 per cent of the inter-row would be sprayed. The reduction in the use of herbicide resulted in a saving of \$11.72 per hectare for the smaller paddock and \$9.82 for the larger paddock. This is a great saving both economically and for the environment.

Conclusions:

Using the above results, if a cane grower had 400 hectares which was sprayed twice a year it would take roughly five years to pay for the equipment. "We are planning to undertake more field trials this year in different blocks to see how the numbers add up. Last year's field trials have also raised a number of unforeseen issues such as the weight of the shields used. The current shields have been found to be too heavy for our five row high-rise and when driving at speed create too much movement along the length of the boom. We are currently looking at remanufacturing a new hood to reduce the weight. We have also found that we need to calibrate the sensors more often than initially thought. This year's trials will also assess the optimum position and number of nozzles on the spray unit to gain maximum benefit from the equipment," Mr Lamb said.

Images: (from top left) spray coverage using spray shields, Weedseeker® in the field, weed pressure in the inter-row following spraying using a conventional conventional irvin legs sprayer, conventional spraying using the irvin legs.

If you are interested in finding out more about WeedSeeker® contact Phil Ross from BSES on ph: 07 4963 6823 email: pross@bses.com.au

Reef Catchments

Reef Catchments is the regional NRM body overseeing the Reef Rescue program in the Mackay Whitsunday Isaac region on behalf of the federal government. Contact the Reef Rescue team at Reef Catchments on (07) 4968 4200 or email: reception@reefcatchments.com.au www.reefcatchments.com.au