



Selectively apply herbicides, insecticides, fertilisers and fungicides to plants

**WeedSeeker<sup>®</sup>**  
**Selective Spot Spray System**

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# WeedSeeker®

Efficient, cost effective &  
environmentally sustainable



Agricultural producers and contractors are reaping the benefits from sensors that can be used to selectively apply herbicides, insecticides, fertilisers and fungicides to plants in an agricultural, horticultural, viticultural and industrial situation.

WeedSeeker® users are achieving up to 90% savings in fallow herbicide; substantially reducing costs and significantly delivering environmental benefits.

The WeedSeeker® system is designed for use on any crop free surface, such as under vines or trees, between row crops, industrial situations or, most commonly, on broadacre fallow paddocks.

## Research

DPI research in Northern NSW has shown that the average weed cover in fallow paddocks is as low as 20% of the paddock area. This means that often 80% of the herbicide is applied to bare soil and is wasted. This is inefficient, expensive and environmentally unsustainable.

## History

Crop and weed sensing technology has existed as a research tool in Australia since 1984. The concept was originally developed by researcher Warwick Felton at the DPI Tamworth, NSW. The reliable application of the concept in agriculture has only recently been possible with the commercial release of WeedSeeker® and GreenSeeker® selective application equipment.

Selective spot spraying technology was commercialised in the USA in the mid nineties and has found wide commercial application around the globe in all types of environments.

## How WeedSeeker® Works

The WeedSeeker® technology uses sensors and nozzles spaced at 380mm apart. This spacing is due to a narrower field of view of the sensors compared to a 500mm spacing on a standard boom. **The WeedSeeker® will spray only weeds, not bare ground.** WeedSeeker® technology is effective wherever weeds occur intermittently, and can be fitted to most boom sprays.

WeedSeeker® is being used in agriculture, irrigation districts, along roadsides, railway corridors, airport runways, golf courses, parking lots, median strips, parks and hiking trails, etc. The possibilities are limitless.

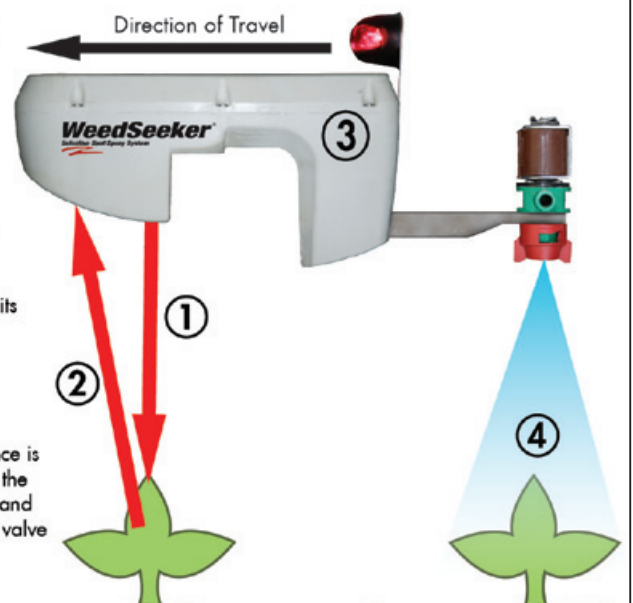
### How a WeedSeeker® sensor works

1. "Light emitting diodes" (LED's) produce a combination of invisible infrared and visible red light which is projected onto the target approximately 700mm below the sensor.

2. The light reflected from the target is captured by a detector at the front of the sensor.

3. Sophisticated electronic circuits inside the sensor analyse the reflected light and determine when it matches the light reflected by green plants.

4. When green plant's reflectance is identified, the sensor waits until the plant is under the spray nozzle and then triggers a fast-fire solenoid valve which sprays the plant.



## Applications

- Broadacre fallow spraying
- Shielded spraying in row crops
- Tree crops
- Fungicide, insecticide and fertiliser applications in vegetables
- Channel spraying
- Industrial (councils, railways, airports and schools)
- Vineyards

## Features

- Weatherproof
- Operational both day and night
- Sensors are unaffected by dust
- Ability to spray on uneven ground
- Modular system that can be added to
- Capable of speeds up to 25km/hr
- Sensor: weight 1.2kg; length 27.5cm; width 8cm; height 13cm
- 12 volt power
- 12 volt fast fire solenoids
- Optional radar speed control

## Benefits of WeedSeeker®

**Reduce herbicide costs** - Australian research has shown savings in herbicide use on cotton, soybeans and fallows commonly in the range of 50-80%. Commercial use of the WeedSeeker® systems in the northern cropping area over the last four years has resulted in a reduction in fallow herbicide use of up to 90%.

**Herbicide resistance** - The emergence of hard to kill fallow weeds such as fleabane, peachvine, milkthistle, roundup ready cotton and marshmallow has become an increasing issue in the northern cropping region. Australia was one of the first countries in the world to discover resistance in annual rye grass (*Lolium* sp) to the common fallow herbicide Glyphosate. The WeedSeeker® allows you to use mixtures of different herbicide groups, which may be currently too expensive to apply in a blanket application. This will prolong the life of existing herbicides and reduce resistance in weed populations greatly improving sustainability of cropping systems.

**Reduction in herbicide drift** - The total chemical released by the boom is substantially lower due to only spraying the weeds and not bare soil. The risk of herbicide drifting onto non-target areas and the surrounding environment is reduced.

**Increased adoption of no-till** - Reduced tillage cropping systems can provide environmental benefits in terms of reducing soil erosion by wind and water. Reducing herbicide use improves returns further and allows more farmers to adopt the system to the benefit of the whole agricultural landscape.

**Environment** - Reducing chemical load in the environment benefits the whole community.

**Water Saving** - Reduce the amount of water used by covering more hectares per tank load. Save time not having to fill tanks as often.

## Testimonials

*"It's fantastic technology. We have recorded chemical savings of between 80-97% across the farm".*

*"We were concerned about spraying bare ground and the environmental impact that was having. The cost savings were also a factor. With the emergence of hard-to-kill weeds in a no-till farming system we wanted the ability to apply robust rates of chemical per weed not per hectare. The WeedSeeker® has given us the ability to use chemicals that we could normally not afford to spray".*

*"Even with low Glyphosate prices, savings can still be significant. When selective herbicides are needed to control hard-to-kill weeds such as fleabane or volunteer Roundup Ready® cotton the savings are substantial."*

**Ian Carter, Pine Ridge NSW**



*"Chemical savings for clients have ranged from 70-95%, depending on the particular paddock, and effectively spraying just 5-30% of the paddock area.*

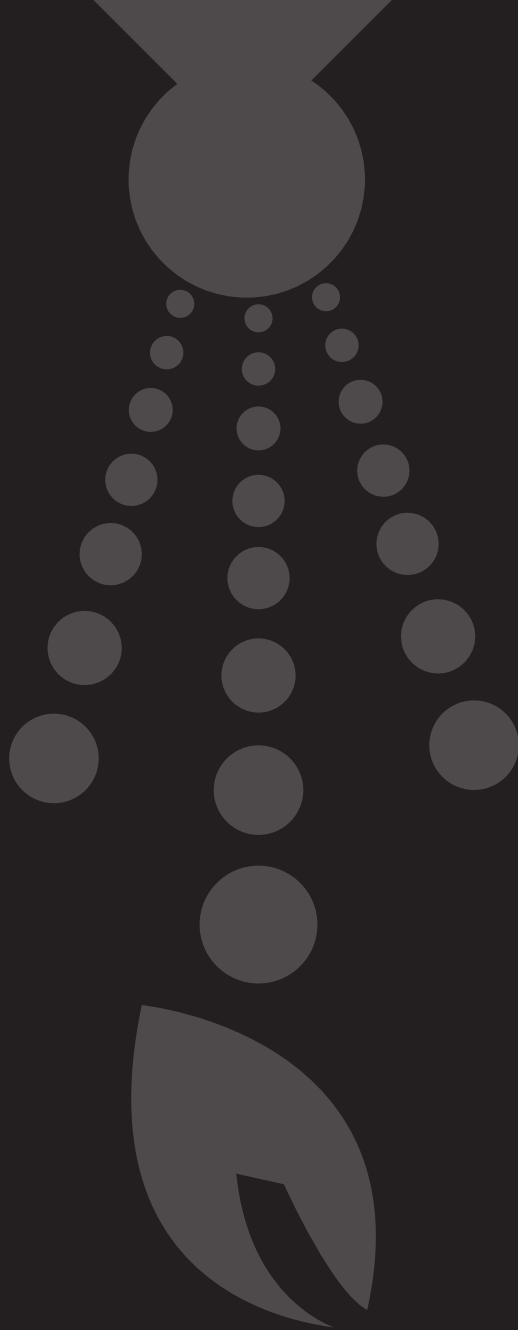
*Before purchasing I spoke to many other WeedSeeker users who were happy with it in the right situation. My research showed it has robustness and it has been around a lot longer than the competition.*

*The WeedSeeker is better in taller, thick stubbles because the sensors look directly down into the stubble rather than across.*

**Andrew Irving – Spraying Contractor, Cunderdin, WA**







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