

BUYERS' GUIDE

EFFECTIVE AUGUST 2019



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CROPLANDS



WEED·IT 
precision spraying

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Prices and specifications are subject to change without notice. Photos are for illustrative purposes only.

WEED-IT

precision spraying

Croplands has a 45-year history manufacturing and importing high-quality spray equipment, working alongside growers in the battle against weeds and continuously striving to develop innovative spray solutions.

We are proud of the part we have played in developing the application of the sophisticated WEED-IT optical spot spray technology – now the world's best-selling optical spot spraying system.

WEED-IT uses advanced sensors to detect chlorophyll in the leaves of weeds in fallow fields, triggering a targeted herbicide application. The precision spraying technology saves growers time and money with spraying and reduces overall herbicide usage.

The focus for Croplands over recent years has been on increasing the scale

of the WEED-IT system to suit the tough conditions of Australian broadacre farming. We have invested heavily in research and development to improve both the chassis and suspension system to minimise fatigue and more importantly, allow the sensors to float both during compression and rebound over a harsh Australian fallow paddock.

The Croplands exclusive contour following boom has been specially designed to maintain optimal sensor positioning above the ground to target even the smallest weeds.

As with all Croplands sprayers, the WEED-IT systems have been designed with operator safety in mind, featuring chemical hoppers, handwash tanks and an access platform for safe and easy tank lid accessibility.

The WEED-IT Toolbar is another adaption of the technology, suitable for smaller broadacre and irrigation properties – available in 12 and 24 metre boom widths.

WEED-IT technology has proven to assist Australian broadacre farmers achieve substantial chemical savings, improve water retention, delay the onset of herbicide resistance and lower their weed seed bank. Croplands and Nufarm are committed to the long-term development of this product through working with growers, understanding the challenges they face and creating sustainable solutions for their future.

THE ULTIMATE WEAPON AGAINST HERBICIDE RESISTANCE

HERBICIDE RESISTANCE IS AN EVER-INCREASING CHALLENGE IN CROPPING SYSTEMS AROUND THE WORLD. THE NUMBER OF RESISTANT WEED SPECIES IN AUSTRALIA IS SECOND ONLY TO THE UNITED STATES.

Over recent times, the management of herbicide resistance globally has been increasingly focused on reducing the weed seed bank and maintaining low seed bank levels.

"The unifying framework ... is mitigation of viable weed seeds into the soil seed bank and maintaining low weed seed banks to minimise population proliferation, evolution of resistance to additional herbicidal sites of action, and spread."

Source: Herbicide Resistance Management: Recent Developments and Trends, Australian Herbicide Resistance Initiative, June 2019¹

WEED-IT Optical Spot Spraying technology is an extremely effective resistant weed management tool and allows growers to:

- » Implement a "go early" approach by cost effectively spraying weeds when they are young and fresh rather than waiting for an "expected" second germination. Usually by the time of the second germination, many weeds have become large, stressed and have often set seed
- » Economically use extremely robust rates of chemicals that give increased weed control when compared to usual blanket applications
- » Mix up their chemistry – WEED-IT allows growers to change to different—and often more expensive—products and still be economical. Mixing and rotating herbicides is key to combatting resistance

1. Herbicide Resistance Management: Recent Developments and Trends: Hugh J. Beckie, Michael B. Ashworth and Ken C. Flower. Australian Herbicide Resistance Initiative (AHRI), School of Agriculture and Environment, The University of Western Australia, Crawley, WA 6009, Australia <https://ahri.uwa.edu.au/publications/herbicide-resistance-management-recent-developments-and-trends/>



WEEDSMART 'BIG 6'²

1 ROTATE CROPS AND PASTURES

Use double break crops, fallow and pasture phases to drive the weed seed bank down over consecutive years

2 DOUBLE KNOCK TO PRESERVE GLYPHOSATE

Follow glyphosate with a high rate of paraquat to control survivors in a fallow or pre-sowing situation

3 MIX AND ROTATE HERBICIDES

- » Rotate between herbicide groups
- » Use different groups within the same herbicide mix
- » Always use full rates

4 STOP WEED SEED SET

- » Crop top canola, pulses and feed barley (currently under permit) in weedy paddocks
- » Consider hay, brown manure or long fallow in high-pressure paddocks
- » Spray top/spray fallow pasture prior to the cropping phase

5 CROP COMPETITION

Adopt at least one competitive strategy (but two is better), including reduced row spacing, higher seeding rates, east-west sowing and competitive varieties

6 HARVEST WEED SEED CONTROL

Capture weed seed survivors at harvest using chaff lining, chaff tramlining, chaff carts, narrow windrow burning or integrated weed seed destructors

WEED smart

every weed every seed
every farm every year

WeedSmart is an industry-led initiative established to enhance on-farm practices and promote the long term sustainability of herbicide use.

weedsmart.org.au

WEED-IT AGRONOMIC APPROACH

Many consultants and growers are now aiming for a “go early and go hard” approach with their WEED-IT systems with several operators modifying their fallow spraying program to a more calendar-based system rather than focusing on weed numbers and germination events.

Small, young weeds are easier to control and have not set seed – not only allowing for easier control but also driving the weed seed bank down over several passes.

GO IN HARD AND AIM FOR ZERO ESCAPES!

2. <https://weedsmart.org.au/the-big-6/>

WEED-IT PRECISION SPRAYING

TAKE CONTROL OF WEEDS IN FALLOW PADDOCKS

- » Operates using blue near infrared sensors to detect chlorophyll in the leaves of weeds in fallow paddocks
- » These sensors activate 50Hz 6 volt solenoids, setting a new standard for high speed nozzle activation
- » Sensor units are spaced one metre apart, reducing weight on the boom and improving operation driving speeds
- » WEED-IT is an important application solution for the management of resistant weeds requiring specialised chemistry



RESISTANT WEED STRATEGY

Spraying on average five to 20% of the paddock depending on weed populations, WEED-IT technology enables the use of chemicals from family groups normally considered too expensive for blanket application. This also allows growers and agronomists to develop long term strategies to tackle herbicide resistance.

BACKGROUND CALIBRATION

Automatically calibrating 40,000 times per second, WEED-IT compensates for varying crop, soil and daylight conditions. Very efficient night spraying with no interference from environmental near infrared sources.

TURN COMPENSATION

Each individual sensor is fitted with a three-axis accelerometer for integrated speed correction to ensure detection and timing is correct in tight corners. This ensures the chemical hits the target accurately every time – regardless of boom tip speed.

ENHANCED ELECTRICAL SYSTEM

Weed detection systems place large demands on electrical supplies. The WEED-IT overcomes this issue by running at 48 volts. This not only gives superior solenoid operation but current draw is 4 times less than other weed detection equipment using 12 volt systems. Faster solenoid operation also means quicker spraying speeds in the paddock.

SENSOR AND NOZZLE PLACEMENT

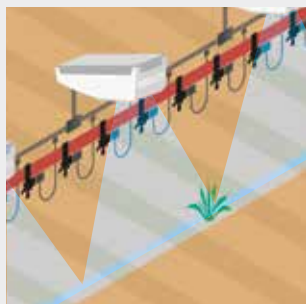
WEED-IT sensors are placed every one metre across the boom and control 4 nozzles (individually) on 25cm spacings. Benefits include less weight due to fewer sensors, a smaller spray footprint and better penetration in stubble with minimal shading of small grasses.

SENSOR ROW SPACING FOR ROW CROP SPRAYING

WEED-IT sensor spacing can be adapted to 40" to meet the needs of row cropping or matching tillage equipment based on imperial measurements. Regardless of sensor spacing, there are four nozzles per sensor positioned at 25cm spacings.

SUPERIOR MODE OF DETECTION

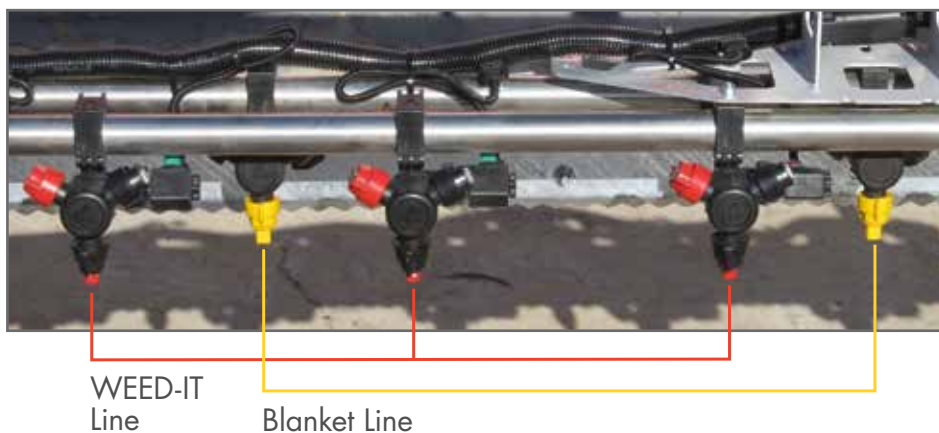
WEED-IT's near infrared technology detects the chlorophyll present in living plants activating a nozzle to target the weed efficiently. This superior mode of detection allows for faster travel speeds and the ability to target even the smallest of weeds. Larger weeds may activate two or more channels triggering multiple nozzles, increasing coverage and dose to the weed.



NOZZLE SELECTION

The standard 40 degree flat even fan nozzle provides a coarse droplet spectrum and provides great coverage for broad leaf weeds in a warm summer weed spraying environment.

Full cone nozzles can be used for larger targets where non-systemic chemicals are used in a strategy to avoid the over use of glyphosate. The full cone nozzle provides the advantage of spraying forwards and rearwards at an angle enhancing penetration. Full cone spray patterns aim for complete plant coverage. Coverage is king with contact chemicals.



IN-CAB MONITOR AND CONTROLLER

The easy to use intelligent display provides constant monitoring of solenoid and sensor operation, with malfunctions or errors reported on screen – including warnings for low pressure, sensor faults and voltage. The smart design allows for easy fault identification and greatly increases productivity as the requirement to visually check and monitor the machine is dramatically reduced.

The display allows for sensitivity adjustments from the easy to use menu. The controller monitors increased boom speeds on corners and automatically adjusts response times to ensure the nozzle hits the target.

This monitor also keeps record of nozzle activation and sensor history.



Croplands WEED-IT 4000L

CROPLANDS CONTOUR FOLLOWING BOOM

BETTER WEED DETECTION + BETTER KILL

Croplands' heavy duty hydraulic fold 24 metre and 36 metre trailing contour following booms are designed to handle Australia's challenging broadacre farming conditions.

The hydraulically steered inner boom wheels control the folding and unfolding of the boom, this is also a pivot point for the boom to contour follow. In total there are five different plains that the boom and sensors can operate at to mirror the contours as accurately as possible. With only small variations in height, the sensors will effectively target small grasses when the boom height is maintained.

Air ride suspension on all boom wheels is custom engineered for Croplands WEED-IT. This helps to maximise sensor effectiveness by controlling compression and rebound to allow the sensor a smooth ride for superior detection.

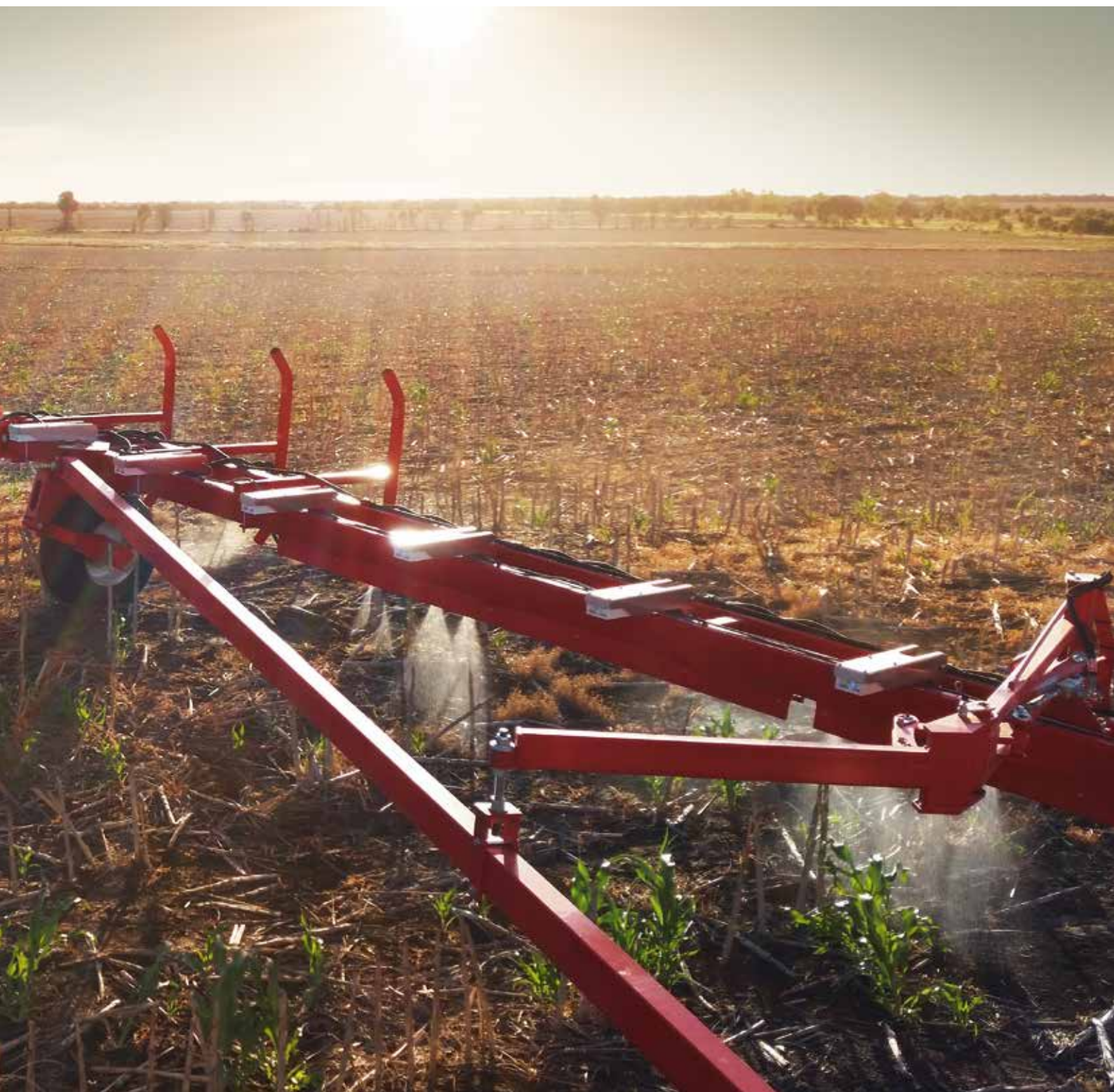
This unique boom is designed to deliver the best results in weed detection and weed kill.

IN-CAB HYDRAULIC FOLDING BOOM

The boom is hydraulically controlled from the cab, to allow for quick and effortless folding and unfolding of the boom, from transport position to field operation.

THE ONLY WAY TO SPOT SPRAY





WEED-IT 7000

THE FIRST FULLY INTEGRATED TWIN TANK SPRAYER WITH INTERLOCKING TANKS

1 7000 LITRE MAIN TANK

Spot spraying sensors or blanket line can be run from the main tank, utilising the dual pumps simultaneously. As an example, a pre-emergent herbicide could be applied through the blanket line, while the spot spray line may apply a knockdown herbicide to existing weeds.

2 1500 LITRE HOT TANK

Used to hold high concentration chemicals used for spot spraying.

3 800 LITRE FLUSHING TANK

Used to regularly flush the boom system and main tanks. This large capacity may provide enough fresh water to finish the last few hectares in a paddock.

4 ELECTRONIC TANK LEVEL INDICATOR

In cab display monitors Hot Tank only. Easy to see tank level gauge featured on tank.

5 DEEPER SUMP CAPACITY

Designed for optical spot spraying – spraying on average five to 20% of the paddock allows 100 litres to cover a lot more country.

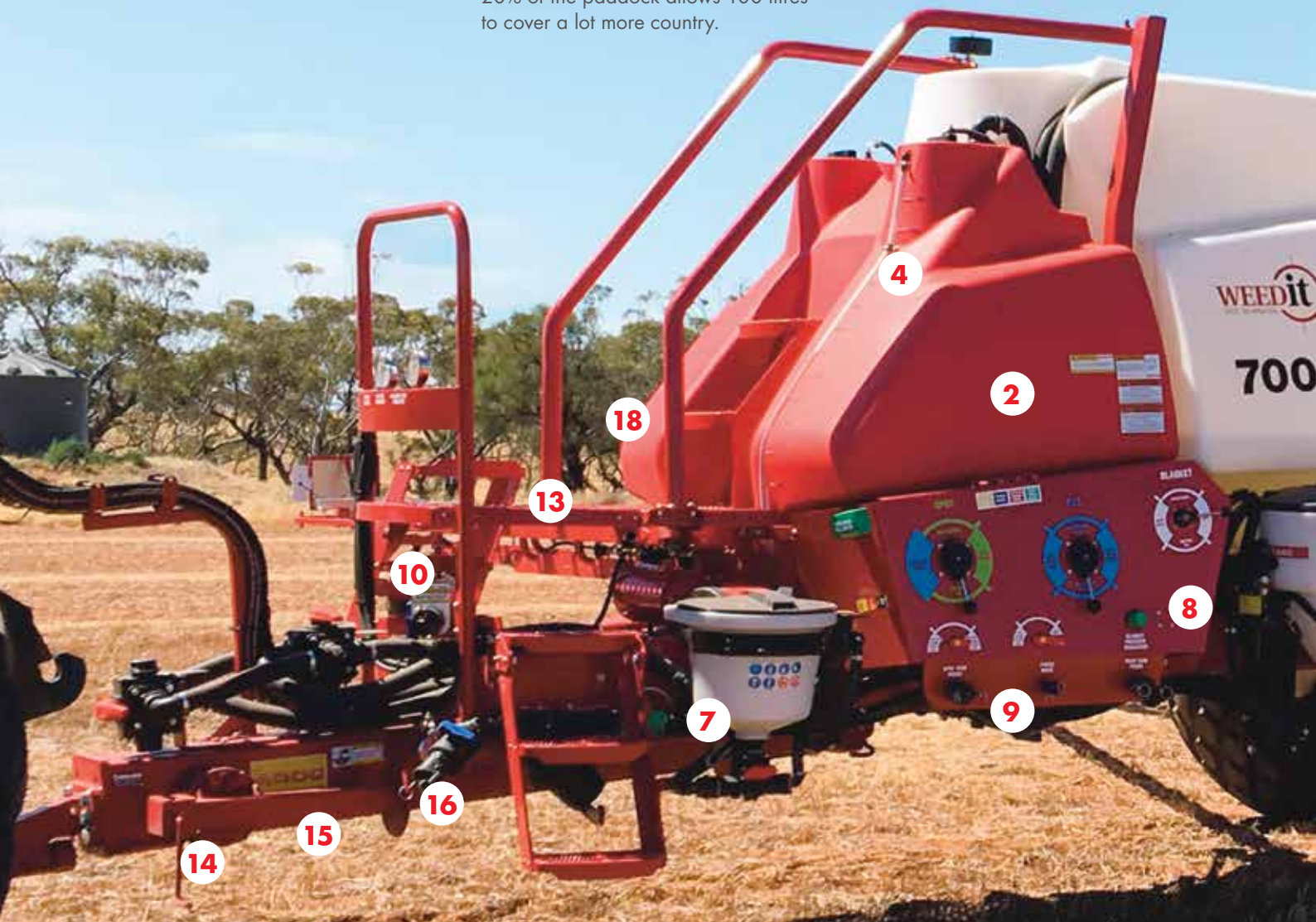
CHEMICAL HANDLING

6 FULLY INTEGRATED CHEMICAL INDUCTION HOPPER

The standard 60 litre Chem-e-flush hopper is fully integrated to the sprayer's control system and delivers chemical to the 7000 litre main tank. Options include a chemical suction probe to induct chemical from smaller drums. Optional 12 volt chemical transfer pump system complete with micromatic drum fittings available.

7 FRONT TANK CHEMICAL INDUCTION HOPPER

30 litre hopper transfers chemicals directly to the 1500 litre Hot Tank.



GREATER CONTROL

8 CENTRAL CONTROL PANEL

Filling, flushing, chemical mixing and induction from one central point.

BIG PUMP CAPACITY

9 HIGH CAPACITY FLOW

Standard pumping system uses two HYPRO 9306 hydraulically driven centrifugal pumps. High capacity flow exceeds 900 L/min and is ideal for spot spraying applications. Optional ForceField stainless steel pump available for dry run protection.

10 SELF-FILL FUNCTION

The self filling pump can be used with 3" camlock for fast and efficient filling.

SMOOTH RIDE

11 CHASSIS AND AXLE

Robust design with three metre air suspension axle and automatic ride height valve.



12 AIR RIDE BOOM SUSPENSION

Featuring airbags to control ride-height. The system utilises coil springs to provide fast and responsive ride for the sensors.



DESIGNED FOR SAFETY AND EASE

13 ACCESS PLATFORM

The up and over platform allows safe and easy access from both sides of the sprayer to the tank lids.

14 MANUAL JACK STAND

Optional hydraulic jack.

15 STANDARD AIR RIDE DRAWBAR SYSTEM

Heavy duty adjustable hitch and swivelling eye drawbar with integrated Hendrickson airbag suspension.

16 17 DUAL HAND WASH FACILITIES

18 DRUM RACK

19 STANDARD MUD GUARDS AND MUD FLAPS

STANDARD REAR MOUNTED ROAD LIGHTS

Mounted at the rear boom tips.



WEED-IT 6000 | 4000

VERSATILE TANK OPTIONS

- SPOT SPRAY ONLY OR OPTIONAL DUAL LINE

1 6000 OR 4000 LITRE MAIN TANK

Spot spraying sensors or optional blanket line can be run from the main tank, utilising the dual pumps simultaneously. As an example, a pre-emergent herbicide could be applied through the blanket line, while the spot spray line may apply a knockdown herbicide to existing weeds.

2 1100 LITRE HOT TANK

Spot spraying sensors are run from the Hot Tank. A common strategy used to delay the onset of herbicide resistance is to use a more concentrated combination of chemicals for spot spraying. This is often referred to as the 'hot mix'.

3 470 LITRE FLUSH TANK

CHEMICAL HANDLING

4 CHEMICAL INDUCTION HOPPER

- » 60 litre Chem-e-flush
- » Integrated suction probe transports chemical directly into the tank without putting neat chemical through the pump
- » 12 volt chemical transfer pump system comes complete with micromatic couplings



BIG PUMP CAPACITY

5 HYDRAULIC DRIVE CENTRIFUGAL PUMPS

Makes filling, flushing, chemical mixing and induction a simple and efficient process from one central point.

GREATER CONTROL

6 CENTRAL CONTROL PANEL

From a central point, the operator can take charge of all the filling, mixing and flushing.

When the operator camlocks a 2" filling hose to the non-return valve on the sprayer, they can select to fill the spot spray tank, flush tank or main tank.



Optional Visio display for in-cab tank level reading.

DESIGNED FOR SAFETY AND EASE

7 30 LITRE FRESH WATER TANK

REAR TAIL LIGHTS AND FLASHING BEACON

SMOOTH RIDE

8 CHASSIS AND AXLE

The chassis encompasses a simple robust design with a 3 metre air suspension axle and an automatic ride height valve.

AIR RIDE BOOM SUSPENSION



LIGHTWEIGHT AND EASY TO TRANSPORT

FEATURES

TANK AND CHASSIS

- » 1100 litre polyethylene tank, fitted with hinged lid top/bottom fill and fully draining sump. Comes standard with tank rinsing facility and drain outlet. Easy to read calibrated sight gauge, UV and chemical resistant. Easy access bottom fill and controls
- » Can be filled with a fire-fighter through the standard 2" fill coupling
- » Heavy duty fabricated chassis with easy access platform designed for maximum durability, fitted with stands for when uncoupled
- » 3.5 metre transport width

CONTROLS

- » WEED-IT System – easy to use intelligent display provides constant monitoring of solenoid and camera operation, with malfunctions or errors reported on screen
- » This display allows for setup and sensitivity adjustments from the easy to use menu
- » The controller also monitors increased boom speeds on corners and automatically adjusts response time to ensure the nozzle hits the target
- » 5" touch screen level display for folding and monitoring of the hydraulic gauge wheels

HYDRAULIC FOLDING BOOM

- » Heavy duty hydraulic folding 12 to 24 metre booms designed to handle Australia's challenging broadacre farming conditions. Responsive hydraulic levelling via a gauge wheel custom engineered for Croplands WEED-IT and helps to maintain boom height
- » Boom folds to the rear for ease of transport

FLUSHING AND SAFETY

- » 20 litre fresh water/handwashing tank fitted for operator safety
- » 120 litre polyethylene tank for sprayer flushing



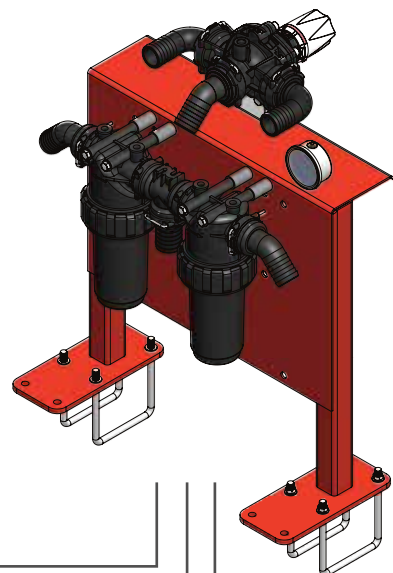
WEED-IT CONTROLLER AND MOUNT BRACKET

For easy installation in the tractor cab.



GPS SPEED SENSOR

The Astro 5 GPS Speed Sensor continues to provide speed input when turning on headlands, for consistent application and accurate speed readings.



BOOM RECIRCULATION

Recirculation plumbing keeps boom lines active with improved flow response.

POWER BOX

Mounted to the toolbar with either a 4" or 7" U-bolt provides power to all sensors and solenoids.

PRESSURE FILTERS

Traps particles before reaching the solenoid valves and nozzles.



WEED-IT 24m Toolbar

TACKLING WEEDS WITH MINIMAL ENVIRONMENTAL HARM

Haydon Wass was looking for a solution to tackle problem weeds whilst also reducing the chemical load on his family's cropping property 'The Plains', Nyngan NSW. His recently purchased WEED-IT 7,000 litre with 36 metre boom is helping him achieve this and more.

Haydon along with his brother Michael crop 4400 hectares and grow a combination of wheat, canola, barley, chickpeas and lupins.

Windmill grass and buttongrass are amongst the worst weed offenders in summer and sometimes require up to five sprays, depending on summer rainfall.

Haydon is conscious of the environmental impact of reducing the chemical load and managing herbicide resistance within his cropping operation.

"Regardless of whether we are saving money, from an environmental point of view, the less chemical going out, the better", says Haydon.



Haydon Wass and son-in-law Adam with Jack Ryan (left) from Western Farm Machinery, Warren.

Haydon uses an equivalent application rate of 100 to 120 litres per hectare at average travel speeds of between 13 and 15km/h, depending on the size and stress of the weeds in the paddock.

"TROUBLE-FREE" WITH "NOT EVEN A BLOCKED NOZZLE"

This summer Haydon sprayed over 7,000 hectares with chemical usage rates averaging only 20% of a traditional blanket spray. In subsequent passes usage

was as low as 5%. The water saving was over 550,000 litres representing a huge saving in time, pumping and transporting.

"Across 820 hectares, we used 2,000 litres of water using the WEED-IT compared to 82,000 litres that would have been used in a blanket spray. The tank filling time for 82,000 litres at 300-500 L/min, plus your time to transport this amount of chemical would have been huge".

Haydon has also been impressed by the quality and reliability of the machine which arrived on farm flushed and ready to go. The WEED-IT has been "trouble-free" with "not even a blocked nozzle".

NATIONWIDE DEALER LISTING



www.croplands.com.au

NSW

Cowra	Cowra Machinery Centre	02 6342 5555
Forbes	Forbes Machinery Centre	02 6852 3211
Griffith	Guidolin Agrimac Australia Pty Ltd	02 6964 3400
Gunnedah	NFS-Ag	02 6742 7771
Moree	Black Truck & Ag	02 6752 2277
Parkes	McPherson's Parts & Service	02 6862 3888
Temora	Temora Truck & Tractor Service	02 6977 1098
Tottenham	Western Farm Machinery	02 6892 4078
Walgett	Walgett Tyre & Machinery Service	02 6828 1500
Warren	Western Farm Machinery	02 6847 3422
West Wyalong	West Wyalong Machinery Centre	02 6972 1057

QUEENSLAND

Biloela	BMAS	07 4992 5332
Capella	Western Mechanical	07 4984 9925
Dalby	Black Truck & Ag	07 4669 8988
Dalby	Dalby Rural Supplies	07 4662 6122
Emerald	Springsure Tractor & Header Service	07 4984 1258
Goondiwindi	Black Truck & Ag	07 4677 8113
Goondiwindi	Agtronics	07 4671 4715
Roma	Black Truck & Ag	07 4624 4800

SOUTH AUSTRALIA

Cleve	Pringles Crouch	08 8628 2150
Crystal Brook	Pringles Crouch	08 8636 2257
Cummins	Pringles Crouch	08 8676 2105
Kadina	AW Vater & Co.	08 8821 3922
Kimba	Pringles Crouch	08 8627 2071
Loxton	Ronco Motors	08 8584 5575
Pinnaroo	Ronco Motors	08 8577 8129
Saddleworth	AW Vater & Co.	08 8847 5000
Wudinna	Pringles Crouch	08 8680 2236

TASMANIA

Statewide	Spray Shop Tasmania	03 6343 1666
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VICTORIA

Ballarat	Central Machinery Services	03 5332 0566
Bendigo	Precision Control Australia	03 5448 8484
Horsham	Traction Ag	03 5381 1385
Mildura	Sunrise Ag	03 5023 0284
Nhill	Traction Ag	03 5391 1144
Ouyen	Sunrise Ag	03 5092 1031
St Arnaud	The Sprayer Centre	03 5495 3222
Swan Hill	Sunrise Ag	03 5032 0099

WESTERN AUSTRALIA

Albany	AFGR	08 9842 8529
Boyup Brook	AFGR	08 9765 1305
Dalwallinu	AFGR	08 9661 1105
Esperance	AFGR	08 9071 6702
Gnowangerup	AFGR	08 9827 1207
Lake Grace	AFGR	08 9861 0000
Perth	AFGR	08 9277 1140
Pingelly	AFGR	08 9887 1395
Wagin	AFGR	08 9861 0000
Wongan Hills	AFGR	08 9671 1311

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Rob Graham 0409 597 462

South and Central QLD

Michael Clarke 0428 311 831

South QLD/North NSW

Craig Blackett 0407 485 569

Central NSW/TAS

Dave Farmer 0427 651 971

SOUTH

South NSW/VIC

David Hamilton 0427 975 072

VIC Steve Ross 0417 832 784

SA/South VIC

Jeremy Deck 0430 006 672

WEST

WA Scot Craig 0448 337 280

NATIONAL SALES AND SUPPORT

SALES MANAGER

Jeremy Rennick 0409 065 994

CROPLANDS AUSTRALIA

Freecall 1800 999 162

Freefax 1800 623 778

Email sales@croplands.com.au

f www.facebook.com/Croplands

t www.twitter.com/Croplands

CROPLANDS HEAD OFFICE

50 Cavan Road Dry Creek SA 5094

Tel 08 8359 9300

Fax 08 8349 6175

Technical Service 1300 650 724

YOUR CROPLANDS DEALER

OUR RANGE OF BUYERS' GUIDES



OPTIMA



Horticultural



Self Propelled



WEED-IT Optical
Spot Spraying



Broadacre Trailed