

garford

providing advanced technology for progressive farming



robocrop

spot sprayer

The intelligent sprayer from Garford – targets the weeds, not the crop.

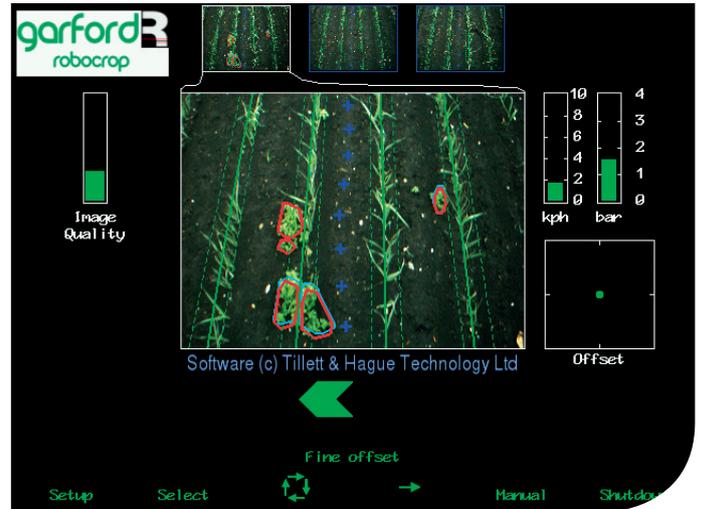
Developed by Tillett Hague Technology, the Robocrop Spot Sprayer is designed to target individual clumps of weed material growing in young row crops. Specifically the spot sprayer targets volunteer potatoes growing in carrot and onion crops.

The Robocrop imaging camera views the crop ahead of the spray boom and locates the crop row using imaging techniques derived from the renowned Robocrop Precision Guidance System. As the Spot Sprayer advances forward the system analyses the image to locate other features such as clusters of green pixels which relate to clumps of weeds growing either between or within the crop row.

The operator can regulate the Robocrop imaging to suit the crop and desired performance i.e. weed kill versus crop safety. Crop row band width (the green dotted lines), Coverage % (the size of the red and Minimum target size are operator definable adjustments.

Robocrop analyses the images at 30 frames per second as the crop and weeds move down through the image. As the weeds pass the toolbar the appropriate nozzle from the array of specially developed nozzles is momentarily fired in order to apply a small accurate dose of non selective or selective weedkiller to the weed. The nozzle produces a tightly controlled droplet size in order to resist drift and reduce splash when the droplets hit the weed leaf.

The special nozzles normally work at a pressure of less than 1 bar and produce a narrow angle fan of about 14 degrees in order to precisely target the weed and avoid contact with the crop. With a forward speed of 5kph and nozzle height of 30cm an area of just 5.0 x 7.5cm can be targeted.



Application rate within the target area equates to about 180L/ha however with only a very small percentage of field area actually sprayed chemical usage is a fraction of that used in overall applications. In trials a 2% glyphosate solution has given excellent weed kill.



In situations where the weed is providing a canopy over the crop glyphosate can be used through all nozzles.



If the crop is as big as or bigger than the weeds then it is possible to use a selective herbicide through the nozzles directly over the rows while still using glyphosate between the rows.

As the selective is applied primarily to the plant higher dosage can be considered in order to give better weed control.



The Robocrop system also controls the disc steer units to keep the nozzles perfectly aligned along the row. The disc steer units incorporate a height control system which maintains boom height control irrespective of wheel track undulations.

The 6mtr hydraulically folding toolbar can be used in conjunction with any tractor with a cat.2. front linkage. A 12V power supply and hydraulic connection are also required.



Combination spot sprayer and hooded sprayer or Spot Sprayer and Hoe can be supplied so increasing the flexibility of the system in order to provide a weeding solution throughout the whole of the growing season.



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