

# Applications for 2 cm Autosteer

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## AUTOSTEER IDEAS AND INNOVATIONS

The potential benefits of autosteer to farming are only limited by your imagination. Here is a brief list of ideas and innovations using gps that are currently being implemented by farmers and/or investigated by researchers.

Inter row sowing (outlined below – precision sowing)

- Relay cropping – sowing one crop inter row into an existing crop e.g. summer feed or crop into winter cereal
- Precision spraying – using shrouds and other techniques to only target crops rows with fungicides and insecticides (good for IPM and cost savings). Using drop nozzles to spray products like Treflan down in between stubbles to reduce tie up.
- Wide row cropping – use expensive grass herbicides (Axial, Kerb, high rates of Select) on the crop row and knockdown herbicides (Roundup, Sprayseed, Basta) on the inter row.
- Variable rate spraying and top dressing – targeting ryegrass “hot spots” with high rates of Avadex with direct injection systems. Using a “N sensor” for variable rate urea and fungicide application based on the size of the crop canopy

## PRECISION SOWING

The advent of 2 cm autosteer in agriculture is exciting. It allows farmers to sow crops with a high level of precision never thought possible before gps. Research and farmer experience is proving that precision sowing can improve your cropping system and make you money by having the ability to sow crops inter row or at/near the row of last years crop.

The benefits of inter row sowing are:

- increased yield of wheat-on-wheat due to less soil borne disease on the inter row (Table 1)
- better establishment of canola and cereals into cereal stubble
- increased harvestability of lentils by using standing cereal as a trellis
- ability to handle high biomass stubbles and reduce stubble clumping (hay stacks)
- leave more stubble standing and increase the efficacy of soil applied herbicides

Table 1. Wheat-on-wheat yields in inter row sowing experiments 04/05

Site	Sowing row	Yield t/ha	% increase	Disease effect
Sandilands SA 2004	Inter row	4.11	6%	Take-all
	In row	3.88 (lsd 5% = 0.21)		
Tammworth NSW 2004	Inter row	2.51	9%	Crown rot
	In row	2.30 (lsd 5% na)		
Sandilands SA 2005	Inter row	3.74	9%	CCN and Take-all
	In row	3.42 (lsd 5% = 0.31)		
Hart SA 2005	Inter row	2.99	8%	None
	In row	2.77 (lsd 5% = 0.13)		
Buckleboo SA 2005	Inter row	2.82	None	None
	In row	2.79 (no sig. diff.)		

The benefits of sowing on/near last years sowing row:

- increased ability to establish a crop under marginal moisture conditions in a knife point / press wheel system
- more even seed bed with dry sowing by running your tyne in last years loose soil in the seed furrow and not having to penetrate hard ground
- potentially recapturing previous years residual nutrition e.g. N and P

## **NIGHTSPRAYING**

The ability to spray at night has proven to be useful when:

- there are not enough hours in the day during busy periods e.g. sowing
- conditions are too windy during the day
- conditions are hot and dry for summer weed control

A number of herbicides were tested by Ag. Consulting Co. and the YP Alkaline Soils Group to compare the efficacy of these products at night. Key results and observations were:

- Group A (Targa®, Select®): OK at night, except Targa® had reduced efficacy once under frost conditions at night at Ardossan in 2002
- Group B (Midas®, OnDuty®, Ally®, Hussar®, Oust®, Atlantis®): OK at night, except Midas® had reduced efficacy under frost conditions at night at Ardossan in 2002
- Group C (Lexone®): OK at night, although symptoms of herbicide action may be delayed
- Group L (SpraySeed®). OK at night, although symptoms of herbicide action may be delayed.
- Group M (Roundup Max®). OK at night, although symptoms of herbicide action may be delayed.
- Group F (Sniper®, Brodal®): OK at night
- Group I (2,4-D amine): OK at night
- Group G (Goal®, Affinity®): Bit of a mystery? Not recommended at night due to reduced efficacy in some cases under good spraying conditions.

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