

## Robocrop on trial

An innovative research project looking at inter row weed control in narrow row crops has been approved in the latest round of Natural Resource Innovation Grants. The YP Alkaline Soils Group project, managed by Mr Bill Long, Ag Consulting Co is evaluating a high precision, shielded spray-rig designed by local farmer Peter Farrow.

Farming on lower Yorke Peninsula, Peter sows his crops with a 12m (40ft) K-Hart double disc opener on 300mm (12") row spacings. He was pleased with the no-till system but was frustrated by his reliance on selective herbicides for in-crop weed control, so started looking for other options.

Attending a presentation by Malcolm Taylor on the use of a Robocrop® system for inter row cultivation, gave Peter an idea. Why not use Robocrop®, a system that uses a colour, digital video camera to help provide real time implement guidance, for inter row shielded spraying?

With support from Malcolm and KEE Technologies, Peter has designed a 12m (40ft) shielded sprayer consisting of 41 shrouds, each 23cm (9") wide. Each plastic shroud contains one spray nozzle and is attached to the bar with a parallelogram mounting. The spray tank is 2500 litres and the whole rig is mounted on the three point linkage.



*Frustrated by the cost of in crop weed control, Peter Farrow designed his own high precision, shielded spray-rig. Ryegrass counts were 57 plants/m<sup>2</sup> for an sprayed inter rows (R) compared to only 1.5 plants/m<sup>2</sup> when sprayed with a non-selective herbicide.*

The design only leaves 3.8cm between each side of the shroud and the crop row, making accurate guidance imperative. The tractor is fitted with KEE's Zynx X20 autosteer guidance, which is an RTK system giving 2cm accuracy.

The spray-rig is guided by the Robocrop®, which is mounted on the boom. The camera works on four crop rows, scanning ahead of the shielded sprayer. It is sensitive to green, so uses the crop rows to accurately guide the sprayer in the inter row. The information from the camera is fed back to a computer that calculates the shield's position in



relation to the crop row and where necessary triggers the hydraulic side-shift to realign the sprayer.

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### Diary dates to remember

**September 2007**

*the Annual Precision Agriculture Symposium, to be held in New Zealand, more information in future issues or on the website.*

# President's Report



There has been much action at SPAA since I reported in Precision Ag News in November. However, we are still waiting for the action to be crystallised in to results.

GRDC approached SPAA to be a joint player in a PA training project. We are still waiting to hear if our bid, which is in partnership with Brett Whelan's team at Australian Centre for Precision Agriculture, has been successful. However, in anticipation we have included a survey on the back page of this newsletter to gather feedback on members PA training needs. Please complete it and return it to Allan Mayfield no later than February 17th 2007. All information will be treated in confidence but we do need your contact details to enter

you into the prize draw and to keep you informed of training opportunities that meet your specific requirements.

We hope to hear from the National Landcare Project shortly. If successful this project moves our work with individual farmers to a group level. The aim is to help growers, compile their PA data (including yield maps, EM maps, etc) and to work-out the most appropriate use of variable rate inputs.

The position of Executive Officer for SPAA has not yet been filled. The SPAA Executive is continuing to evaluate alternative arrangements. The position will be advertised shortly and expressions of interest are sought. We hope to be able to announce an appointment in the next few months.

I hope you have enjoyed reading the latest edition of Precision Ag News. In future issues we plan to look at on-the-go harvest quality monitors (grain, grape, pasture etc), and sources and interpretation of remotely sensed data. If you have experience in either of these areas and would be willing to share it with members, please contact our editor Emma Leonard 08 88341233, emma.leonard@bigpond.com by February.

Wishing you a productive and wet 2007.

**Malcolm Sargent,**  
President SPAA 08 8636 2565,  
[president@spaa.com.au](mailto:president@spaa.com.au)

## Industry News . . .

### Sprayer height controller

gpsAg has created an alliance with Canadian company Norac to distribute and support their UC4 Boom height controller in Australia.

The system uses ultrasonic sensors mounted on the left, right and centre of the boom, to automatically maintain a preset height above the ground or crop across the boom width.

Forty readings are made every second and this data is used to adjust boom height so it automatically follows land contours. The system is so dependable that it can allow an average speed of over 28km per hour in all kinds of uneven terrain.

The NORAC UC4 Control System uses the step-less output of

proportional valves to provide a much greater and uniform level of boom control, minimizing boom rocking motion. Proportional valves enable the UC4 system to operate each boom independently. Height corrections are smooth, even, and automatic.

**For more information visit [www.gps-ag.com.au](http://www.gps-ag.com.au)**

### More to CTF than steering straight

At The 4th Australian Controlled Traffic Farming Conference, in September, The Hon Bob Cameron, Minister for Agriculture, Victoria launched the Australian Controlled Traffic Farming Association (ACTFA). The Association will promote, support and guide the

development of CTF for all relevant agricultural industries, including grains, horticulture, cotton and sugar.

A key role for ACTFA will be to support the development of CTF initiatives and be a vehicle for the dissemination of CTF related information across all relevant agricultural industries.

One way ACTFA will help members share information will be via an interactive website. Members are encouraged to complete a member profile about their farming system. The site will also contain a photo gallery, newsletters, access to CTF research, updates for regional activities and more.

Conference papers will be made available on the ACTFA website.

**To become a member of ACTFA please go to the website [www.actfa.net](http://www.actfa.net)**

## Company strengthens agriculture position

Topcon Positioning Systems Inc. (TPS) has acquired KEE Technologies Pty Ltd.

KEE Technologies has more than 25 years experience in agricultural electronics and applications. Its single console ZYNX system allows farming equipment to be monitored and controlled in real time and provides exemplary environmental risk management.

Topcon Positioning Systems Inc. (TPS) is the United States of America subsidiary of Tokyo-based Topcon Corporation. A \$1 billion-plus company, Topcon Corp; the company's primary shareholder is Toshiba.

As a developer and manufacturer of positioning equipment, Topcon Positioning Systems offers the world's leading selection of innovating precision GPS, GIS, laser, optical surveying, and machine control, products, software, and applications.

TPS products are used worldwide in the areas of data acquisition and management, machine control, precision land levelling, mapping, and water use management.

The KEE management team will remain in place and all current KEE employees, will remain with the new company.

**For more information on Topcon Positioning Systems visit <http://www.topconpositioning.com/>**

## Robocrop on trial

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The rig is fitted with a 25 section auto shut-off, so nozzles are automatically switched off over crop headlands.

Peter used the system for the first time in 2006 for ryegrass control in cereals and controlling medic and

## Investment boosts growth

AutoFarm®, the leader in GPS precision farming, has made a strategic investment in gpsAg.

gpsAg will be managed as an independent company by its current management and will continue to carry the same precision product lines requested by its customers.

AutoFarm, is a division of Novariant Inc.

**For more information visit [www.gpsfarm.com](http://www.gpsfarm.com)**

## Administrators appointed

SPAA has been informed that RSM Bird Cameron Partners have been appointed as Administrators to Computronics Corporation Ltd, trading as Farmscan and Textlite and to Precision Farming Australia Pty Ltd.

The letter ( December 6th 2006) confirms that the company will continue to trade but more information can be obtained from Neil Cribb or Mark Conlan, Joint and Several Administrators, 08 9261 9100

## Remote data sources

Members may be interested to follow-up these two suppliers of remotely sensed data who have been in contact with SPAA.

bifora in lentils. He has been pleased with the results, especially the lack of crop damage adjacent to the shield. In cereal crops ryegrass counts were 57 plants/m<sup>2</sup> for unsprayed inter rows compared to only 1.5 plants/m<sup>2</sup> when the inter row was sprayed with a non-selective herbicide.

He is keen to explain that the system is still in its infancy and the innovation grant will allow it to be

**QASCO** have the largest aerial photography fleet in Australia. Their services include digital geo-referenced thermal imagery and simultaneous colour video imagery.

The images are produced as maps and on CD-Rom, the latter can be evaluated using TNTView software. These can be zoomed, measured exactly and printed. They can be overlaid/integrated with other geo-referenced data.

This technology is currently being used in the northern grain and cotton industries for irrigation scheduling, disease identification, mid season yield evaluation.

**For more information contact visit [www.qasco.com.au](http://www.qasco.com.au)**

**Geoimage Pty Ltd** is an independent image processing consultancy specializing in the production and sales of satellite and geophysical imagery, and the processing and analysis of remotely sensed data for natural resource applications.

Geoimage has been the leading Australian satellite remote sensing data supplier since 1990. They are a value added reseller for many of the satellite operators and have access to both Australian and overseas archives. A number of large organizations contract Geoimage to process and manage their image archives.

According to their website - Whatever the requirements - digital maps or imagery, hardcopy, processing and archiving, software, training, consulting or interpretation - Geoimage provides clients with the very best service and advice.

**For more information visit [www.geoimage.com.au](http://www.geoimage.com.au)**

properly assessed, and for more information on when to spray and the uses of mixes to be evaluated.

Peter also emphasised that this type of rig and technology must dovetail in with the rest of the machinery system – RTK guidance, autosteer, sufficiently strong three point linkage, a seeding system that matches the sprayer width and does not leave the inter row too rough – are all required.

# SPAA Survey of training needs in precision agriculture



This is to assess training needs of growers, advisors and other service providers in all production sectors to help design training programs and to plan future group training programs.

For further details contact Allan Mayfield (0418 818 569 or mayfield@capri.net.au)

Reply to: Allan Mayfield FAX 08 8842-3330, or post to 14 Vanga Avenue, Clare SA 5453. By 17th February

Name.....Location.....

Phone number.....Farm enterprise (eg cropping/viticulture).....

	Can do now	Would like to do -in next year	Would like to do -in next 3 years
A general introduction to PA			
Understanding GPS			
Understanding the "what and how" of other useful PA sensor technology - ground based in- season crop sensors - imagery from planes and satellites - other			
Operating yield sensing equipment and software			
Cleaning up yield data and making good maps			
Combining yield maps from several years to produce zone maps			
Adding other data layers, such as elevation or EM to yield maps			
Deciding on soil/plant tests to do in zones			
Designing prescription maps for variable rate application			
Incorporating prescription maps into a seeding, spreading or spraying operation			
Doing large scale field trials, eg fertiliser rates			

## Current PA equipment & capability?

	Details
Make of yield mapping equipment & software	
Make, type & accuracy of guidance system on - seeder - sprayer - spreader - harvester	
Variable rate capability on seeder	
Variable rate capability on sprayer	

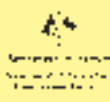
Would you be interested in being in a local Precision Ag. group to advance PA skills and experience with technical experts, group interaction & on-farm trials?

Yes / No

## Southern Precision Agriculture Association

Phone: 08 8842 1568 Email: admin@spaa.com.au Web: www.spaa.com.au

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