

Zone Trials

Allan Mayfield, Research Coordinator

- Six new sites added to the trial, 12 sites in total.
- Aim to identify and profitably manage key limiting factors to grain yield.
- Treatments include deep ripping and placement of nutrients at depth, variable rate nutrient applications and strategic use of herbicide for ryegrass control.

Paddocks were zoned into high, medium or low yielding areas based on a combination of the following. Several years of yield maps, for information on spatial and seasonal yield variation. An electromagnetic induction survey (EMI) for information on variation in soil texture, water and salt content of the soil. Elevation maps that can indicate changes in soil type, for example heavy clay in the flats, lighter soils on the rises and hills.

Phosphorus

The benefit of varying phosphorus rate was clearly demonstrated in Malcolm Sargent's Road paddock. The two distinct soil types, a loamy soil with friable subsoil and a heavier clay soil are not obvious from a glance across the paddock but show up in yield and EM maps.

Lower grain yields in the heavier soil type left more phosphorus (57ppm) – way above the minimum level required. In the more friable soil,



Allan Mayfield discussing the zone trials at the spring field day

the soil phosphorus level (27ppm) was near the mark for crop growth. This is a clear case for applying lower rates to the heavier soil and maintenance rates to the lighter soil. Trial plots with different phosphorus rates have shown this to be the right decision.

Phosphorus rate treatments are also being tested at:

Mark Branson's – Riverton - results are not as clear cut as at Malcolm Sargent's.

Allen Buckley's - Waikerie – in 2005, in the Mallee, higher rates of phosphorus produced higher barley yields on the sand hills but reduced them on the shallow soil on the flats. Results were in line with leaf tissue tests at tillering.

Andrew and Rodney Weidemann's - Rupanyup - in the Wimmera soil, reducing phosphorus rates because of the lower crop yield in 2004 did not reduce the wheat yield in 2005.

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Diary dates to remember

14th August	<i>SPAA strategic planning workshop</i>
18th August	<i>10th Annual Symposium on Precision Agriculture in Australasia</i>
27-29th September	<i>4th Australasian Controlled Traffic Farming Conference</i>

President's Report

It is with great regret I announce that the inaugural SPAA Executive Officer, Dr Rohan Rainbow, has resigned and his last day will be Friday 28 July 2006.

Rohan has made a significant contribution to SPAA over the last four and a half years and to precision agriculture Australia wide. His knowledge, enthusiasm and great dedication to precision agriculture has been recognised.

Rohan has put in endless hours to ensure the smooth running of SPAA conferences, auto steer days and information days, which have been a credit to himself and SPAA.

Rohan is moving to Canberra to join GRDC as a Project Manager in the Practices Group. On behalf of SPAA, I wish Rohan all the best with his new position and that he finds it as rewarding as his time with SPAA.

I would like to welcome Emma Leonard to SPAA as the Publication Coordinator.

Emma is conversant with PA terminology and communications having just completed the collation of the PA manual for GRDC.

As the Publications Coordinator, Emma will produce four newsletters and two magazines during the next 12 months. As you can see the newsletters will include brief articles, future events and dates, while the magazines will continue to contain more detailed articles of a technical and practical nature.

The SPAA Committee is holding a Strategic Planning Workshop on 14 August 2006 to discuss future planning and vision for the next few years.

The committee welcomes members' comments and ideas. Please forward these to me by 10th August for consideration at the Strategic Planning Workshop.

I look forward to catching up with many of you at the PA Symposium in Sydney on the 18th August.

Useful dates for SPAA events include:

- SPAA Committee Meeting, Friday 28 July 2006.
- SPAA Strategic Planning Workshop Dinner, Sunday 13 August 2006, Clare Country Club. Contact Brian for more details.
- SPAA Strategic Planning Workshop, Monday 14 August 2006, Clare Country Club. Contact Brian for more details.
- PA Symposium, Friday 18 August 2006, Sydney.
- SPAA Information day and AGM, September 2006 (Date TBA).

Brian Tiller, President SPAA
08 8634 3053,
president@spaa.com.au

Zone Trials

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Nitrogen

At Randall, Jordan and Max Wilksch's, Yeelanna, lower Eyre Peninsula, reduced nitrogen rates produced the highest grain yield of Schooner barley. The 0 rate of urea produced a similar yield to 50kg/ha and 8% more than the 100kg/ha, even though 0 rate produced a much thinner crop that you could chase a rat through. On balance the 50kg/ha rate was better because of the better weed competition and the slightly higher protein.

Nitrogen rate trials are also continuing at Ashley Wakefield's at Urania and at another paddock of Malcolm Sargent's.

Deep ripping

Deep ripping, to reduce hard pans, is being tested at Richard Turner's, Snowtown, and at Graeme Baldock's, Buckleboo. In 2004, the

Turner's faba beans stayed green longer and yielded more in the ripped area than in the non ripped area but in 2005 the wheat sown in this area was thinner and yielded less than in the non ripped area. This shows the importance of running trials for several years, especially for an expensive operation, such as deep ripping.

At the Buckleboo site deep ripping across two soil zones (a flat and a sand hill) did not increase wheat yield. Neither did deep placement of fertiliser or gypsum. This year a similar trial is being done alongside

last year's. Both trials will be monitored for nutrients and yield.

Ryegrass

At Neale Postlethwaite's, St Arnaud, extra treatments for ryegrass control were applied at seeding, to areas where ryegrass was expected to be thicker. Adding AvadexXtra and/or increasing the sowing rate of wheat reduced ryegrass seed set substantially, compared with the standard treatment (trifluralin and a standard seeding rate). This is more cost effective than using more expensive treatments across the whole paddock.

Treatment		Ryegrass heads per m ²	Grain yield (t/ha)
Seeding rate	Herbicide		
75kg/ha	Trifluralin (1L/ha)	112	1.75
75kg/ha	Trifluralin (1L/ha) plus AvadexXtra (1.5L/ha)	52	2.15
150kg/ha	Trifluralin (1L/ha)	40	1.75
150kg/ha	Trifluralin (1L/ha) plus AvadexXtra (1.5L/ha)	19	2.05

SPAA Events

Farmscan Tech Day

SPAA conducted a specialist workshop with 10 owners of Farmscan Canlink systems in Birchip, Victoria, earlier this year to assist them in the adoption of variable rate technology using Farmscan's Canlink and the Data Manager software.

Walpeup grower Daryl Elliott (middle) discussed the use of the Farmscan Canlink system and Data Manager mapping program for variable rate sowing applications. He is pictured here with Farmscan's South Australian area manager Gavin Wheatcroft and Dr Rohan Rainbow, SPAA.

Daryl Elliott, who crops about 1000 hectares of wheat, barley, lupins and vetch, is running precision agriculture guidance in his spraying rig via a Farmscan Farmlap PRO 5500 unit with a Panasonic 'Toughbook' computer. In future he hopes to install this in his tractor to use with auto-steer at seeding.

For more information contact Trevor Dennis, Farmscan 08 9470 1177.



Farmscan tech day

10th Annual Symposium on Precision Agriculture in Australasia

Friday 18th August 2006

Australian Technology Park, Eveleigh, Sydney.

Organised by The Australian Centre for Precision Agriculture (ACPA) and SPAA with generous sponsorship from GRDC, the program will include presentations from researchers, extension agents, commercial organisations and growers.

This year the discussion will focus on:

- International developments
- Application by consultants
- Commercial development
- Soil and crop sensors
- Soil and crop modelling and prediction
- Remote sensing

The primary aim of the presentations is to provide valuable local information to attendees from all facets of the Australasian agricultural community. The symposium is a relaxed and enjoyable forum for discussing the progress and direction of Precision Agriculture in Australasia.

Registration costs \$120 including GST and should be completed by 10th August, 2006.

The full program, registration forms and accommodation suggestions are available at the ACPA website, a link is available from www.spaa.com.au

4th Australian Controlled Traffic Farming Conference

27th - 29th September 2006

Ballarat University, Victoria.



The 4th Australian Controlled Traffic Conference (CTF06) is a conference, trade show and field day all in one. It is a farm-focussed forum for growers, advisers, scientists and technology providers to share information on the science and practice of controlled traffic.

Conference sessions will suit both early adopters and experienced practitioners.

Presenters include Australia's most progressive and innovative growers from grain, cotton, horticulture and sugarcane industries. Technical presentations will include the latest research and agronomy findings.

The Australian Controlled Traffic Farming Association (ACTFA) will be launched at CTF06.

Conference early bird registration before July 17 - \$325 or student registration \$100.

For program details and to register online visit www.actfa.net, or contact Sally Brown Conference Connections 07 3201 2808, sally.brown@uq.net.au

Industry News . . .



Share in Mark Branson's Nuffield experience by reading his study report "Using conservation and precision agriculture to improve farm profits and the environment".

Global perspective on PA

Last year SPAA committee member Mark Branson won a Nuffield Farming Scholarship to study "Using conservation and precision agriculture to improve farm profits and the environment". He travelled to Europe, Canada, and USA to look at their farming systems, new cropping technologies, and to assess whether these applications are relevant to improving profitability and sustainability in Australian broadacre cropping.

His Nuffield report is published on the Nuffield website. Subjects discussed include: carbon farming, on-the-go sensors for pH and protein, remote sensing for post seeding nitrogen applications and the use of plant root simulation probes. Technologies reviewed

include Yara N-sensor®, NTech's Greenseeker® and Holland Scientific's Crop Circle®.

To read Mark's report visit www.nuffield.com.au

Greenseeker distributor announced

NTech has appointed Fairport as the Australian and New Zealand distributor of the GreenSeeker RT200 On-The-Go Zone Management and Crop Mapping systems. For further information contact Colin Booth Fairport Technologies (08) 93675814 or Grant Yates Southern Precision Sprayers Pty Ltd 0428 430 259 or visit

www.fairport.com.au/greenseeker/

New team at CSIRO

CSIRO Sustainable Ecosystems has formed a Precision Agriculture research team as part of its Agricultural Landscapes program, focussed on improving the triple-bottom-line of Australia's farm industries.

Working at farm and paddock scales, the newly formed research group uses its understanding of land variability to strengthen decision-making in farm management according to economic and environmental imperatives.

The group draws on expertise in farming systems, economics, ecology and modelling, with research hubs in Adelaide, Perth, Toowoomba, Brisbane and Canberra.

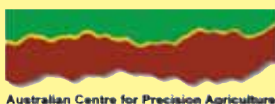
It seeks to integrate the benefits of Precision Agriculture research in viticulture, broadacre farming and environmental management. The team is also developing and testing new methods for experimentation, data analysis and the interpretation of EM38 data.

For information on the group's research, contact Dr Rob Bramley, CSIRO Sustainable Ecosystems Rob.Bramley@csiro.au.

Southern Precision Agriculture Association

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

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