



The Link

FarmLink Newsletter

Volume 16 - May 2007



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What a start to the season... weeds and feed are germinating in abundance! Hopefully this year we can really start to get some answers to our priority research issues in the context of a 'normal' year.

By now you will have received the **2006 FarmLink Research Report**. With limited results available, it certainly was a challenge to put together but hopefully we can still learn some lessons for future dry years - and some results are relevant regardless of the season. **We strongly encourage you to fill out the feedback form** that was sent with the Report. This is essential for us to determine if we're meeting your needs, and guides us in the right direction for future research. After all, FarmLink is all about conducting research that growers want, not what we think you want!

You may notice a 'lighter weight' edition of 'The Link' this month - the aim is to use the newsletter to update you of FarmLink activities during the season, allowing us to expand on some of the 'priority issues' in the relevant project fact sheets, such as the 'G&G Fact Sheet' and 'Canola in Depth'.

Back by popular demand is also the 'Weather or Not' fact sheet which will include seasonal outlooks (previously printed in the newsletter), as well as results of 'real-time' crop modelling using the Yield Prophet program. We're monitoring four wheat and four canola crops across the region, using the model to determine the consequence of management decisions, such as nitrogen applications, on yield. The results of these can be viewed by FarmLink members on the web - details to follow.

We were pleased to hear that the red soil compaction project "**What lies beneath**" (a revised-down controlled traffic project to meet funding requirements) has been recommended for funding. HOWEVER,

it still needs to go through one more approval process, so fingers crossed. Despite this, we have gone ahead with preparing the trial sites regardless to avoid wasting another season. This has been made possible through the generosity of GPS-Ag and our farmer co-operators, Warwick & Di Holding of Yerong Creek and Rob Taylor of Greenethorpe. The sites have been deep-ripped and monitoring will commence shortly.

The efficient team at AgriTech have also been busy putting in trials for us to ensure we capitalise on the season. **Two grazing wheat row spacing trials** were sown for the Grain & Graze project at Muttama and Ganmain earlier in May, and the **two canopy management (plant population) trials** have been sown this week at Rannock and Wallendbeen. **All 'Canola in Depth' trials** have also now been sown, details of which will be in the next 'Canola in Depth' fact sheet. We're pleased to have achieved a much fairer distribution of trial sites across the region this year - check the map on page 2 to see what trials are in your area.

As for the 'On-farm Demonstration' program, we **already have results of our in-row vs inter-row sowing monitoring**, which can be found on page 4. As you can tell, there was no relaxation time for Felicity before she went on maternity leave!!! (By the way, still no news - we'll keep you posted).

Finally, just a reminder that this is FarmLink's last fully funded year by GRDC. Obviously we are looking at ways to extend this, but it's a timely reminder to consider the value and importance of our sponsors in ensuring the future of FarmLink. We hope members can reciprocate some of the support our sponsors have shown us.

Meanwhile, keep smiling!

Kirily Condon & Katrina Sait

FarmLink Plans for 2007

FarmLink is involved in a wide variety of trial work this year, all aimed at addressing the priority research needs of our members. We are always open to ideas for future trials or paddock monitoring, just let us know!

Grain & Graze

(with NSW DPI, CSU & CSIRO)

- **Grazing management of sheep on grazing wheats**
 - ▶ location: Collingullie
 - ▶ aim: determine the effect of early grazing, and early and late lock-up times on liveweights, dry matter production and grain recovery.
- **Grazing management of cattle on grazing wheats**
 - ▶ location: Mundarlo (Wantabadgery)
 - ▶ aim: determine the effect of early and late lock-up times on liveweights, dry matter production and grain recovery.
- **Grazing wheat/triticale row spacings**
 - ▶ location: Muttama & Ganmain
 - ▶ aim: determine the effect of row spacing on grazing wheat/triticale dry matter production, stock compaction and grain recovery.

Canola in Depth

(with Graham Centre, CSIRO, Vic DPI & Melbourne Uni)

- **Effects of subsurface acidity on canola production**
 - ▶ locations: Morven (Culcairn), Yannawah (Stockinbingal) & Greenethorpe
 - ▶ aim: determine the effect of deep ripping and lime placement on canola.
- **Effects of subsoil sodicity (possible compaction) on canola production**
 - ▶ locations: Rand & Lockhart (demonstration sites at Corowa, Oaklands & Mulwala)
 - ▶ aim: determine the effect of deep ripping and gypsum on canola.
- **Effects of subsoil salinity on canola production**
 - ▶ location: Yuluma
 - ▶ aim: monitor the impacts of highly saline subsoil on canola production (demonstration only).

What lies beneath?

(with CSIRO)

- **Effects of machinery/stock compaction on red soils**
 - ▶ locations: Greenethorpe & Yerong Creek
 - ▶ aim: determine the effects of deep ripping,

summer grazing and controlled traffic (2cm autosteer) on red soil compaction and plant growth.

Canopy Management

(with AgriTech)

- **Optimum plant populations for newer varieties**
 - ▶ locations: Rannock & Wallendbeen
 - ▶ aim: determine the effect of plant populations on fillers, heads and yield of Ventura, Gregory, Ellison, Sunzell & Sentinel.

Forage Brassicas

- **Evaluation of forage brassicas across the FarmLink region (paddock monitoring)**

- ▶ locations: Cowra, Young, Temora, Ardlethan & Yerong Creek
- ▶ aim: monitor dry matter production, feed quality and stock performance (carrying capacity & liveweight gain) on 5 commercial forage brassica paddocks.

Inter-row Sowing

- **In-row vs inter-row sowing (paddock monitoring)**

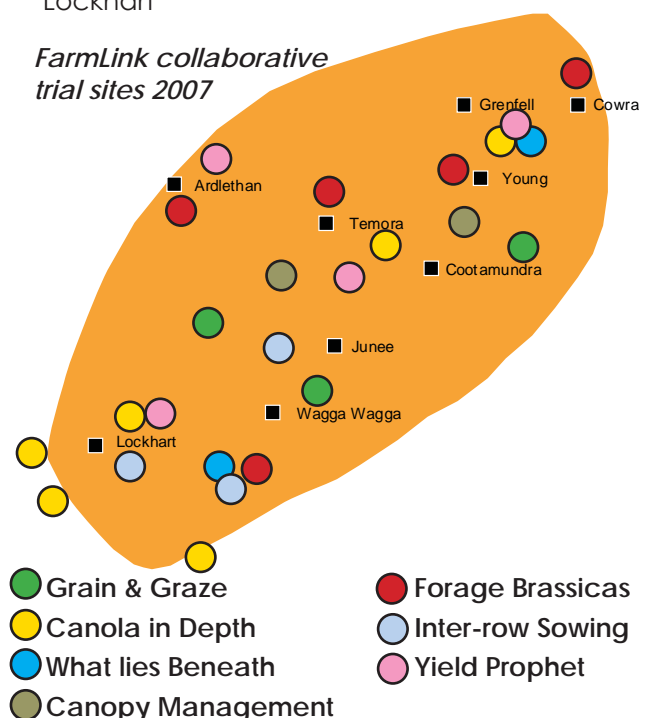
- ▶ locations: Marrar, Lockhart & Yerong Creek
- ▶ aim: assess the relative benefits of in-row vs inter-row sowing in terms of phosphorus accessibility and disease levels (see results pg. 4).

Yield Prophet

- **In-season crop modelling of wheat & canola**

- ▶ locations: Greenethorpe, Ardlethan, Dirnaseer & Lockhart

FarmLink collaborative trial sites 2007



Storing fallow moisture - is it worth it?

The recent run of dry years has highlighted the potential yield benefits of managing fallows for moisture conservation, but do the benefits occur in other seasonal conditions? Following a number of paddock trials and simulation studies, John Kirkegaard *et al** have outlined a number of key findings in relation to the value of storing fallow moisture in southern NSW over the longer term.

* J. Kirkegaard, J. Lilley, K. Verburg & W. Bond (2007). Fallow management, water storage and wheat yield in southern NSW. Proc. GRDC Adviser Update, Wagga Wagga.

- **Key finding: Weed control has a greater impact on fallow moisture storage than stubble management:**

- ▶ over 46 years of simulations, strict summer weed control in standing stubble increased stored water by an average of 12mm, compared with 6mm in flattened stubble (eg. with Coolamon harrows)
- ▶ control of weed flushes occurring in January and February had the greatest impact on moisture storage
- ▶ control of weeds germinating after February due to late rain (or smaller rainfall events) had less of an effect on moisture storage
- ▶ in prolonged, dry summers (eg. 2004 & 2005), impacts of fallow management were negligible
- ▶ in very wet summers (>300mm, eg. 1989 & 1994), effects of stubble cover were minimised due to wetting up of the soil profile, and weed control had less of an effect except where weeds germinated by January or early February

- **Key finding: The value of any fallow moisture stored varies significantly depending on growing season rainfall:**

- ▶ however the French & Schultz estimate of 20kg/ha/mm (ie. 20kg/ha of grain for each mm of moisture available to the crop) provides a reasonable average, but has little predictive value
- ▶ in trials at Bethungra, a range of starting soil water contents resulting from previous crop and pasture treatments (or deliberate wetting to different levels) resulted in each additional mm of water stored producing 18kg/ha grain in 1994, up to 29kg/ha in 2004

- **Key finding: Moisture stored in the subsoil (below 1 metre) is converted to grain more efficiently, at an average 30kg/ha/mm, than from upper layers:**

- ▶ greater efficiency is because subsoil moisture is used later in the season, when it's utilised for grain fill
- ▶ however analysis of 36 field studies on red soils showed that root growth was restricted by incomplete wetting of the profile in one-third of cases (despite the ability of wheat roots to reach 1.6m by anthesis, down to 1.8m in fully wet profiles)
- ▶ simulations show incomplete wetting, and consequently restricted root growth, is more likely to occur in lower rainfall areas, particularly when following lucerne, eg:
 - » at Ardlethan following a lucerne crop removed mid-December, the soil profile didn't wet below 1.2m in 78% of years, compared to 33% of years at Cootamundra (or 33% and 5% of years following an annual crop)
 - » roots accessing subsoil moisture increased wheat yields by 0.4t/ha (following annual crop) and 0.1t/ha (following lucerne) at Ardlethan, and by 0.6t/ha and 0.3t/ha respectively at Cootamundra
- ▶ simulation results suggest that subsoil moisture will be of greater value in higher rainfall areas where it occurs more frequently, and in above average seasons when it is more efficiently converted to grain



CSIRO trial at Bethungra where plots were wet up to different starting soil moisture levels prior to sowing using rainout shelters to control moisture.

In-row vs Inter-row

Yr17 Update

As part of FarmLink's 'On-farm demonstration' program this year, several wheat on wheat paddocks were sampled pre-sowing to assess the potential disease and nutrition benefits of **in-row vs inter-row sowing**. Results showed that P levels were higher in-row, nitrate levels were lower in-row and disease levels were negligible regardless of row placement.

Yr17, the new stripe rust pathotype that was found in 2006, received a lot of attention - but what does it mean for stripe rust management in 2007? Steven Simpfendorfer, plant pathologist with NSW DPI, outlines the current situation as follows and conveys the simple message that **varieties with Yr17 resistance are no longer 'sow and forget'**.

The monitoring is in response to the idea that sowing crops on the same row as the previous year using 2cm autosteer could take advantage of unused fertiliser. It also investigates research by Steven Simpfendorfer (NSW DPI) outlined in the February newsletter that showed sowing between the rows of the previous crop could reduce the incidence of root diseases.

As part of this year's monitoring, five paddocks that had been sown using 2cm autosteer in 2006 were sampled both in and between last year's crop rows for soil nutrients and disease. Results outlined in Table 1 indicate that phosphorus levels were substantially higher in the row where last year's crop was sown (except Marrar), suggesting that unused phosphorus remaining from the previous drought years could be capitalised on by sowing this year's crop on the same rows. However nitrate levels were substantially lower in-row due to greater plant use.

Disease levels were assessed through Predicta-B soil tests and by plating out stubble samples from the previous year's crop to determine the presence of fungi (conducted by Steven Simpfendorfer, NSW DPI). Both methods revealed similar results, with low or negligible disease levels regardless of row placement. Root disease is therefore unlikely to be an issue in these crops this year, despite the continuous wheat rotations.

Table 1 - 2007 monitoring results from in-row vs inter-row sampling

Sown	P Colwell	NO ₃	crown rot	common rot rot	take-all
<i>Yerong Creek: 4th year wheat, 0.5t/ha '06</i>					
in-row	92	24	*	low	*
inter-row	74	73	*	*	*
<i>Yerong Creek: 5th year wheat, 0.5t/ha '06</i>					
in-row	72	11	*	*	*
inter-row	54	38	*	*	*
<i>Lockhart: 2nd year wheat, baled '06</i>					
in-row	57	20	*	*	*
inter-row	36	31	low	*	low
<i>Lockhart: 3rd year wheat, ?t/ha '06</i>					
in-row	99	16	*	low	*
inter-row	52	52	*	*	*
<i>Marrar: 3rd year wheat, 1.1t/ha '06</i>					
in-row	84	13	*	*	*
inter-row	85	22	*	*	*

*below detection limit

- Although only 2 stripe rust samples (from Coleambally & Horsham) out of the 150 that were sent to the Cereal Rust Laboratory in 2006 were the Yr17 pathotype, it nevertheless indicates a threat to wheat varieties that contain the Yr17 resistance gene (Table 2).
- Up until last year, wheat varieties carrying the Yr17 gene showed excellent resistance to the recent stripe rust epidemic caused by the WA pathotype. These varieties *may* now be somewhat susceptible in the presence of the Yr17 pathotype.
- It's currently unknown how the resistance rating of varieties will change. This is being tested and won't be known for this season - for some varieties it may only mean a reduction in rating from an 8 to a 7 due to a combination of other resistance genes, but other varieties may be reduced to a lower rating.
- Another unknown is just how adaptable the Yr17 pathotype is, although drought conditions have been in our favour (!) by reducing the summer survival of all rust types.
- Due to these unknowns, growers shouldn't worry about additional seed or in-furrow fungicides for the Yr17 varieties. If an outbreak occurs, it is more likely to be later in the season and best addressed by foliar fungicides. Current management should instead focus on careful monitoring of varieties with Yr17 resistance for signs of stripe rust throughout the season. Any samples of concern should be sent to:

*Australian Cereal Rust Survey
Plant Breeding Institute
Private Bag 11
Camden NSW 2570*

Table 2 - Common varieties with the Yr17 resistance gene

Braewood	Sunlin
Carinya	Sunstate
Ellison	Sunvale
Marombi	Ventura
Sunbri	Young

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Rodney McKern

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Agronomy & Grain update May 2007

Landmark agronomy team would like to highlight the following points of interest at this early stage in the season after an excellent seasonal break:

- With high starter fertiliser prices this year, many growers are switching from zinc starter blends to more economic seed treatments costing as low as \$1.80/ha to aid rate of establishment, particularly in minimum till late sowing, hoping to increase starter phosphorus uptake efficiency.
- High populations of mallow, capeweed, patterson's curse and grasses are emerging quickly in the warm soils. Growers are facing the challenges of managing these emerging weeds in early plantings, with some of the options being employed including:
 - delaying planting
 - Logran B power prior to wheat
 - glyphosate with variable activity on half leaf grasses
 - Sprayseed with increased activity on cotyledon broadleaf
 - addition of Goal and Hammer to knockdown mixes
- Lucerne flea infesting early canola crops - Supracide offers bare earth residual for both RLEM & lucerne flea.
- Continuing trend of increasing TT canola plantings, favoured by improved variety choice and changing weed spectrums.
- Increased planting also of Clearfield Canola varieties to manage herbicide residues from last season.
- Sudden appearance of rapidly growing green feed is cause for concern with Grass Tetany in grazing sheep and cattle. Productivity gains are well documented with magnesium supplements such as Povimins Midmag & Himag.
- Many growers taking advantage of current historically high wheat and canola prices through derivative type products like swaps

Please contact your local Landmark agronomist for solutions to assist in maximising your productivity.

**Warwick Nightingale, State Commercial Agronomist - Southern NSW
Landmark Wagga Wagga**

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ONE CALL
THREE CUSTOMERS

Welcome rain over the last couple of weeks has relieved both end users and producers, but the grain is obviously not in the bin yet.

New crop prices for wheat have held their ground over the last few weeks even with the rain. East coast Australian carry-over for wheat at the end of this year will basically be non-existent. Therefore we will need to produce around 7 – 8 million tonnes before we have an exportable surplus. Current east coast wheat markets are trading \$15 - \$20 above export parity.

World ending stocks are also as tight as they have been since the early 1980's as poor seasons and increasing demand deplete binned stocks. The ethanol industry in the US is one of the major increases in demand. We are 'swinging off the coat tails' of this additional demand as corn competes for hectares against other crops such as soybeans and wheat. If there is a problem in supply, it is expected that there will be quite a bit of volatility.

Demand for old crop (already in the silo) wheat has dropped as drought feeders become more comfortable with their feed supply. It is very hard to estimate how much demand feed-lots and stock feed mills have to get them through to new crop as some are looking for delivery straight away and others are leaning towards July. On the supply side, it is also difficult to know how much grower and trader owned stock exists, hence it is very difficult to know what prices will do. We do know, however that supply at least until mid November will be tight.

For more information please contact your local AGA representative:

Parkes	02 6863 6003
Barellan	02 6963 9138
Wagga Wagga	02 6926 8433
Henty	02 6929 3870

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Farmlink Executive in Profile...

Louise Hufton, Harden

I have worked as the Harden Murrumburrah Landcare Coordinator for the past 15 years & with my husband, Mal Hufton and three children, we run a mixed farm at Harden. I am currently employed as a Community Support Officer in the Jugiong Creek Catchment for the Murrumbidgee Catchment Management Authority & Harden Murrumburrah Landcare.

I have been involved with FarmLink since it began as an idea amongst a few farmers and agronomists many years ago. The group wanted to see a coordinated, grower driven approach to research and ensure that research occurred in the areas where growers identified a need. So much was happening across the farming regions that was maybe being repeated, results not reaching the community, research remaining 'white peg' or research not following through on observations noted in the paddock, that FarmLink was needed to attempt to fill that void.

One of my roles as a Landcare Coordinator has been working with the farmers of the Harden area to bring all sorts of ideas and educational opportunities as requested by the farmers. The group has then encouraged the exploration of those management options for the improvement of their overall farm businesses, be it natural resource management, productivity or economic.

I grew up on a grazing property at Walcha where cropping was a foreign word, but I have thoroughly enjoyed all the challenges 'cropping mixed with farming' has presented as I have become a 'southerner'. I believe that research and the support from the scientific community gives us an edge and this is essential in assisting farmers gain natural resource and productivity management options that will lead to more profitable & sustainable long term farming businesses. I see my role as communicating these many options in a variety of ways, as widely as I

can to assist farmers see environmental management as a constant consideration along with the many other facets of farming today.

As a member of the Executive of FarmLink I hope that I have been able to assist FarmLink communicate results and management options to farmers across south-west NSW.



Louise Hufton, Harden.

We'd like to take this opportunity to thank Louise Hufton, as the out-going Chair of the FarmLink Communications Committee, for all the time and effort she has put into it over the last 3½ years. We welcome Di Holding from Yerong Creek as the in-coming Chair.

Farmlink Executive

- Richie White, Cootamundra
- Geoff Dale, Illabo
- Bernard Hart, Old Junee
- Di Holding, Yerong Creek
- Louise Hufton, Harden
- Ernie Idiens, Canowindra
- Rob Johnson, Grenfell
- Charles Kingston, The Rock
- Geoff Lane, Lockhart
- Wayne McKay, Canowindra
- John Pattison, Marrar
- Michael Sinclair, Temora
- John Kirkegaard, CSIRO

Written & compiled by Kirrily Condon

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