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## Diary Note

### Biologic Discussion Group

Thursday 2nd July 2009  
9am—1pm  
Glynn Schmidt's Property  
Lowbank Road  
Waikerie SA  
For more details  
[www.msfp.org.au](http://www.msfp.org.au)

### Ruralbiz Training Chemical Card Plus

Balranald—Mon 6th July  
Wentworth—Tues 7th July  
More information available  
from  
[www.ruralbiztraining.com.au](http://www.ruralbiztraining.com.au)

## From The Boardroom

Here we are in the middle of June with the benefit of three wet weeks, particularly in NSW and Victoria.

The crops have emerged extremely well and stock feed has grown, probably better than what we've had for a number of years.

At the time of writing, I understand there has been less rain in the western Riverland area of South Australia, around Loxton and Waikerie. Hopefully your turn is not far away.

Extension Co-ordinator Nicole Dimos is



Volume 1, Issue 3, June 2009

# Sustainability Snapshots

## The rain's been great .... but will it keep coming?

For most Mallee grain growers, there has been an encouraging amount of rainfall since April. (Growing season rainfall figures for the region are on page 4.) While most have finished sowing, those with a later break or who are sowing large areas are still at it.

This great start however generates some questions: Will the rain keep coming? Will we get cereal leaf disease and if so what should we do about it?

To answer the unanswerable question regarding future rain we can only look at rainfall predictors. Clinton Rakich from the Bureau of Meteorology has recently reminded me that there is an increasing risk of a 2009 El Nino event and associated dry conditions through winter and spring, particularly west of the

Great Divide. During El Nino years a blocking high pressure system is often located close to Tasmania and the NSW coast receives rainfall from an anomalous easterly flow and also the occasional east coast low pressure system. These two factors seem to shield the coast from the effects of El Nino.

In contrast, the usual westerly

wind flow is blocked and located south of the continent, limiting the passage of cold fronts across southern NSW. The weakened westerlies and reduced number of strong cold fronts often results in drier than average winter-spring conditions west of the Great Divide.

*cont. page 4*



*Wheat emerging from Lindsay Morrow's paddock. Photo courtesy of Graeme McIntish, NSW DPI*

## The MSF Members' Login Area Is Here

As promised earlier in the year, the MSF Website now has a Members' Only Login Area. In this section you can find details of exclusive sponsors' offers as well as a range of information for the benefit of MSF Members, including the latest Sustainability Snapshots.

Details of your username and password were recently posted to you. If you have not received them, contact MSF on 03 5021 9100.

[www.msfp.org.au](http://www.msfp.org.au)

leaving MSF and moving to another position in agriculture. Thanks Nicole for your input and I wish you well for the future.

MSF will shortly be appointing an agronomist to our team. This will be of great benefit to members. More about this next month.

On a note of optimism, I have heard said that all we need is a big fall of rain in September to see us all back in business.

**Jim Maynard, Chairman**



## Testing New Herbicide Tools for No Till

With trifluralin resistance on the rise, 2 pre-emergent herbicide trials have been established. They link MSF's water use efficiency project with the GRDC funded IWM (Integrated Weed Management) project led by weed management experts Chris Preston and Gurjeet Gill at the University of Adelaide.

The SA MSF sites at Copeville and Waikerie were established in collabora-

tion with Rural Solutions and CSIRO and are testing a



number of very promising new mode of action herbicides for brome and ryegrass control in No Till systems.

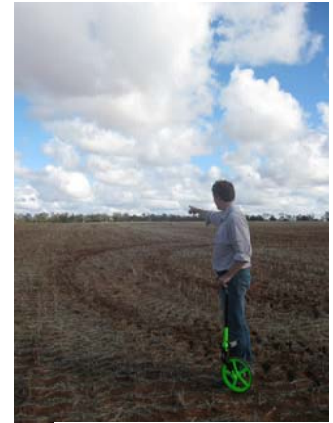
This work will be presented at the 10th Waikerie Field Day on 1st September this year.

Meanwhile, the SA Ag Excellence Alliance is contributing \$800 to help stage the event.

## Waikerie 2009 10th Anniversary Update

## Sustainability Snapshots Injecting Carbon Exhaust into the Soil

Thanks to funding from the Lower Murray Darling Catchment Management Authority, MSF will again be trialling the new and somewhat controversial machinery conversion that recycles CO<sub>2</sub> exhaust back into the soil. Trials using this technology were first conducted in 2008, but due to their limited nature, no conclusive findings could be made. However this concept has captured the attention of many growers and following numerous grower requests, a project proposal was presented to LMD CMA. In 2009, the MSF study will evaluate and assess whether the machine conversion to divert diesel exhaust into the soil has an effect on yield and crop growth. This will involve a trial with relatively simple agronomy measures (yield and biomass cuts) with sufficient plant growth samples and replicates to ensure its scientific merit and vigour.



*Daniel Linklater's property will be the site for the CO<sub>2</sub> exhaust trial. Photo courtesy of Graeme McIntosh NSW DPI*

### Farm Ready

The purpose of this Federal Government grant is to increase training opportunities for primary producers and to enable strategic development that can adapt and respond to climate change. A reimbursement grant of up to \$1500 per financial year is available to primary producers and indigenous land managers to assist in covering the

costs associated with approved training courses. The funding is also available to cover associated travel, accommodation and child care expenses.

This grant is offered by the Department of Agriculture, Fisheries and Forestry and more information can be obtained from [www.daff.gov.au](http://www.daff.gov.au).

### What's Happening At Kerribee

Peter Jessop from the NSW Department of Primary Industries has reported that the 2009 Pea Variety Trials have been sown.

A total of 32 varieties were planted on 28th May, 2009. Expect to hear more about the trials at the Kerribee Crop Walk on Thursday August 27th, 2009

**Lower Murray Darling CMA**

**NSW Women's  
Gathering @ June  
18-20 September 2009**

Sponsored by

An invitation to catchment women to experience a NSW Rural Women's Gathering that brings NSW rural women from culturally diverse backgrounds together for sharing experiences, supporting each other, sharing knowledge and skills and giving women the opportunity to have a voice in society.

**LMD CMA anticipates providing bus transport for Catchment ladies again this year.**

**If you wish to register your interest in being part of this experience, contact:**  
 Susan Walla, 03 5021 9460 or [susan.walla@cma.nsw.gov.au](mailto:susan.walla@cma.nsw.gov.au)  
 Or complete the Expression of Interest form found at [www.lmd.cma.nsw.gov.au](http://www.lmd.cma.nsw.gov.au)  
 and fax to 03 5021 1308.

**The 2008 MSF Results Compendium is now out and has been posted to all members.  
Haven't received a copy? Contact MSF on 03 5021 9100**

## Sustainability Snapshots

### Goyder's Line: Is it still relevant in 2009?



Got Something To  
Say Others Would  
Like To Hear?  
THIS IS YOUR SPACE.



To contribute to this newsletter, contact the editor, Victoria Adams, Communications & Liaison Officer on 03 5021 9104 or [victoria@msfp.org.au](mailto:victoria@msfp.org.au)

### The Australian Outback and Rural Awards

This is the inaugural year for the awards whose purpose is to encourage, acknowledge and reward valuable contributions and outstanding achievements in rural and outback areas.

The focus of *The Rural and Outback Awards* is to encourage, acknowledge and pay tribute to individuals, communities, businesses and groups who are making a significant contribution to rural and outback Australia.

Nominations close on Friday 10th July. If you would like further information visit [www.awardsaustralia.com.au](http://www.awardsaustralia.com.au)

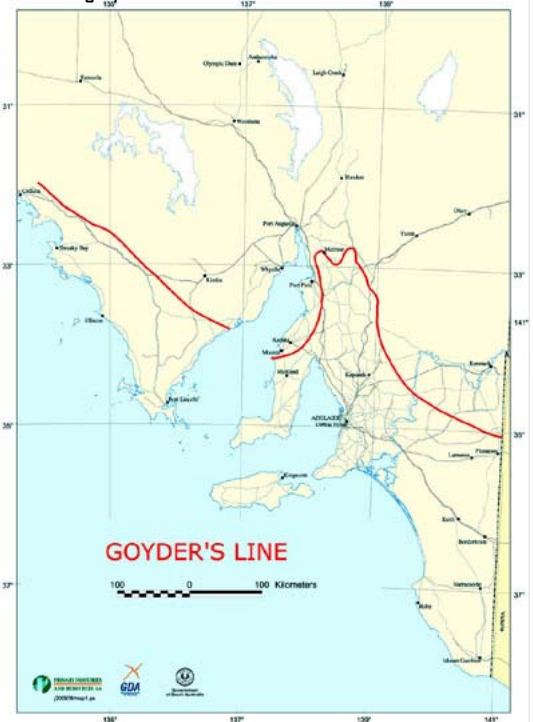
George Woodroffe Goyder was a surveyor in South Australia during the latter half of the nineteenth century. He rose rapidly in the ranks of the SA civil service and in 1861, he became Surveyor-General. Today, he is best remembered for the Goyder Line of Rainfall. This was the line that Goyder surveyed to indicate the edge of the area that was suitable for agriculture. North of the line was considered good only for light grazing.

Is this line still relevant or are there better ways to understand crop reliability? The SA government through the state Natural Resource Management program has funded SARDI climate applications to conduct a 6 month project titled "Using Goyder's Line to better understand risk, resilience and thresholds in low rainfall cropping regions of South Australia". MSF is contributing to this project by organising a round table discussion between Peter Hayman from SARDI and MSF South Australian growers. Peter Hayman said, "We are keen to get local feedback on how well the line stacks up with recent experience."

"Is the line a useful measure of where cropping is less reliable or are there better ways to understand this?"

"How does soil type influence the reliability of cropping?"

Findings from this project will also be used in a federal government funded project on adapting dryland farming systems to a warmer and drier future.



*The Goyder Line of Rainfall was established in 1865 with parts of the SA Mallee clearly outside the perceived productive agricultural area.*

### Predicting In-season Yield Potential

One component of the MSF Water Use Efficiency Project is to use crop-soil-climate computer models to predict yield potential of the various soil types farmed in the Mallee. Knowing the yield potential of the soil types on your farm may be useful in benchmarking past performance, targeting seed and fertiliser inputs and prioritising areas to spray or sow first. In-season prediction of yield can also be very useful as a basis for making informed decisions about yield for crop insurance, forward selling or in-season fertiliser or spray applications. In the following article, Yield Prophet

([www.yieldprophet.com.au](http://www.yieldprophet.com.au)), a web based interface to the research model APSIM, has been used to predict the likely yield outcomes for the 2009 core trials at Karoonda.

The ever reliable Bill Davoren from CSIRO Sustainable Ecosystems sowed a range of field trials at the new field site based on the property of Peter and Hannah Loller, near Karoonda in SA. These trials cover the soil types of a typical Mallee dune-swale landscape – highly constrained flats which fall over in dry springs, deeper and lighter textured mid-slope soils – onto more reliable but low yielding sands.

For this yield prediction soil water, plant available P and deep soil N were measured pre-sowing for 2 soils within the trials area:

1. A mid-slope soil that potentially holds 90 mm of plant available water (0-90cm depth), contained high mineral N (120 kg N/ha) and available P (27-53 ppm Colwell P).
2. A deep sand that holds 60 mm of plant available water (0-1 m depth), contained moderate mineral N (50 kg N/ha) and available P (27 ppm Colwell P). Wheat, cv. Yitpi was planted mid May with 50 kg/ha DAP+Zn + 35 kg/ha Urea (25 kg N/ha).

Taking into account pre-sowing moisture, the weather conditions so far (including 78 mm rain since sowing) and soil N status, Yield Prophet predicts crop growth from June 15 (the day the report was generated) for each of the past 100 years using weather records from the Karoonda met station. For the mid-slope soils, there is adequate N in the soil not to limit crop yield in the majority of seasons – yield expectations when all 100 years of the past years were included in the analysis range from less than 1.3 t/ha in the lowest yielding seasons (25% of *cont page 4*

## Sustainability Snapshots

### from page 3.... Predicting In-season Yield Potential



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### Mallee Growing Season Rainfall

The table below show rainfall figures for 1st April to 15th June, 2009.

Balranald	64.9mm
Hay	102.0mm
Hopetoun	86.8mm
Karoonda	78.2mm
Lake Victoria	81.8mm
Lameroo	87.8mm
Loxton	29.0mm
Mildura	60.8mm
Murray Bridge	88.5mm
Ouyen	73.9mm
Pooncarie	61.8mm
Renmark	54.2mm
Swan Hill	88.8mm
Walpeup	102.8mm

### Contact Us

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seasons) to greater than 3.5 t/ha in the highest yield seasons.

Since the Southern Oscillation Index is currently -5 and falling, (which indicates the possibility of drier than average rainfall for the next 3 months), choosing only those years when this occurred in the past 100 years reduced the likelihood of high yields- in fact there is a 60% chance of yielding between 1 and 2 t/ha.

On the sandy soil, yield expectations are lower, and may be limited by soil N reserves- depending on the season. In late July, around the end of tillering (growth stage 30-31), the analysis will be repeated to help make a decision on whether it could be profitable to topdress with fertiliser N.

*Yield predictions (t/ha) of a mid-slope and sandy soil types at the Karoonda field site.*

		Lowest yielding	Average	Highest yielding
		1 in 4 years		1 in 4 years
Mid-slope	All years	0.4 - 1.3	2.0	3.5 - 3.8
	Falling SOI years	0.4 - 1.3	1.5	2.0 - 4.0
Sand	All years	0.5 - 1.5	1.6	1.7 - 2.0
	Unlimited by N	0.5 - 1.5	2.5	3.0 - 4.5

In the next newsletter, this analysis will be repeated which will provide a strong indication of yield expectation on which to base any further decisions for the remainder of the season.

**Dr. Anthony Whitbread**  
 CSIRO

### from page 1..... Stripe Rust and Rainfall

Adding to this this less than cheery predictor is that the Indian Ocean appears to be entering a positive dipole phase. This means cooler than average waters are likely to be present off Indonesia and northwest Australia during winter and spring. These cooler than average sea surface temperatures are likely to further limit the moisture available to generate rainfall in the southeast of the continent.

The bottom line from the Bureau of Meteorology is that the risk of dry conditions occurring this year is increasing with the current changes we are seeing in the Pacific. This may mean a good start but a less than glamorous finish (I hope I'm wrong).

To answer my second question, cereal foliar diseases are likely

and one of the offenders in this part of the world is stripe rust.

A good article on stripe rust can be found at <http://www.dpi.nsw.gov.au/agriculture/field/field-crops/winter-cereals/pests-diseases/stripe-rust-wheat>.

This publication states that "wind is the main means of spread or dispersal for stripe rust. During high humidity in winter, most spores remain in small clumps: these are relatively heavy and fall out of the air quickly, so their spread is mostly over very short distances, leading to the 'hot-spots' of infection seen in crops in late winter and early spring. Infection requires high humidity for 4 to 6 hours at 10 to 15°C, with increasing time required at lower and higher temperatures. Infec-

tion seldom occurs below about 2°C, and ceases above 23°C".

It would pay to look for hot spots in 2009. The need to spray comes down to a combination of seedling resistance, adult plant resistance and at what growth stage the plant is infected. All these factors should be considered before spraying in terms of the cost of spraying versus the benefits of controlling strip rust.

**Graeme McIntosh**  
 District Agronomist  
 NSW Department of Primary Industries

*(Ed: With changes to the NSW Government department structure, perhaps we should we say Graeme is now from the newly created Department of Industry and Investment)*