

## Have you heard the buzz?

South Australian grains consultant, 'Bill Long' wants every agronomist to do something unusual. Go into their grower's flowering faba bean, canola or chickpea crops – then sit still, be quiet and listen! If you can hear the buzz of bees, then you have pollinators working for you, but if there is silence, then you need to have a good hard look at how that crop is going to be pollinated.

"In two years of trials in fababeans in SA, when we compared bean yields where we excluded bees and other potential pollinating insects by using shade cloth exclusion tents, against yields in the same paddock where we 'saturated' the crop with bees – there was an increase in yield in the order of 50% with the saturation pollinated crop. These were dry years and we need to test these yields under good conditions. Larger scale trials using farmer yield maps were conducted in a range of crops in 2009 (a season with better spring conditions) and are still being analysed. The initial look at some of the data on beans suggests there has been an increase in yield, however we feel in good years, the level of yield increase may be diluted as it was the lower pods and first formed flowers that contributed to the improved yield in 2007 and 2008" said Mr Long.

The focus on pollination started when Mr Long and colleagues Danny Le Feuvre and Michael Richards met an ex Zimbabwean farmer and apiarist C.J Coleman, who had been using pollination to more than double yields in irrigated Phaseoli beans crops under shade cloth in Zimbabwe.

"I noticed that in some seasons, when inspecting bean crops with large canopies, the edge of a faba bean crop would look fantastic with 2-3 pods per node and all the nodes had pods. You'd think that this is going to be a great yielding crop. But further into the crop, the number of pods per node would reduce," said Mr Long.

"There were many instances where less dense, shorter canopy crops in the district were yielding the same or better.

"Initially I thought this might be due to canopy density maybe having an impact on light penetration or perhaps some canopy density/disease interactions were occurring. We conducted some wide row spacing experiments but couldn't see any increase in yield. It didn't dawn on us until some initial discussions with the apiarist that perhaps the reason

might be that pollinators will not risk penetrating dense crops as they will damage their wings and not be able to continue foraging for nectar and pollen.

"Furthermore, it made me think very carefully about district and regional practice with regard to insecticide use. As a practicing agronomist, I realised I had been contributing to the demise of pollinating species with pesticide recommendations around the critical flowering time that were impacting on feral bee populations that were assisting in the pollination process. I quickly became interested in integrated pest management practices and the role bees were playing in pollination of a range of crops.

"The technique of hive management used to pollinate these crops is different to that used for honey production. Hives are placed throughout the crop and managed in such a way as to maximise flower visitation for pollen collection. Simply placing conventionally managed hives close to the crop may not work as well as bees will selectively forage preferred floral species.

"If the pollen and nectar source in the beans is less preferred, they will simply fly across the top of the crop to a more preferred source.

"This means that from an apiarist's perspective, more intense management systems may need to be considered. This may result in reduced honey production which means a reduced income stream. We may need to be considering paying our apiarists something to maximise pollination as part of our crop management," said Mr Long.

"One of the other important things our research found is that some of the other insects that we assumed were pollinating the crop were not doing anything at all. Australia is the only country that still has European honeybees living in the wild. If we lose our populations of feral honeybees then we need to investigate if there are alternative pollinating species that can replace them.

"As a clod kicking agronomist, before this I hadn't really been thinking that much about bees. This research and the yield increases we are seeing have changed my thinking about crop management practices. I am much more conscious of insecticides around flowering and protecting and maximising the pollination impact of bees and other insect species." said Mr Long.

*Further information:*

**Bill Long, 0417 803 034**

# MCPA - first herbicide to be assessed under the APVMA's new spray drift regulatory program

The widely-used herbicide MCPA will be the first currently registered herbicide to be assessed for spray drift risk under a new regulatory framework developed by the Australian Pesticides and Veterinary Medicines Authority (APVMA). A key outcome of this review is likely to be the introduction of mandatory buffer zones for ground and aerial application. Buffer zones of up to 200 meters are being considered for many MCPA formulations when applied by ground rig using coarse droplets.

The new framework is designed to mitigate potential risks to non-target crops and vegetation, human health and the environment and trade from off-target spray drift. MCPA is the first in a long list of products to be reviewed.

A prioritised list of herbicides that will be reviewed (including 2,4-D) for spray drift risk over the next several years and further information about the new framework is available at:

[http://www.apvma.gov.au/use\\_safely/spray\\_drift/priority\\_list.php](http://www.apvma.gov.au/use_safely/spray_drift/priority_list.php)

[http://www.apvma.gov.au/registration/morag/notices/docs/op\\_notice\\_spray\\_drift.pdf](http://www.apvma.gov.au/registration/morag/notices/docs/op_notice_spray_drift.pdf)

[http://www.apvma.gov.au/use\\_safely/spray\\_drift/op\\_principles.php](http://www.apvma.gov.au/use_safely/spray_drift/op_principles.php)

[http://www.apvma.gov.au/use\\_safely/docs/spraydrift\\_ris.pdf](http://www.apvma.gov.au/use_safely/docs/spraydrift_ris.pdf)

[http://www.apvma.gov.au/use\\_safely/spray\\_drift/scenarios.php](http://www.apvma.gov.au/use_safely/spray_drift/scenarios.php)

*Further information:*

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## An Australian Standard for sealed silos

If any of your clients are considering purchasing a new gas-tight sealed silo, then please make them aware that there are new Australian standards in place for gas-tight sealed silos.

“Many silos do not meet gas tight standards required for effective fumigation. This has created a serious threat to

the Australian grain industry by increasing target insect pest resistance to phosphine treatments,” said grain storage expert Peter Botta, from PCB Consulting.

“The new standard provides an industry benchmark when purchasing gas-tight silos, a feature of great benefit to effective pest control and limiting phosphine resistance” said Mr Botta.

GRDC Manager of New Farm Products and Services, Paul Meibusch, said “Gas-tight sealed silos which meet this standard support effective fumigation as long as control strategies are used and fumigation rates are determined correctly, eradicating pests and reducing the build up of resistance to insecticides.

“Growers must ensure they maintain gas-tight silos and pressure test them before every fumigation to ensure they are gas-tight and effectively act as a fumigation chamber.

“A key component of the new standard is a pressure test. Pressure valve oil levels in a silo that meets the standard will take at least 5 minutes to fall from 25 mm to 12.5 mm when a ‘5 minute half life pressure test is conducted,” said Peter Botta.

For more information, growers can check the Stored Grain Pests Fact Sheet, recently produced by the Grains Research and Development Corporation. The factsheet is available free (plus postage and handling) through GRDC's Ground Cover Direct – free call 1800 110 044 or email [ground-cover-direct@canprint.com.au](mailto:ground-cover-direct@canprint.com.au).

More information can also be found at <http://www.grdc.com.au/storedgrainpests>.

*Further information:*

**Peter Botta, 0417 501 890**

## Large response from nematode sessions at the Updates

Since speaking at the February/March northern Updates, nematologists at the Leslie Research Centre report a 10-fold increase in samples received by their “Test your farm for nematodes” service, with 82% of samples having root-lesion nematodes present.

“Nematodes are widespread in the Northern Grains Region and we are keen to continue to raise awareness about how to test for them and reduce their impact on yield which can be up to 50% in wheat and 20% in chickpea”, said Dr Kirsty Owen.

“The most reliable way to tell if nematodes are present is to soil test, as symptoms in both the plant roots and tops can be difficult to distinguish from other causes such as nutrient

deficiency or water stress. Also as some crops / varieties are susceptible to one species but not the other, nematodes need to be identified at the species level to identify the best management strategy.

“Since nematodes may not be evenly spread across a paddock, particularly with new infestations, it is important to take samples from several locations within a paddock. Soil should be collected from 0–15 cm and 15–30 cm depth, preferably using a hand corer. Collect 9 cores and bulk them into 3 samples for each depth. If deeper samples are already being taken for other analysis (eg. nitrate), a nematode assessment can also be made on those samples” said Dr Owen.

“Samples should be kept cool (but not frozen) until they are sent to a laboratory for testing. Details can be found at [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au) (‘test your farm’).

“Once you know what you’ve got you are able to manage it. If no nematodes are present in a field – protect it by cleaning soil from farm machinery away from that area and prevent soil run-off and erosion from infested fields. Root-lesion nematodes survive between crops and cannot be eliminated, but careful selection of crops will keep economic returns high. It is best to choose tolerant varieties of wheat and chickpea to maximise yields and to rotate with resistant crops to reduce nematode population levels,” said Dr Owen.

The full paper presented at the GRDC Updates can be found on the GRDC website (<http://www.grdc.com.au>)

*Further information:*

**Kirsty Owen, 07 46398805,  
Kirsty.Owen@deedi.qld.gov.au**

**GRDC code: DAQ 000154**

## GRDC workshop helps advisers drive adoption

Agronomists, consultants and researchers are in the front line with growers driving adoption of new practices and technology. A GRDC supported workshop to be run in Moree on July 20-21st will assist advisers to package new ideas, practices and technologies to better engage growers on the path to adoption.

This activity-based workshop deals with issues such as:

- building relationships that establish a base of credibility and trust
- uncovering client issues, and
- identifying the true basis on which decisions to adopt / not adopt are made.

Developed by C-Qual Agritelligence and facilitated by Bruce Howie, this free 2-day workshop will help you develop skills to achieve a greater level of commitment to act on new knowledge.

GRDC sponsored workshops will be held in Moree on July 20th & 21st and Swan Hill on August 19th & 20th.

*Further information:*

**Bruce Howie Ph: 0418 254 668 [www.c-qual.com](http://www.c-qual.com)**

## Agricultural Consultants – boost your skills

Developed jointly by the Sheep CRC and the University of New England (UNE) the new graduate certificate in Rural Science (Agricultural Consulting) offers professional development and training to professionals in any agricultural extension or consultancy field.

This distance education course suits busy professionals already working in or thinking of a career in agricultural consulting or extension. As a Graduate Certificate course, you must already hold a Degree.

The course has two core (compulsory) units and two electives. Compulsory units cover areas such as: strategic thinking; problem solving and the management of strategic change in the agribusiness context; skills to develop a media profile; legal issues; whole of enterprise planning; and skills such as communication, facilitation and negotiation.

*Further information:*

**<http://www.sheepcrc.org.au/education/graduate-cert-in-rural-science.php>**

**Deb Maxwell, 02 6779 4262,  
[deborah.maxwell@une.edu.au](mailto:deborah.maxwell@une.edu.au)**

## August/September GRDC Updates – dates for your diary

- **Dalby Grower Update: Thursday 19th Aug, 2010**
- **Narrabri Grower Update: Friday 20th Aug, 2010**
- **Moree Grower Update: Tuesday. 31st Aug, 2010**
- **Walgett grower Update: Wednesday 1st Sept, 2010**

*Further information:*

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[northernupdates@icanrural.com.au](mailto:northernupdates@icanrural.com.au)**

**GRDC code: ICN 00011**

# Diary Dates

July 2010	
20	<b>Managing paddock variability using precision agriculture</b> , Banana, Qld- Darren Aisthorpe, Darren.Aisthorpe@deedi.qld.gov.au; 07 4992 9124
20-21	<b>How to use persuasion skills to drive technology adoption</b> , Moree NSW - Bruce Howie Ph: 0418 254 668 www.c-qual.com
20-22	<b>NSW Farmers' Annual Conference 2010 - Value of Agriculture</b> , Sydney Olympic Park, NSW - <a href="http://www.ac.org.au/">http://www.ac.org.au/</a>
21	<b>Managing paddock variability using precision agriculture</b> , Emerald, Qld- Max Quinlivan Max.Quinlivan@deedi.qld.gov.au, 07 4983 7424
26-28	<b>Australian Grains Industry Conference</b> , Melbourne, Vic - Rosemary Richards 02 9427 6999
27	<b>Managing paddock variability using precision agriculture</b> , Miles, Qld - Dale Kirby, Dale.kirby@deedi.qld.gov.au, 074622 9916
28	<b>Managing paddock variability using precision agriculture</b> - Goondiwindi, Qld - Stuart Pilcher, Stuart.Pilcher@deedi.qld.gov.au, 07 4620 8122
August 2010	
1-6	<b>19th World Congress of Soil Science - Soil solutions for a changing world</b> , Brisbane, Qld - <a href="http://www.ccm.com.au/soil/">http://www.ccm.com.au/soil/</a>
2	<b>Partners in Grain/Queensland Rural Women's Network Office Workshop</b> , Dirranbandi, Qld - Theresa Kunde, 07 4625 9076
3	<b>Partners in Grain/Queensland Rural Women's Network Office Workshop</b> , Bollon, Qld - Theresa Kunde, 07 4625 9076
4	<b>Partners in Grain/Queensland Rural Women's Network Office Workshop</b> , Surat, Qld - Theresa Kunde, 07 4625 9076
5	<b>Partners in Grain/Queensland Rural Women's Network Office Workshop</b> , Miles, Qld - Theresa Kunde, 07 4625 9076
6	<b>Partners in Grain/Queensland Rural Women's Network Office Workshop</b> , Millmerran, Qld - Theresa Kunde, 07 4625 9076
7	<b>Nyngan Ag Expo</b> , Nyngan, NSW - <a href="http://www.nynexpo.com">http://www.nynexpo.com</a>
10	<b>Managing paddock variability using precision agriculture – Bellata</b> , Bellata Golf Club, NSW- Rebecca Byrne, Rebecca.byrne@industry.nsw.gov.au, 02 6750 6301
10-12	<b>15th Australian Cotton Conference</b> , Gold Coast Convention and Exhibition Centre, Broadbeach Qld - <a href="http://www.australiancottonconference.com.au">http://www.australiancottonconference.com.au</a>
11	<b>Managing paddock variability using precision agriculture – Bullarah</b> , Bullarah Hall, NSW - Tim Burley, Timothy.burley@industry.nsw.gov.au, 02 6750 6309
17-19	<b>AgQuip</b> , Gunnedah, NSW - <a href="http://www.agquip.com.au">http://www.agquip.com.au</a>
19	<b>Dalby Grains Research Update</b> , Dalby RSL, Qld - John Cameron or Erica McKay, 02 94824930, northernupdates@icanrural.com.au
20	<b>Narrabri Grains Research Update</b> , PBI Narrabri, NSW- John Cameron or Erica McKay, 02 94824930, northernupdates@icanrural.com.au
31	<b>Moree Grains Research Update</b> , Moree RSL, NSW- John Cameron or Erica McKay, 02 94824930, northernupdates@icanrural.com.au
September 2010	
1	<b>Walgett Grains Research Update</b> , Walgett Sports Club, NSW- John Cameron or Erica McKay, 02 94824930, northernupdates@icanrural.com.au
2-3	<b>14th Symposium on Precision Agriculture in Australasia</b> , Commercial Club, Albury, NSW – <a href="http://www.sydney.edu.au/agriculture/acpa">http://www.sydney.edu.au/agriculture/acpa</a>
16-17	<b>Landscape, Leadership &amp; Learning - 2010, AgForce State Conference</b> , Rockhampton, Qld - <a href="http://www.agforceqld.org.au/index.php?tgtPage=events&amp;page_id=189">http://www.agforceqld.org.au/index.php?tgtPage=events&amp;page_id=189</a>
26-30	<b>17th Australasian Weeds Conference</b> , Christchurch, NZ - <a href="http://www.17awc.org/index.php">http://www.17awc.org/index.php</a>
November 2010	
15-18	<b>15th Australian Agronomy Conference</b> , Lincoln, New Zealand - Further information: <a href="http://www.agronomy.org.au/events/2010">www.agronomy.org.au/events/2010</a>
February 2011	
22-23	<b>Dubbo Grains Research Update</b> , Dubbo RSL, NSW - John Cameron or Erica McKay, 02 94824930, northernupdates@icanrural.com.au
March 2011	
2-3	<b>Goondiwindi Grains Research Update</b> , Goondiwindi Community Centre, Qld - John Cameron or Erica McKay, 02 94824930, northernupdates@icanrural.com.au

(b) Varieties displaying this symbol beside them are protected under the Plant Breeders Rights Act 1994.

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