

phosphorus and nitrogen, crop yields, crop rotation, areas of pasture and native vegetation, compared to the wider region, area of soil susceptible to erosion, salinity, and fuel use on a per hectare of crop basis.

Growers using the service gain valuable benchmarking information, while the broader grains industry needs this data to document improvements in environmental management.

This service is organised, managed and run by the grains industry, via the Grains Council of Australia, with involvement of the GRDC.

Advisers are invited to participate by either encouraging their clients to input their data into the database, or

doing so on their behalf from your own records. A simple spreadsheet enables easy data input. All respondents will receive a report with the relevant comparisons.

FURTHER INFORMATION:

**Alan Umbers, 02 6273 3000, 0428 432 557
alan@grainscouncil.com**

Website: www.grainscouncil.com

For the data input form: http://www.grainscouncil.com/EMS/NFPD_dataform.pdf

More detail on this project: http://www.grainscouncil.com/EMS/about_ems



Grains Research **UPDATE** NORTHERN REGION



Diary dates More detailed diary dates are located on the GRDC website.

May 07	
2-3	Accredited Chickpea Agronomist Course, Narrabri, NSW Contact: Gordon Cumming, 0408 923 474, pulse.gordon@bigpond.com
30-31	Cotton Trade Show, Moree, NSW Contact: 07 4659 3555, tradeshow@greenmountpress.com.au
June 07	
5-7	Elders FarmFest Field days, Kingsthorpe Park, Toowoomba, Qld Further information: http://farmfest.farmonline.com.au
14-16	Primex Agricultural Expo, Casino, NSW Further information: http://www.primex.net.au/
July 07	
12-14	Ag-Grow, Emerald, Qld Further information: www.aggrow.com.au/index.asp
18	Moree Grains Research Update, Moree Services Club, NSW Contact: John Cameron or Erica McKay, 02 9482 4930, updaten@tpg.com.au , http://www.icanrural.com.au
19	Spring Ridge Grains Research Update, Spring Ridge Golf Club, NSW Contact: John Cameron or Erica McKay, 02 9482 4930, updaten@tpg.com.au , http://www.icanrural.com.au
24-25	Emerald Grains Research Update & CQSFS Forum - Ready, Set, GROW . . . , Emerald Town Hall, Emerald, Qld Contact: John Cameron or Erica McKay, 02 9482 4930, updaten@tpg.com.au , http://www.icanrural.com.au
25-26	National Fodder Conference and Tour, Coffs Harbour, NSW Contact: Anne Fleming, 03 9890 6855

**VISIT AUSTRALIA'S GRAINS
RESEARCH WEB PAGE
GRAINZONE www.grdc.com.au**

Editor: John Cameron (02) 9482 4930,
PO Box 718, HORNSBY NSW 1630

Research writers: John Cameron and Erica McKay

Layout & Design: Lightning Designs (08) 8274 1648

DISCLAIMER

The Grains Research and Development Corporation have prepared this publication, on the basis of information available at the time of publication without any independent verification. Neither the Corporation and its editors nor any contributor to this publication represent that the contents of this publication are accurate or complete; nor do we accept any omissions in the contents, however they may arise. Readers who act on the information in this publication do so at their risk. The Corporation and contributors may identify particular types of products. We do not endorse or recommend the products of any manufacturer referred to. Other products may perform as well or better than those specifically referred to.

Glyphosate resistant barnyard grass

At least one property in northern New South Wales have been confirmed as having glyphosate resistant awnless barnyard grass. A further two properties are yet to be confirmed. The plants were found in paddocks with a long history of winter cropping in a summer rainfall zone with summer fallow weed control relying solely on glyphosate. The confirmed site is on lighter textured soil.

NSW DPI technical specialist for weeds, Andrew Storrie, said "Barnyard grass is a highly competitive weed of summer crops and fallows in New South Wales and Queensland, with each plant producing up to 42,000 seeds.

"We should be 'on the look out' for barnyard grass plants that survive applications of glyphosate and when found, do whatever is necessary to stop them from seeding.

"There are things that growers can do now if they suspect that they may have glyphosate resistant awnless barnyard grass. In winter months, be very careful of machinery movement in paddocks that you are worried about and don't graze the paddocks. You don't want seeds moving around the farm or district, said Mr Storrie.

"Growers should also collect as much of the seed from suspected resistant populations as possible and send to Dr Peter Boutsalis of Plant Science Consulting at the University of Adelaide for a positive confirmation.

"Forward planning can also assist. In paddocks where resistance is suspected, aim for a fallow using residual herbicide and paraquat or sow a broad leaved summer crop, preferably narrow row mungbeans. The later allows Spinnaker® to be applied post sow pre emergent or trifluralin pre emergent. If barnyard grass appears in the crop go back with a selective group A over the top and perhaps be ready to desiccate the crop. Do everything you can to prevent seed set.

"In addition, take care to not bury the seed. Seed left on the surface will germinate faster. Barnyard grass isn't overly hard seeded, but has an initial dormancy and may survive one or two seasons," said Mr Storrie.

It should be pointed out that several of the above strategies are stop-gap measures only. Resistance is likely

to develop to other herbicides used on this weed such as the Group A mode of action grass selectives, Group B imidazolinones, and group D herbicide trifluralin, if they are used frequently and if surviving plants are allowed to set seed.

FURTHER INFORMATION:
**Andrew Storrie, 02 6763 1100
andrew.storrie@dpi.nsw.gov.au**

Maintain vigilance on stripe rust in 07

"A new pathotype of stripe rust detected at low levels in southern NSW and Victoria is a threat to varieties that rely on the Yr17 resistance gene. This has the potential to affect a number of current wheat varieties. The Plant Breeding Institute's Cereal Rust Laboratory which hosts the Australian Cereal Rust Control Program (ACRCP), is currently conducting further testing to determine the virulence of this pathotype on a large number of cultivars," said Dr Steve Simpfendorfer - cereal pathologist with NSW DPI.

The WA pathotype has been widely distributed in eastern Australia since 2003 and is responsible for the stripe rust epidemics in recent years. Among varieties that showed excellent resistance to the WA pathotype were those which carry the Yr17 resistance gene. The discovery of this new pathotype in 2006 that overcomes the Yr17 defence, thus leaves several more varieties at risk and potentially in need of additional protection from fungicides.

"There are a number of significant unknowns that need to be considered when deciding how to manage the potential impact of this new Yr17 attacking pathotype in 2007," said Dr Simpfendorfer

"Of the 150 stripe rust samples submitted to the PBI Cereal Rust Laboratory in 2006, only two were the new Yr17 pathotype. These were from Coleambally in southern NSW and Horsham in Victoria. A total of 75 stripe rust samples were submitted from northern NSW

and Queensland in 2006 all of which were the WA pathotype. Thus the new Yr17 pathotype does not appear to be widely distributed and limited to south-eastern Australia. If stripe rust survives over summer in the north, it is likely to be the WA pathotype.

“To be a problem in 2007, the Yr17 attacking pathotype needs to survive over summer on volunteer wheat plants in the limited areas where it has currently been found. A mixed blessing from the drought would be a significant reduction in over summer survival of all rust types.

“The new Yr17 pathotype may not be well adapted and may simply remain at low levels. However, being a mutation of the WA pathotype, which is well adapted and widely spread, it is likely to be more of a concern. Nevertheless, the adaptability of this new Yr17 pathotype is simply unknown at this time.

“This new Yr17 pathotype would need to build-up on susceptible wheat crops in southern NSW and Victoria then blow north to present a significant risk to central and northern NSW wheat crops in 2007. If this build-up in the south occurs, is likely to be starting from a very low base. Hence, the risk for northern NSW growers from this new Yr17 pathotype in 2007 is likely to be quite low. If it does appear in the north in 2007 it is likely to be late in the season when crops are well advanced which limits the potential impact on yield loss. However, this may change quickly if the new pathotype survives in quantity and re-emerges in early sown 2007 crops.

“A complicating factor is that we don’t know how other genes will react to this new pathotype. Based on a recent report by the PBI Cereal Rust Laboratory, the resistance ratings against this new Yr17 attacking pathotype may change for a number of varieties which have the Yr17 resistance gene, but the combination of other genes present may mean that some simply drop to a 7. This is still more than adequate resistance while others may fall to 4 or 5 and require fungicide management,” said Dr Simpfendorfer.

“As resistance levels will not be known for this season, growers should be vigilant when sowing potentially Yr17 susceptible varieties in 2007. Some may well still have adequate resistance to this new Yr17 pathotype. The simple message is that the varieties with Yr17 are no longer ‘sow and forget’ in terms of stripe rust. They will need to be carefully monitored during the 2007 growing season. Growers should consult their agronomist, seed reseller or the PBI Cereal Rust Laboratory website for current Yr17 resistance information. Visit the PBI website at www.agric.usyd.edu.au/pbi/

“Growers should not worry about additional seed or in-furrow fungicide application with these Yr17 varieties in 2007 as there are too many unknowns. If the Yr17

pathotype occurs, it is most likely to be later in the season and best addressed by foliar fungicides at that time.

“This development underscores the importance for growers and advisers to submit rust samples to the Australian Cereal Rust Survey throughout each season - especially if rust development is more severe than expected on certain varieties. Rust monitoring and pathotype assessments, as in this case, can provide an early warning system to the industry that may provide a one to two year lead period to allow adjustments to variety choice or preparing for strategic fungicide applications.

Cereal rust samples may be collected and posted in paper envelopes to the following address:

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

FURTHER INFORMATION:

Steven Simpfendorfer, Ph: (02) 6763 1261,
steven.simpfendorfer@dpi.nsw.gov.au

Colin Wellings, Ph: (02) 9351 8826,
colinw@camden.usyd.edu.au

Visit the PBI website at
www.agric.usyd.edu.au/pbi/

GRDC code: US315

Herbicide carry over warning for chickpeas

“Drought affected herbicide residues from 2006 applications may pose a risk to 2007 chickpea crops, warned NSW DPI technical specialist for weeds Andrew Storrie at the recent round of Grains Research Updates. “Dry conditions are likely to have slowed the rate of breakdown of herbicides. Be aware of this and choose paddocks and varieties carefully.

“If concerned about herbicide residues, one option is to conduct a ‘pot test’ (See “NSW DPI Weed Control in Summer Crops”) before planting. Alternatively, pick another paddock for chickpeas”, said Mr Storrie.

“It’s important to know your soil types and conditions and how this affects herbicide breakdown. Herbicides such as the sulfonylurea’s (eg chlorsulfuron, triasulfuron, Hussar®, Atlantis®) persist longer in alkaline soils and are often the cause of damage to chickpeas and other sensitive crops, particularly after dry summers and autumns. Imidazolinone herbicides (Spinnaker®, Midas®)(also a Group B mode of action) are quite different in their response to soil pH. They persist

longer under acid soils as they become less available to plants, whereas under alkaline soils they become more available and exposed to decomposition.

“Current season herbicides can also be affected by dry conditions. As an example, dry conditions prior to planting increase the risk of herbicide carry-over into the crop for Group I herbicides (phenoxies and related herbicides). The ‘plant-back’ countdown commences after a minimum of 15 mm rain has been received. These herbicides are primarily detoxified by soil bacteria. This assumes there is sufficient soil moisture for the bacteria to grow. Waterlogging will also reduce microbial activity and extend the time taken for Group I herbicides to be detoxified.

“Another example was in 2003, where damage caused by isoxaflutole (Balance®) followed dry conditions prior to planting, with a further 6-8 weeks of dry weather post planting. The chickpea plants were not growing fast enough to breakdown the herbicide before it could do some damage. Some cultivars, such as Yorker® are also more sensitive to this herbicide,” said Mr Storrie.

FURTHER INFORMATION:

Andrew Storrie, 02 6763 1100
andrew.storrie@dpi.nsw.gov.au

Has drought affected crown rot inoculum levels?

“Just because a paddock wasn’t planted to wheat last year because of the drought, doesn’t mean that it was necessarily a good break for crown rot” said Dr Steve Simpfendorfer, plant pathologist with NSW DPI in Tamworth.

Crown rot is a stubble-borne fungus which survives both in above ground stubble and remaining crowns and is only reduced if these plant parts are broken down. This decomposition process relies on soil microbes whose activity depends on the temperature and moisture conditions. In the dry conditions of 2006, low moisture may mean that the stubble has broken down only slowly, leaving crown rot inoculum levels still potentially at high levels. Low in-crop rainfall in 2006 would have also reduced the effectiveness of break crops in reducing crown rot inoculum levels.

Growers and advisers are reminded about the importance of rotation and variety selection particularly in high crown rot inoculum paddocks.

Ground truthing research conducted this year by the Northern Grower Alliance looking at inter-row sowing as a control method for crown rot, has re-enforced previous research conducted by NSW DPI.

Richard Daniel from the Northern Grower Alliance said: “We had seven commercial wheat trials in 2006 looking at the inter-row sowing as a crown rot management tool. Inter-row sowing decreased both crown rot severity (average 53%) and incidence (average 48%) compared to sowing on the previous cereal rows.

“Inter-row sowing resulted in a significant yield increase at 4 of 7 sites (overall average yield increase of 5%) showing that sowing between the previous years stubble rows can produce a yield benefit (average yield benefit of 101 kg/ha or \$20/ha net return), but is best used under low crown rot risk. It was seen as a useful additional tactic for crown rot management, to be used in combination with the primary tactics of rotation and variety choice.”

FURTHER INFORMATION:

Steven Simpfendorfer, Ph: (02) 6763 1261,
steven.simpfendorfer@dpi.nsw.gov.au

Richard Daniel, Ph: (07) 4698 7983,
richard.daniel@nga.org.au

GRDC codes: DAN485 NGA00001

Mungbean accreditation

Pulse Australia in association with QDPI&F are seeking expressions of interest from growers and advisers in Mungbean accreditation workshops to be conducted later in 2007.

FURTHER INFORMATION:

Gordon Cumming 0408 923 474,
pulse.gordon@bigpond.com

® Registered trademark

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

Benchmark your performance

Grain producers and advisers now have access to a free service that enables them to benchmark their farm production and farming system against that of their peers, their shire and region.

By providing basic information about their farm practices, farmers can receive a confidential, detailed, personalised report, showing how their farm and grain production statistics compare with the rest of their region.

The report shows key comparative data including: water use efficiency, fertiliser use efficiency for both