



PULSE

UPDATE ANNUAL 2013

Pulses Growing Your Profits



IN THIS ISSUE...

- Best management training courses
- Pulse variety choices
- Lentils for the Southern Mallee
- Global marketing trends
- Pulses for a healthy diet

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Contents

PULSE UPDATE ANNUAL

Crop Support Reports

Northern Region.....	3
Southern Region.....	4
Western Region.....	6
Lentil industry thanks Michael Materne.....	10
Pulse Australia enjoys Bayer support.....	11

PULSE TECH-NOTES

Pulse choices for Western Australia in 2013.....	13
Lentils in the southern Mallee: new varieties and sowing dates	14
Destructive pea weevils on the way out.....	17
Reviving the WA chickpea industry: demonstrating new ascochyta blight resistant varieties.....	17
New Pulse varieties for 2013	18

PULSE MARKET NEWS

Marketing pointers in the Pulse world.....	20
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FROM THE CEO



By Tim Edgecombe
Chief Executive Officer,
Pulse Australia

Having been in the chair for one year, it is interesting to reflect on last season and contemplate the prospects for this year and beyond.

I feel privileged to have succeeded Gavin Gibson as CEO. On 1 January 2012, Gavin retired from the position of CEO after 12 years at the helm of Pulse Australia. Gavin was the driving force behind the organisation, and evidence of his influence on the pulse industry can be seen in the level of confidence that many growers now have across Australia to not only grow pulses as a regular part of their crop rotation system but also as a cash crop in their own right. Gavin was formally recognised for his services to The Australian Pulse Industry at last year's Australian Grains Industry Conference.

2012 also saw the retirement of three long serving Directors. Mr Gerald Feeney retired on 28 November after serving on the Board since December 1999. He was Chairman from November 2005 until November 2011. Mr Denis Logan retired in November 2011 after six years on the Board and Mr Geoff Budd retired in April 2012 after serving nearly 10 years on the Board. On behalf of the Board and the broader Pulse Industry, I would like to extend our gratitude for their respective service and commitment to the Pulse Australia Board.

Continued next page

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Continued from page 1

At the commencement of the 2012 season we all had high hopes for a record breaking season. Pre-plant conditions in most growing regions could not have been much better with full sub-soil moisture profiles and strong demand for most pulses. A very dry finish in eastern and southern states tempered our enthusiasm as final crop estimates were revised down accordingly. The record desi chickpea crop was offset by the reduction in lupin production in Western Australia due to its very dry season, resulting in a slight reduction in total pulse production compared to the previous year.

In 2010, Pulse Australia partnered with Australian Oilseeds Federation (AOF) to apply to GRDC for broad leaf break crop development project funding. We were successful in obtaining this joint GRDC project funding for the two years from July 1st 2011 to June 30th 2013 under the title "Better Break Crops". The project is currently being overseen by a small steering committee with representatives from Pulse Australia, AOF and GRDC Southern Panel. The Better Break Crop project provides the primary focus for the crop support team. Under the project, the field team developed the Southern Chickpea Best Management Practices Training Course and associated training materials. This comprehensive course was delivered in nine courses throughout the southern growing regions of Australia and attracted a total of 98 participants.

Pulse Australia was successful in obtaining a small grant from residual funding left over from the Ministerial Task Force into AQIS reform to undertake a project entitled "Review of industry practices in identifying gazetted weed seeds and determining area freedom from certain weed seeds and stem nematodes that are restricted in exports of pulses to India". The final report was delivered to the Department of Agriculture, Fisheries and Forestry in May 2012.

The National Pulse Standards Committee met during the year to consider suggested changes to the Standards raised by the State Pulse Groups. The most significant change resulted in the adoption of a new quality parameter called "Contrasting Colour" for all whole red lentil standards to be introduced for the 2012 season with a 1% tolerance. This followed advice from plant breeders that low levels of off-colour seed coats are produced as a result of the genetic make-up of red lentil varieties.

Pulse Australia again co-hosted the 2012 Australian Grains Industry Conference in Melbourne. The Conference was the most successful to date and attracted a record 940 delegates from Australia and overseas and featured:

- Higher level of sponsor support
- Increased media coverage
- Largest trade exhibition
- Wider spread of attendees from outside of the traditional commercial base.

With the successful completion of significant export reform initiatives of the Grain Ministerial Taskforce, DAFF established an industry consultative committee to act as the peak consultative group between DAFF and the grain, seed, fodder, timber and nut export industries. This committee supersedes the AQIS Grain Industry Consultative Committee. The Committee will be the primary consultation body for issues relating to the export inspection and certification of grain, seed, timber, fodder and nuts. Pulse Australia's CEO has been nominated to represent the Australian Pulse Industry on the Committee.

Pulse Australia has commenced a project to centralise all its data in a data centre in Melbourne. This process is part of a broader strategy to enhance our reputation as the pre-eminent knowledge centre for pulse information in Australia. The data centre will allow

us to capture, store and utilize data in a far more efficient manner and ensure that all data is secure with full redundancy.

With the support of GRDC, Pulse Australia will coordinate the development of a business case to determine the feasibility of establishing a viable Pigeon Pea industry in Australia. The study will identify gaps in the value chain from the adaption of suitable varieties, agronomic considerations, product quality and consistency, processing, market demand and pricing. Recommendations will be made to scope further project work and make application for appropriate funding.

INTERNATIONAL

Pulse Australia is a member of CICILS IPTIC (The International Pulses Trade and Industry Confederation). In 2012, CICILS commenced a study to look at methods of evaluation and expression of values for nutritional and functional characteristics of pulses with a project that starts looking at Canada, Australia, USA and Europe. The study will seek to determine the way in which each country describes and measures pulse standards and nutritional values. The ultimate aim will be to have a global standard for expression of key nutritional and functional values.

CICILS has been lobbying the United Nations to have 2016 designated as The International Year of the Pulse. An International Year designation provides an opportunity to raise awareness and to celebrate the role of beans, chickpeas, lentils and other pulses in feeding the world. Even more importantly, it can become a galvanizing moment to draw together key actors to further the contributions pulses make to health, nutrition, and sustainability.

Pulse Australia is grateful to GRDC and our loyal industry members for their support as we strive to continue to represent the best interests of the entire pulse industry in Australia.

GETTING THE BASICS RIGHT PAYS

Gordon Cumming, Pulse Australia - Northern Region

After what has been for most a very frustrating summer season with little to no timely rain. Planning is now well underway for the 2013 winter crop.

Upon reflection, what are the lessons learnt from 2012 that can help ensure a good 2013?

There are two things that come quickly to mind, they are not new and at times we have only limited control over them but they remain the corner stone of successful cropping in the northern region.

1. Timeliness of planting.
2. The amount of stored soil moisture present at planting.

Faba Beans; are a great example of the importance of Point 1 'Timeliness of planting.

The faba bean industry in northern NSW has grown to a consistent 50,000 ha's and the optimum planting window is considered to be the first two weeks of April, this can be stretched to the end of April if needed but the gate is firmly closed and locked by the 1st of May.

The decision about stored soil moisture is a more difficult one with producers having to weigh up how much moisture is present at planting and what are the chances of getting in crop rain, how much and when. Ideally the amount present at planting should be sufficient to produce the minimum yield need to cover the cost of production. Then any additional useful rainfall goes to making profitable yield gains.

During 2012, we were able to get the beans planting in a timely manner and then it got rather wet in June/July which they responded well to, better than many of the chickpea crops. With August/September onwards being very dry disease issues were minimal. Good yields and solid prices made for some very good returns for growers.

Desi Chickpea; once again performed very well for most growers returning if

not their best gross margin then very close to it. Good subsoil moisture was the salvation of many crops, with the plants ability to punch down that tap root to chase moisture coming to the fore. Having this stored soil moisture truly paid, when for most the tap was turned off at the end of the 3rd week of July with no useful rain until after harvest.

Paddock selection and variety choice were once again critical. Many crops were water logged during June/July and the newly released variety PBA Boundy[®] showed its reduced resistance to phytothphora root rot and general water logging where it had been planted on fields that were not slopping and free draining. PBA HatTrick[®] also suffered from wet feet, but not to the same extent and typically recovered well.

I also saw several chickpea crops succumb to a combination of sodicity/salinity, a phenomenon that has not been seen on such a large scale for several years.

There appeared to be a couple of common threads to this being either where chickpea had been pushed out into newer paddocks that had salinity at depth (50 to 75 cm) that had not grown chickpea before. Also there was some paddocks that had a history of successfully growing chickpea in the past, but I suspect that the last couple of wet summers had raised the water table bring the salinity up with it.



Gordon Cumming - Pulse Australia

Tips for 2013; Attention to detail remains the key consideration. We know what is needed to grower a bumper crop. However, farming is never that easy with most decisions having to be a compromise between what is considered best practice and what Mother Nature will allow us to do.

The importance of timing of planting and soil moisture cannot be over stated, so if things are looking iffy but you have good subsoil moisture then consider deep planting of chickpea, you can go as deep as 15 cm on most soil types if needed, but adjust you planting date accordingly. The rough rule of thumb is 1 cm equals 1 day to emergence, thus when we are planting at 5 to 7 cm we see emergence a week later, but when we change to a depth of 15 cm to chase moisture then emergence is delayed by and extra 10 to 14 days so we needs to bring our planting window forward by 2 weeks.



Typical Brigalow soil with a Sodic patch.

LOOKING TOWARDS 2013 IN THE SOUTHERN REGION

Wayne Hawthorne, Pulse Australia, South Region.

The last two years have produced contrasting conditions at sowing, but both finished with a dry spring. Valuable lessons have been learnt from these contrasting experiences with pulse production.

Successful establishment of pulses into a profile of stored soil moisture is highly beneficial, retaining and efficiently utilising that moisture with limited in crop rainfall is a major necessity with all crops. Stubble retention in 2012 became essential when winter and spring rain was below average. Stubble presence helps preserve soil moisture and aids in summer weed control particularly during drier years. It is important that summer weed control is effective to maximise the quantity of stored water.

Early sowing aids yield potential in most cases, but can decrease yield potential if it causes poor establishment when conditions at sowing are marginal. Dry sowing into tight soils can lead to shallow sowing depth leading to herbicide damage. Heavy cereal stubbles can also cause establishment problems.

High levels of foliar disease present on 2011 pulse stubbles presented a high disease risk going into 2012. However, this risk diminished with dry spring conditions and rain events of short duration. Despite lower disease levels in last year's pulse crops, this season's crops will still need to be managed for high disease pressure as it is in-crop rainfall that determines the level of disease pressure.

Timing and correct fungicide choice to control the full range of likely diseases is paramount. Disease presence in the lower crop canopy puts immense pressure on subsequent growth, even when protected with later fungicide applications. Achieving adequate leaf coverage with a spray at or close to canopy closure will help avoid later uncontrolled infection in the lower canopy. Spraying ahead of a rain front will be more effective than afterwards.

Ensuring that the preferred product is on hand helps to avoid delays.

Although seed quality will be far better than it was following the harvests of 2009 and 2010, it is still important to test for germination and vigour every year. We regularly hear of establishment problems that directly relate to poor seed quality.

Sowing early is important for yield potential, but sowing too early increases the potential disease risk and increases the need for effective disease management. It can also influence variety choice and frost susceptibility. As always, each individual season will change the dynamics of disease development. In beans, rust was the biggest issue in 2011 and chocolate spot in 2012. We cannot underestimate the impact of botrytis on flowers and pod set. Bacterial blight after late frost was the biggest issue in field pea in 2012 so beware of infected stubble and seed transmission as disease sources in 2013.

PULSE CHOICE

It is often unwise to change from one pulse to another based solely on last year's price or performance (good or bad). One pulse species may do well in one season but have difficulties in another. Each year a different pulse crop type seems to be favoured over the others in either yield or price or both. We cannot predict what 2013 will bring for individual pulses, but we can play the odds by assessing risks to production and marketing that each pulse brings, and match the pulse species to the correct soil type and conditions, and manage them accordingly.

SOUTHERN CHICKPEAS SET TO EXPAND AGAIN

With respectable yields and exceptional prices for chickpea in the last two seasons, the area of chickpea in southern Australia is set to rise again. Poor seed quality had held back expansion prior to these years.



Wayne Hawthorne, Pulse Australia

Chickpeas do not fit into rotations and farming systems as easily as other pulses, and are far less competitive against weeds. The use of Terbyne® and Balance® is a positive for effective control of most broadleaf weeds, but post-emergent options are limited and can affect crop yield potential. Crop topping is not possible with most chickpea varieties and, if attempted, will affect yield and quality, even with the earlier flowering PBA Striker¹ and Genesis™ 079 varieties.

When choosing a chickpea variety it is essential to consider their resistance to ascochyta blight along with their yield, price potential, marketing, delivery, maturity, lodging resistance and other agronomic features relevant to your growing region.

Choose a desi or a kabuli type that suits your marketing plans, the region and farming system. Larger seeded kabuli chickpeas like Genesis™ Kalkee are later maturing than Genesis™ 090 and premiums for kabuli over desi are necessary to compensate for lower yields and higher seed costs. Gross margins, marketability and personal choice can often be deciding factors.

FABA BEANS ON THE RISE

With respectable yields and exceptional prices for faba beans in the last two seasons, the area of faba bean in southern Australia is set to rise. Market interest is high and enduring to date,

continued next page...

boosting grower confidence. Foliar disease management is now better understood, and while it has been aided by the recent drier springs, do not ignore using early protective fungicides, as verified by experiences with rust in 2011 and chocolate spot in 2012. Also consider the impact of botrytis on flowers and pod set without earlier control. Southern Pulse Agronomy trials at Westmere demonstrated this in 2012.

Interest in faba beans on acidic soils is increasing as we learn more about how to manage them to optimise production on these soils. What is critical is inoculation for successful nodulation, and paying attention to the nutritional needs of the rhizobia (e.g. Molybdenum) as well as the beans themselves.

Growers and agronomists will benefit from the faba and broad bean training courses being run this season across the Southern Region. See Page 25.

LUPINS ARE BACK

After several years of low prices and demand, the lupin area sown in 2012 declined in favour of other options with better returns. Then the world grain and protein price escalated on the back of seasonal drought in the northern hemisphere, particularly in the southern USA and western Europe. Australian end-users are looking for lupins, but must provide growers with confidence in their market needs to get more area sown to lupins.

Albus lupin markets have been flat since record production in 2010 which swamped the limited export market into the Middle East. Fortunately stocks are now somewhat depleted with feed millers now using albus lupins in their mixes, but at feed prices.

LENTILS TIGHT

Lentil prices have remained at a low relative to historical highs. Reduced lentil production in Canada is continuing, and to a lesser extent in Australia, which may help reduce the global stock-pile during 2013. Meanwhile, new lentil varieties and farming systems mean that lentils can still be grown as a profitable pulse

option at current prices in areas suited to the crop.

FIELD PEAS HANG IN THERE

Field peas performed quite well in a dry season where frost or bacterial blight did not impact on yield. There is now a choice of several varieties that are short-season yet with high yield potential. It has now also become clear that in areas regularly prone to bacterial blight, it is important to have the better resistance of PBA Percy[®]. Variety choice, stubble management, crop sowing dates and seed hygiene are vital components of a bacterial blight minimisation strategy. Use "Black Spot Manager" to determine the optimum sowing dates in your area to minimise the risk of blackspot limiting yield potential.

MEETING RECEIVAL STANDARDS

This last harvest has seen minimal weathering and quality issues. Harvest is always hectic and meeting pulse receival standards can sometimes be a challenge. Each year we seem to face a different problem with pulses, particularly lentils. A dry finish, a wet or delayed harvest, ineffective disease control, even variety contaminants can all cause delivery issues. Cracked grain and insect damage seem to occur every year, particularly in faba beans. Crop topping is widely practiced in pulses to prevent weed seed set. With the timing based on the ryegrass stage rather than the crop, there is always potential to affect pulse quality. Growing earlier maturing varieties helps to enable crop topping to match ryegrass stages. However, this does not necessarily overcome issues arising from plants that mature later in wheel tracks or in late patches in the paddock, variety contaminants or harvest rain. Assess each individual situation at crop topping stage and then again before commencing harvest.

PULSE VARIETY CHOICES INCREASED

Pulse variety options have further increased with new releases available for sowing in 2013.

PBA Ace[®] is now the highest yielding red lentil, and considered a replacement for Nugget. PBA Bolt[®] is also available as a direct alternative to PBA Flash[®] that offers better ascochyta resistance and a grey seed coat. These two compliment the herbicide tolerant PBA Herald[®] XT, which is a "Nipper type" that has 'imi'-herbicide tolerance. See yield performance of these new varieties on page 14.

PBA Pearl[®] is a semi-leafless white field pea that is currently the highest yielding field pea. Interest for export markets is developing, but initially it may only be considered a feed pea. PBA Oura[®] (semi-leafless, erect type) and PBA Percy[®] (a conventional type), both 'dun types', were released the previous year for their bacterial blight resistance.

PBA Striker[®] is a new short-season desi chickpea that is attracting interest in southern Australia for its yields and adaptation to medium to short season areas. PBA Boundary[®] has also found some acceptance in the medium rainfall regions of southern NSW because of its improved harvestability over PBA Slasher[®], but better resistance to ascochyta than PBA HatTrick[®] or Flipper[®].

Genesis™ Kalkee is a large-seeded kabuli chickpea that will suit areas with a longer growing season. It has larger and more consistent seed size than other large Kabulis.

PBA Rana[®] is a faba bean released for higher rainfall area and is attracting interest after strong performance in trials. It is a medium sized faba bean with excellent seed quality and an enhanced disease resistance profile. The new faba bean PBA Warda[®] is not deemed suitable for the southern region because of its ascochyta and chocolate spot susceptibility.

PBA Gunyidi[®] is an Australian sweet lupin available in eastern Australia in limited amounts. It will suit those who are unhappy with the shattering and poor emergence issues with Mandelup[®]. It may not offer a significant yield improvement but does greatly reduce the risk of losses from delayed harvest.

WESTERN CROPS DRY IN 2012

Alan Meldrum, Pulse Australia, Western Region.

2012 was a very dry and frustrating year in Western Australia. Esperance and the south coast had just about the right amount of rain at the right time, with some areas of waterlogging causing early concern. For the rest of the state was barely wet at any stage, with a late seasonal break (June 9th) not helping yield potential at all. Spring was kinder providing enough rain for above average yields in the south and below average yields in the north. Some of the kg/mm of rain figures are astounding and testament to the capability and tenacity of growers to use cutting edge technology to achieve a harvestable crop. Not everyone made their budget targets but most harvested more than seemed probable.

LUPINS

Unfortunately, this scenario didn't help lupins. With the majority of the WA lupin crop grown in the northern region and dry sown, germinations on minimal rain followed by very warm autumn temperatures didn't spare lupins from very poor establishment generally and low yields.

Where lupins were sown into adequate moisture with subsoil moisture to sustain growth, yields were average. Podding was very good even in short crops.

Most of the crop was dry sown and didn't receive a substantial rain until early June. In the very north, lupins germinated on 10mm of early May rain but couldn't survive the 5 weeks before the follow up rain. Crops were thin and patchy with poor growth throughout the season. Additionally the planted area in 2012 was less with canola demonstrating stronger profit potential.

Mandelup again demonstrated poor ability to retain pods when harvest was delayed. With higher value crops commanding the attention of the header this was a common issue in 2012.

The good news is that there are good supplies of PBA Gunyidi[®] for

the 2013 season. PBA Gunyidi[®] is a direct replacement of Mandelup where unacceptable losses are being experienced with any delay to harvest.

For growers still utilising older varieties of lupins such as Kalya or Tanjil, switching to PBA Gunyidi[®] will provide a strong yield improvement along with strong tolerance to metribuzin. Tanjil is still the preferred variety for high risk Anthracnose regions.

Lupin values have been much stronger than in 2011, driven by demand arising from the western European drought and strong demand from Asia. The size of the South American soybean crop, due for harvest in March and April, will have a strong influence on pricing for the 2013 lupin crop.

CHICKPEA

The chickpea industry didn't advance in 2012 after a boost to confidence with exceptional yields in 2011. With the break to the season arriving in early June, the sowing window for chickpea was largely already closed. NVT results returned up to 800kg/ha which made chickpea comparable to canola for profitability in a dry season.

The 2013 season will see an increase in the chickpea area, provided the opening rains are timely. Despite the largest Australian desi chickpea crop ever on the east coast, values have held up well. This will encourage production after demonstrating the resilience of chickpea demand from our key markets.

CHICKPEA DISEASE MANAGEMENT

The need for a strategic approach to the management of ascochyta blight in chickpea was clearly highlighted last season with two paddocks being identified with significant levels of infection during August. The origin of the infection was traced to the same planting seed that had a detectable level of ascochyta seed infection, which had not been treated with a suitable thiram based seed dressing.



Alan Meldrum, Pulse Australia

Infected seed will often emerge but die within a few weeks, resulting in significant establishment losses, and then act as sources for crop infection of healthy plants, which occurred during the subsequent September rain events.

Once a foliar infection has started to spread then fungicide applications are required before each likely rain event (if it has been greater than 14 days since the last fungicide application) to limit further spread of the disease, for the remainder of the season.

We must remember that the pods of ALL varieties are more susceptible to ascochyta blight than are leaves and stems. Protective sprays will be needed if ascochyta is present in the crop once pod set has commenced.

The key messages here are;

- The use of a registered seed dressing must become standard practice for all chickpea planting seed to reduce the risk of seed borne infection.
- Regular crop monitoring is needed throughout the season to know what is happening within the crops. Inspect the crop 10-14 days after each rain event, looking for the development or spread of disease.
- Foliar fungicides are protective only, and must be applied when needed immediately prior to the next likely rain event.
- The pods of all varieties are equally susceptible to ascochyta blight.

PBA Inaugural Pulse Conference

SAVE THE DATE!

Themed “Expanding horizons” the conference aims to focus attention on how to meet the Pulse Breeding Australia (PBA) vision of expanding pulse production to more than 15% of the total cropping area.

Renowned Canadian pulse breeder Dr Bert Vandenberg from the University of Saskatchewan is one of the Conference’s keynote speakers.

The conference will build collaboration across five temperate pulse crops, while providing an excellent opportunity for the pulse industry - from growers to agronomists, marketers and researchers - to seek innovative solutions to developing better varieties for Australian growers.

PROPOSED PROGRAM

Monday 21st October

FIELD DAY: Visiting sites close to Adelaide the day will provide a rare opportunity for interaction between industry and all pulse researchers. The aim is to not only extend research to growers and the wider industry but to enhance industry linkages with targeted pulse research.

Tuesday 22nd October

DEVELOPMENT FOCUS: The aim is to examine practical research focussed on developing and delivering better pulses. Topics of presentation will include implications of market imperatives for breeders; trait development and bringing new traits to market; impact



of agronomy on grain quality; and farming systems perspectives on pulse production.

Wednesday 23rd October

RESEARCH FOCUS: Examining the discovery research occurring within pulses, this day will highlight the new technologies and traits being developed to enhance and improve the delivery of pulse varieties.

Conference will end with a session on realising the future for Australian pulse industry.



THANKS TREVOR

Most in the southern region would by now realise that Trevor Bray is no longer with Pulse Australia. We at Pulse Australia, and the pulse industry in general, take this opportunity to publicly thank Trevor for his contribution to our exciting but challenging industry. Having served eight years with Pulse Australia, Trevor made many contacts and strongly influenced the pulse industry, particularly in northern Victoria and southern New South Wales which are developing areas for pulse production.

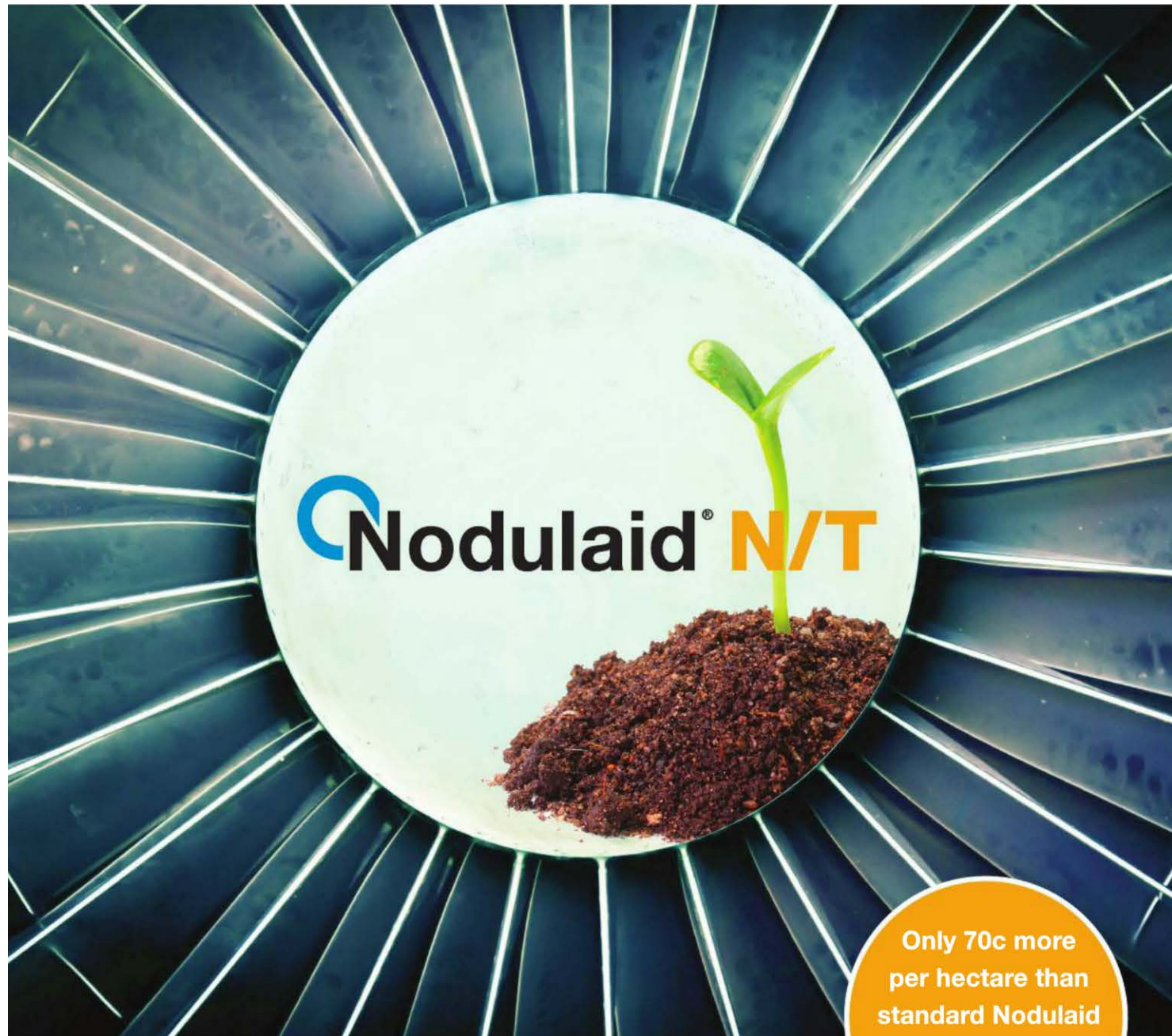
Trevor has been a regular speaker at many field days and pulse events through his territory, and he will be sadly missed. His work with marketers and growers has also assisted in bridging those gaps that exist. This involvement has helped growers gain confidence in growing pulses.

In today’s environment it is becoming increasingly difficult to achieve as much face to face communication as we used to, and we are having to move ever more into electronic forms of communication.

Fortunately Trevor has not been lost from the pulse industry, having recently taken up the position of ‘Manager Grain Accumulation & Grower Relations’ with Unigrain at Smeaton.

We wish him well in his new position and thank him for his tire-less and enthusiastic contribution to Pulse Australia and the pulse industry.





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NEW GRDC NITROGEN FIXATION PROGRAM - GETTING A BETTER RESULT

The GRDC have recently funded a 5 year Project to provide comprehensive information about Nitrogen Fixation in Australian grain and pasture legumes.

The total amount of nitrogen fixed by agricultural legume plants is estimated at 2.7 million tonnes annually, with a nominal value for the industry of close to \$4 billion. Each year Australian farmers sow inoculated legume seed on about 2.5 million hectares, equivalent to 50% of the total area sown to legumes. Essentially, all of the nitrogen fixed by legumes growing on these newly-sown areas, combined with that fixed by the 22.5 million hectares of established and regenerating legume-based pastures, can be attributed to either, or both, current and past inoculation.

The GRDC is undertaking a major survey of Rhizobium effectiveness in the first year and will follow up with another at the end of the project to measure the impact of this extension project.

The project aims to provide farmers with extensive and up to date information on the way Nitrogen Fixation works, how to keep it



Healthy nodules deliver large quantities of nitrogen for the next crop, critical for farm profitability.

working, the factors that stop it working, and how to choose and use all the different inoculum products on the market.

The GRDC have produced a booklet "Inoculating Legumes: A Practical Guide", full of up to date information on all aspects of inoculation. This booklet is available from the GRDC or from the Project staff listed below. It will be produced as an iPad App in the near future.

The project is being run Australia wide and is managed by David Herridge, University of New England, Armidale NSW. It will be presented in the regions by Nikki Seymour, DAFF Queensland (Northern Region), Matt Denton, University of Adelaide and Ross Ballard SARDI (Southern Region) and Neil Ballard, Global Pasture Consultants, Narrogin (Western Region).

The project has been started in response to concern that the efficiency of N fixation has declined in recent years. It is hoped that this program will lead to an increased efficiency in current inoculation methods and an improvement in total rhizobia numbers in the soil.

There are a wide range of factors that cause a reduction in rhizobia numbers, both in the first year and over succeeding years. Ongoing work by rhizobia researchers is constantly finding improved strains that increase the amount of N fixed. These new strains will continue to be introduced regularly to keep the numbers of effective rhizobia at high levels.

In another aspect of the program, DAFWA Rhizobiologist Dr Ron Yates, is tasked to find a new strain of rhizobia for Field Pea in WA, as the current strain, Group E, has poor survival in the acidic WA soils.

For further information contact:

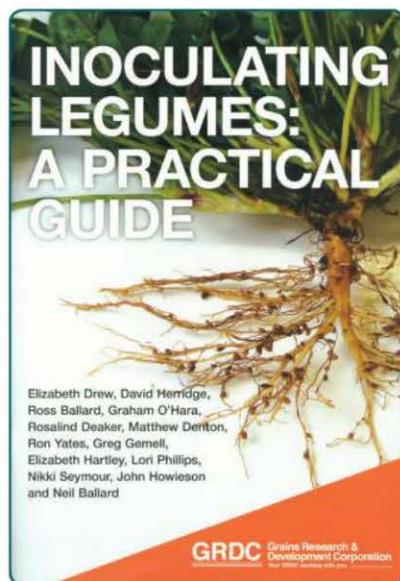
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"Inoculating Legumes: A Practical Guide", is available from the GRDC or from the Project staff.

LENTIL INDUSTRY THANKS MICHAEL MATERNE

Wayne Hawthorne

Michael Materne has recently retired as the national lentil breeder in Australia. The pulse industry pays tribute to Michael's outstanding contributions to lentils, and the pulse industry in general.

Michael is an outstanding and visionary leader, who has been the major driver to the development and growth of the lentil and pulse industries throughout Victoria, Australia and the world. He commenced at Horsham as the lentil breeder in 1994 working with introductions from ICARDA. In his time, Michael has released many lentil varieties in Australia, and others are still to come in the pipeline. Digger, Cobber and Matilda came first from Vic DPI (Northfield and Aldinga from SA were at about the same time). These five varieties started the lentil industry we know today.

Then came Nugget, the first with end point royalties (EPR) and still widely grown. Nipper[®] and Boomer[®] were the first of many varieties bred by Michael in Australia. These have been followed by the seven PBA lines: Flash[®] and Bounty[®]; then Blitz[®] and Jumbo[®]; then Herald[®] XT; and now Ace[®] and Bolt[®].

Michael also released the world's first herbicide tolerant barley variety called 'Scope'.

Michael was a key contributor to the formation and ongoing success of Pulse Breeding Australia. He also led the development of a range of GRDC funded projects to deliver productivity and profitability gains to the grains industry. His great contributions to the Australian pulse industry, farmers and pulse breeding have been well recognised and acknowledged by many people across the country. He has made huge inroads and made some farmers fortunes. We will all miss his friendship, science intellect and massive mentoring role.



A healthy and profitable Lentil industry is largely due to the plant breeding efforts of Michael Materne.

A TRUE LENTIL

Michael, you departed from the **NORTHFIELD** of Yorke Peninsula and settled in the east in Horsham, but with a national perspective. You started as a young **NIPPER**, without any **HERALD** or fanfare, too young to be a baby **BOOMER**, and definitely far too young to be a World War 2 or Vietnam **DIGGER**.

After waltzing **MATILDA** away, in a **FLASH** you hit the **BOUNTY** with a **JUMBO** sized **NUGGET** and your subsequent other lentil varieties. Your **BLITZ** came like a thunder **BOLT**, and you won us over with your **ACE** as your last stroke of genius. We **ALL DING A** champion like you mate.

Canadians might think that you've been **ROBIN** their **LAIRD** and **ESTON**, but really it is just Bert and you sharing secrets and germplasm. As far as Australians and the Canadians are concerned... You are **INVINCIBLE**. Your **IMPACT**, like a **METEOR**, has been to the **MAXIM**. You **IMPRESS** on others to **IMPROVE** and achieve their **MILESTONE** in this **GREENLAND** of Oz.

So Michael, there is no need to turn **CRIMSON** and feel embarrassed. You **RICHLEA** deserve to go out in a **BLAZE** of glory having taken **VANTAGE** of your skills and earned status amongst the lentil industry. Hence we **IMPOWER** you with **SOVEREIGN** status.

"King of the Lentil Industry".

I am proud to say that you are a **COBBER** of mine. Congratulations and thanks from us all. We wish you all the best for your future in private breeding.

Wayne Hawthorne on behalf of the pulse industry.

PULSE AUSTRALIA ENJOYS BAYER SUPPORT

Fleur Wilkins, Communication Manager, Bayer CropScience

Pulse Australia was nominated the preferred industry recipient by regional advisors during a recent promotion with Balance®, Bayer's herbicide for weed control in chickpeas.

Pulse Australia was awarded a \$20,000 sponsorship on behalf of Bayer CropScience. Tim Edgecombe, CEO at Pulse Australia, said the organisation is grateful to receive the generous support from Bayer.

"We appreciate Bayer's continued commitment and partnership with us and the industry, as Balance specifically benefits the ongoing productivity of chickpea crops in Australia," Mr Edgecombe said. "Pulse Australia will put the money towards developing a series of comprehensive Best Management Guides for chickpea production in Australia.

The guides will be distributed to growers and agronomists throughout the country. The chickpea industry in Australia has grown to a record production level of around 670,000 tonnes in 2012, and Pulse Australia looks forward to the continued investment by Bayer in developing new products for the broader pulse industry.

Bayer CropScience Product Manager Nick Moses said the donation was a gesture of appreciation for the long and loyal support Bayer has received from local chickpea growers.

"Bayer developed Balance around 10 years ago, a herbicide to control various broad leaf weeds which threaten the Australian chickpea industry. It continues to be the mainstay for broadleaf weed control in chickpeas but we are also excited about developing Balance as a fallow weed control option for use in 2013 after registration has been completed. As a way of saying thank you for the continued support Balance herbicide has been given, we direct mailed advisors asking them what industry body they preferred



Nick Moses, left, presents Pulse Australia's CEO Tim Edgecombe with the Bayer sponsorship cheque.

Bayer to support. There were multiple organisations that qualified, but Pulse Australia came out on top".

ABOUT BAYER CROPSCIENCE

Bayer is a global enterprise with core competencies in the fields of health care, agriculture and high-tech materials. Bayer CropScience, the subgroup of Bayer AG responsible for the agricultural business, has annual sales of EUR 7.255 billion (2011) and is one of the world's leading innovative crop science companies in the areas of seeds, crop protection and non-agricultural pest control.

The company offers an outstanding range of products including high value seeds, innovative crop protection solutions based on chemical and biological modes of action as well as an extensive service backup for modern, sustainable agriculture. In the area of non-agricultural applications, Bayer CropScience has a broad portfolio of products and services to control pests from home and garden to forestry applications. The company has a global

workforce of 21,000 and is represented in more than 120 countries.

Bayer and its employees contribute thousands of dollars annually to a variety of organisations including Mission Australia and Aussie Helpers. Mission Australia is a community service organisation that assists thousands of disadvantaged Australians every year to help them get back on their feet. Aussie Helpers is a charity that helps fight poverty in rural communities across Australia.

The Bayer CropScience Australian head office is located in Melbourne.

This and further news is available at: www.bayercropscience.com.au



Contact

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PULSE

TECH-NOTES FEBRUARY 2013

PULSE CHOICES FOR WESTERN AUSTRALIA IN 2013

Alan Meldrum, Pulse Australia.

Each year we see new varieties of all grains released to improve the profitability of grain cropping.

The Pulse industry has seen a range of new varieties released for the 2013 season. For Western Australia, there is one new Australian Sweet lupin, one Australian Albus Lupin and three desi chickpea varieties that you should consider this year.

AUSTRALIAN SWEET LUPIN

PBA Gunyidi[®] was released in 2011 but limited seed quantities mean that 2013 is the first season it is widely available.

PBA Gunyidi[®] provides growers with a high yielding lupin that is resistant to pod loss and shatter and addresses the concerns that many growers have with Mandelup. The yield of PBA Gunyidi[®] is marginally better than Mandelup[®], but the physical loss of grain prior to a delayed harvest is markedly better. This reduced harvest risk means that the progress of harvest can continue without having to compromise the yield of high value crops just to capture the lupins as early as possible.

In all agronomic respects it is equal to Mandelup[®]; Anthracnose resistance, metribuzin tolerance and CMV resistance. It has slightly better grain protein than Mandelup[®], but smaller grain size.

It is suited to all areas of WA but will mainly find favour in the northern regions where pod loss in Mandelup[®] is particularly costly.

Contact Seednet for PBA Gunyidi[®] seed.

AUSTRALIAN ALBUS LUPIN

Amira[®] (tested as WALAB2014) is a new Albus lupin for WA with improved Anthracnose resistance. It is rated MR, similar to Mandelup[®], and better than Andromeda[®] which is MS/MR. It flowers 7 days earlier than Andromeda[®] and

provides yields at 97% of Kiev Mutant. Its grain size is similar to Andromeda and Kiev Mutant. It is suited to most albus lupin growing regions except where the Anthracnose risk is very high.

Contact Heritage Seeds for Amira[®] seed.

DESI CHICKPEA

Chickpea growers have three new varieties for 2013. Each provides a range of improvements and advantages, over the current varieties PBA Slasher[®] and Genesis[™] 836.

PBA Striker[®] (tested as CICA0603), is an early flowering chickpea with best yield performance in WA.

It is a semi spreading type, similar to PBA Slasher[®], but with better early vigour. It produces medium sized seed with good milling quality.

It is MR for Ascochyta Blight, less than PBA Slasher[®]. However, when combined with good disease management, this is not considered to be a risk for Western Australian growers. PBA Striker is suited to all regions of WA, but caution is warranted in situations with a high risk of Ascochyta blight.

Contact Seednet for PBA Striker[®] seed.

Neelam[®] (tested as WACPE2155), was the highest yielding variety in NVT trials in 2010. It is a mid-flowering chickpea with grain size similar to Genesis[™] 836.

It is a tall variety, similar to Genesis[™] 836, which provides better harvestability. It is

rated R to ascochyta blight. It is suited to all regions of WA.

Ambar[®] (tested as WACPE2136), is an early flowering chickpea suited to regions with reliable warm spring temperatures. It produces smaller grain than Genesis[™] 836. It is a semi-prostrate variety. It is rated R for Ascochyta Blight. Its yield performance is suited to reliable high yielding regions.

It may be useful in situations where a delay to sowing for weed control will be an advantage.

Contact Heritage Seeds for Neelam[®] and Ambar[®] seed.

DISEASE MANAGEMENT IN CHICKPEA

The key message with chickpea is to not reduce the importance of a strong disease management program, despite the strong ascochyta resistance status of the current varieties. Genetic resistance alone will not always be adequate. With Ascochyta in particular, the genetic resistance diminishes after flowering, exposing the seed to risk of infection and of reduced quality. Additionally, seed and foliar disease management strategies will help with control of Botrytis Grey Mould, for which there is no genetic resistance.

Always apply a thiram based seed dressing, and aim to apply a foliar fungicide at flowering or earlier when there is high yield potential.

LENTILS IN THE SOUTHERN MALLEE: NEW VARIETIES AND SOWING DATES

Jason Brand, DPIV – Horsham.

Two newly released lentil varieties, PBA Ace^(b) and PBA Bolt^(b), had the highest grain yields at Curyo (southern Mallee, Vic) in 2012. Yields exceeded 2.5 t/ha for both varieties when sown early, despite the very dry season.

All varieties had higher grain yields when sown early (May 4) compared with later dates (June 5 and June 22). Varietal differences were evident in the relative decline in grain yield as sowing dates were delayed.

BACKGROUND

The Southern Pulse Agronomy program undertakes a range of agronomic trials that ensure the benefits of new varieties are maximised and delivered to growers. In the southern Mallee, it is generally best practice to sow lentils earlier (late April-early May), to ensure growth and yields are maximised. However, varieties often respond differently to delayed sowing, which may be of benefit for additional weed control. This means that the best varieties sown early are not always the best varieties for delayed sowing. In 2012, a trial was sown in the southern Mallee of Victoria to investigate the adaptability of a range of new lentil varieties and variety mixes to varying sowing dates.

RESULTS

Climate

Growing season and annual rainfall was about 30% below average at Curyo in 2012 (Data not shown). Generally there were frequent small events, with only 3 days throughout the growing season recording more than 10mm (2 in July and 1 in October). Temperatures were close to average and no frost or high temperature extremes were recorded throughout the flowering and grain filling stages.

Sowing Date Trial

Emergence for the early sowing date was delayed due to a dry period during May and growth throughout the season was generally slow for all sowing dates. Despite the relatively low biomass production at all sowing dates, grain yields were excellent, ranging between 1.4 and 2.6 t/ha (Figure 1).

For all varieties and variety mixes, the May 4 sowing date had the highest yield and the June 22 sowing date the lowest yield. However, there was a significant interaction between sowing date and variety, meaning that the relative yield of varieties and mixes across sowing dates differed.

At the May 4 sowing date,

- PBA Ace and PBA Bolt were the highest yielding varieties producing 2.6 and 2.5 t/ha, respectively. PBA Blitz was lowest with 1.9 t/ha.

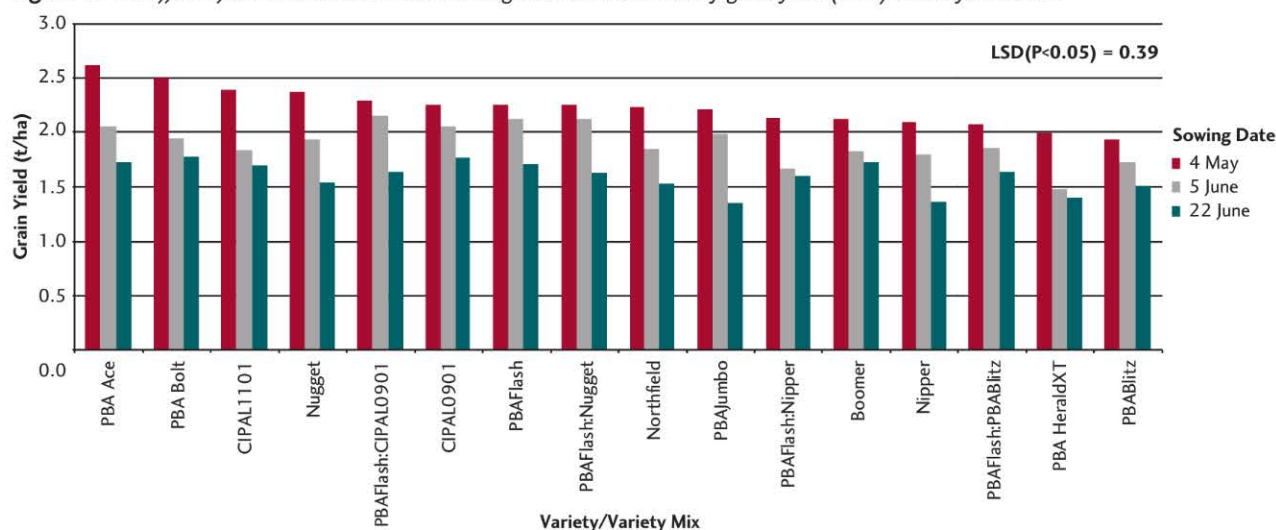
At the June 5 sowing date,

- The yield of PBA Ace^(b) and PBA Bolt^(b) dropped by 20% compared with the May 5 sowing, however varieties such as PBA Flash^(b) and CIPAL0901 (and the mixes containing these varieties) dropped by only 5-10% (Figure 1). This meant that, while PBA Ace^(b) was significantly higher yield than PBA Flash^(b) and CIPAL0901 at the May 5 sowing date, at the June 6 sowing date, PBA Flash^(b) and CIPAL0901 were slightly higher yielding (not statistically different) than PBA Ace^(b).

At the June 22 sowing date

- Similar trends occurred (Figure 1). PBA Blitz^(b), which is a relatively early flowering, lower biomass variety, released for adaption to shorter seasons and the practise of crop-topping was generally one of the lower yielding varieties at all sowing dates.

Figure 1. The effect of the interaction between sowing date and lentil variety grain yield (t/ha) at Curyo in 2012.



Continued from previous page

CONCLUSIONS

These results confirm that the two newly released varieties PBA Ace^(b) and PBA Bolt^(b) have excellent yield potential in the Mallee. When sown early in 2012, grain yields of PBA Ace^(b) were significantly greater than all released varieties except Nugget. Despite the season being significantly drier than average, a mild spring was experienced, meaning that higher biomass and mid maturing varieties, like PBA Ace^(b), were likely to be favoured. This also explains why early maturing varieties like PBA Blitz^(b) were lower yielding in this season.

Similar to previous trials in the southern Mallee, earlier sowing is either highest or equal highest yielding. In most instances delaying sowing into June will result in yield declines. This trial showed that the earlier maturing varieties like PBA Flash^(b), CIPAL0901 and PBA Blitz^(b) generally have less yield decline at the later sowing dates, meaning that yields were similar too or higher than PBA Ace^(b) and PBA Bolt^(b) at the later dates.

Where possible, it may be desirable for producers to grow two varieties to further minimise production risks. A mid maturing type such as PBA Ace^(b)

sown early, will maximise grain yield in 'normal' or 'mild' seasons, while a earlier maturing erect variety such as PBA Bolt^(b) or PBA Flash^(b) will continue to produce excellent yields in 'shorter' seasons with more extreme events though flowering and podding.

Further Information: If you would like to receive a copy of the full trials report from the Southern Pulse Agronomy Program, including all pulse crops and a range of other agronomic treatments, please contact Jason below.

Contact details: Dr Jason Brand, Senior Research Agronomist, DPIV – Horsham, email: jason.brand@dpi.vic.gov.au, M 0409 357 076.



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P 10.5% Ca 24.9% S 12.7% Zn 2% Si 20.8% Commercially airseeder tested and proven. Coming to a paddock near you, real soon!



Your new "One Shot" Speciality Fertilisers for the Pulse, Cotton & Broadacre Industries.

The drive for productivity is increasingly combined with a desire for sustainability. For farming systems to remain productive and to be sustainable in the long term it is necessary to replenish the reserves of nutrients which are removed or lost from the soil.



Flowering Lupins from above

In the case of Nitrogen (N), inputs into agricultural systems may be in the form of fertilisers high in Sulphur (S) such as Guano Gold. Guano Sulphur Gold now has 13% Sulphur; together with our new product extension, Guano Sulphur Z with 2% Zinc giving these products more versatility and negating the need to blend the product, especially in legume crops and legume based pastures.

The role of Sulphur & Zinc as plant nutrients are also well documented. In a legume system having Sulphur & Zinc at a safe level can help in the production and fixation of Nitrogen. Crops grown with an adequate level of Sulphur are also higher in protein making the fodder, hay and grain from these crops more nutritious. Composts and manures that are commonly used to supply Nitrogen in the organic system are low in Sulphur.

Use of manures, rock phosphates and compost usually means the flow of Sulphur on the organic farm usually result in a negative Sulphur balance in the soil. Nutrients such as Phosphorus (P), Calcium (Ca) and Silica (Si) in Guano Gold have been well documented over the past 10 years in Australian conventional and organic farming systems.

The ability of Guano Gold to provide a drip feed of non-water soluble phosphorus into the soil environment has assisted crops to be grown in soils hostile to Phosphorus. The combination of soluble silica and levels similar to "P" in Guano Gold allow the mono silica acids in Guano Gold to stimulate and tie up Iron, Aluminium and Manganese. This then allows the Phosphorus to be more effective in providing the plant available nutrients. The new Guano Sulphur Gold, & Guano Sulphur Z products are a big step forward in providing "One Shot" granulated fertilisers that provide a balance of Phosphorus, Calcium, Sulphur, Zinc and Silica.



Chickpea Podding from underneath



The products flow easily and are perfect for being used through conventional planters and airseeders to deliver the products to the seed zone at planting. Likewise when being used to top dress pastures the granule gives good, even coverage through ground and air spreading. With the ability to provide [Non Soluble P], P, S, Ca, Zn and Si in two products, Guano Sulphur Gold & Guano Sulphur Z have set new standards in providing solutions for both organic and conventional farmers in overcoming both Sulphur, Phosphorus & Zinc deficiencies in most soil types, therefore making way for sound sustainable farming.

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Photos Courtesy of: Rob Rich, Ag-Rich Foods www.ag-richfoods.com.au

Julian White Fertile Farm www.fertilefarm.com.au

RELEASE OF ASCOCHYTA BLIGHT ASCOSPORES FROM LENTIL STUBBLE

Jenny Davidson, SARDI; Sam Holmes, Holmes Farm Consulting, Maitland SA;
Peter Hooper, Hart Fieldsite Group, Hart, SA; Moin Salam DAFWA.

While field pea growers have confidence in the Blackspot Manager to show when it is safest to plant, lentil growers face the risk of ascochyta infection from stubbles because the timing of spore release from infested stubble is less well known.

A team of researchers, led by Jenny Davidson from SARDI, have been conducting a study to investigate the timing of release of ascospores of *Didymella lentis* from lentil stubble. Funding for the study came from the South Australian Grains Industry Trust and GRDC.

Infested lentil stubble was collected after harvest, placed in nylon mesh bags, and weathered in ambient conditions at Maitland in South Australia. Each fortnight a bag of stubble was mailed to the DAFWA laboratory at Northam in Western

Australia. The stubble was placed in a wind tunnel allowing the ascospores to be captured on a rotor rod and counted. This is the same methodology that is used to count the ascospores of *Didymella pinodes* to provide data for Blackspot Manager of field pea.

The results for ascospores of *D. lentis* in 2011 and 2012 are presented on the left axis in Figure 1 with *D. pinodes* from Hart in South Australia on the right axis for comparison. In both years the *D. lentis* ascospores were released from the beginning of May, continuing until mid June or the end of July. By comparison the *D. pinodes* ascospores were released much earlier, finishing in April or by the middle of May.

Unlike the sowing time strategy for field pea, the timing of lentil ascochyta spore release identifies that delayed sowing

is unsuitable for control of ascochyta blight of lentil. The current strategy of using a fungicide seed dressing will minimise infection from these airborne spores and continues to be recommended for all lentil crops.

Unlike *D. lentis*, the release of ascospores of *D. pinodes* from field pea stubble was earlier and different each season in response to different rainfall and temperature patterns. This provides the opportunity to select a sowing date for field pea, using the Blackspot Manager model, which avoids the peak of spore release.

The number of ascospores of *D. pinodes* was also much higher (10,000 to 35,000 ascospores per gram of stubble per hour) compared to the number of ascospores of *D. lentis* (300 to 1200 ascospores/g of stubble/hr). This partly explains why ascochyta blight infection is usually slight in seedling lentil crops, but blackspot can be severe in seedling field pea crops.

A survey of 27 lentil crops was conducted in South Australia in 2012 for the presence or absence of ascochyta blight. This disease was at very low levels in crops due to the dry spring, but lesions were detectable in some crops, demonstrating the ability of the pathogen to survive even in non-conductive seasons.

Lesions were more likely to occur in crops of Nugget, PBA Flash[®] or Nipper[®] if Nugget or PBA Flash[®] lentils had been grown in that paddock the previous 2 or 3 years. Less infection was noted where the rotation between lentils was more than 6 years, or Nipper was the previous crop. The 4 PBA Herald[®] XT crops in the survey were disease free (Table 1).

Disease management in lentil encompasses a number of strategies, but the success of basic rotation of crops and selection of best genetic resistance is highlighted in this survey.

Figure 1 Release of ascospores from lentil and field pea stubble in 2011 and 2012

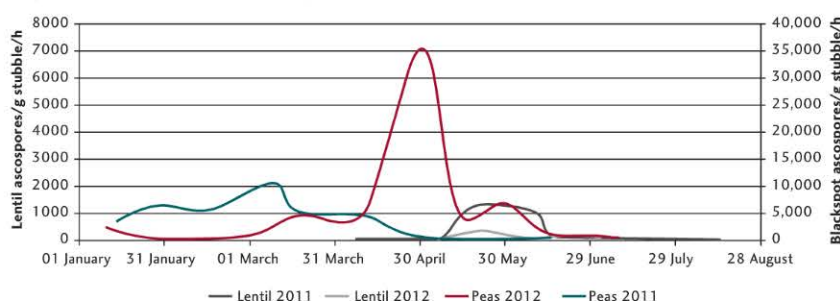


Table 1 Number of lentil crops with ascochyta blight lesions

Rotation	Nugget or PBA Flash [®] 2 or 3 years ago	Nipper 2 or 3 years ago	Lentil rotation >6 years	Total number of crops with ascochyta blight lesions
Crop in 2012				
Nugget	4 out of 5 crops	-	1 out of 4 crops	5/9 crops
Nipper [®]	4 out of 4 crops	0 out of 2 crops	1 out of 2 crops	5/8 crops
PBA Flash [®]	5 out of 6 crops	-	-	5/6 crops
PBA Herald [®] XT	0 out of 3 crops	-	0 out of 1 crop	0/4 crops

DESTRUCTIVE PEA WEEVILS ON THE WAY OUT

Associate Professor Guijun Yan – School of Plant Biology – UWA

Farmers around the world are a step closer to eliminating the chemical spraying of field pea for the destructive pea weevil, thanks to research by agricultural scientists from The University of Western Australia.

The weevils, which affect crops grown in warmer climates, are the most damaging insect threat to field peas. They burrow into pods that are still growing and hollow out peas by the time they are harvested or during storage. Weevil damage is impossible to detect until the next generation of beetles emerges post-harvest, by which time crop yields and quality have been significantly affected.

So far the only way to control pea weevil is to spray crops with insecticides or fumigate the harvested seeds – an expensive, environmentally unfriendly and only partially effective practice.

Crop scientists have spent years trying to isolate pea weevil-resistant genes to create stronger field pea varieties that don't need pesticide protection. Previously they have had to rely on a time-consuming and impractical screening process which slowed attempts to breed better field peas.

In a research leap that will benefit field pea growers across the globe, a team including Associate Professor Guijun Yan, of UWA's School of Plant Biology and Institute of Agriculture, has now developed a quick, reliable and cheaper method to screen resistant field pea varieties on a large scale. The new method can screen up to 400 plants per day, compared to only 30 plants previously.

The breakthrough has enabled UWA researchers to identify pea weevil-resistant genes within wild field pea varieties and begin introducing the genes to cultivated field peas via traditional breeding methods.

More work is needed to be done but the discovery meant farmers could have access to pea weevil-resistant field pea varieties within 5-7 years. It will lead to the elimination of pea weevil insecticides, and enable farmers to increase their field pea yields and provide consumers with better quality peas.

The four-year study was funded by the Australian Research Council and published this month in the journal *Crop and Pasture Science*. It involves a team



Pea weevil emerge in storage, destroying food quality and seed quality.

of 5 researchers from UWA, Centre for Legumes in Mediterranean Agriculture and WA's Department of Agriculture and Food.

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REVIVING THE WA CHICKPEA INDUSTRY: DEMONSTRATING NEW ASCOCHYTA BLIGHT RESISTANT VARIETIES

Kadambot Siddique, the University of Western Australia and Alan Meldrum, Pulse Australia

The chickpea industry that rose to rapid prominence in WA in the 1990s has been set back seriously since 1999 due to the presence of the disease ascochyta blight. Despite availability of some ascochyta blight resistant varieties in the past 5-6 years, the uptake has been slow partly due to a succession of dry seasons and delayed start of the opening rains.

Recently a number of ascochyta blight resistant varieties have been released by Pulse Breeding Australia (PBA), as well as by the University of Western Australia (UWA)/Department of Agriculture and Food (DAFWA)/

Council of Grain Growers Organisations (COGGO) alliance. These new varieties also promise more competitive yields and quality. It is an opportune time to promote and extend the new resistant varieties to encourage growers to consider chickpea in their cropping programs.

COGGO has recently approved a project proposal from the University of Western Australia that seeks to extend new resistant varieties through focussed demonstration trials and field days. The project will partner with Pulse Australia and also collaborate with relevant seed companies, grower groups, DAFWA,

PBA and other interested parties. It is planned to conduct demonstration trials of new resistant varieties released for Western Australia at key sites in the coming season.

Each trial will be displayed through field walks, field days and other opportunities at the Project site which will be run for two seasons starting from 2013. All interested parties are invited to join in this endeavour to revive the chickpea industry and deliver a profitable industry to growers.

Contact Alan Meldrum:
alan@pulseaus.com.au

NEW PULSE VARIETIES FOR 2013

A number of new pulse varieties have been released in the past 2 years to continue the improvement Australian growers are achieving in producing high yielding and healthy pulse crops. The on-going efforts of our pulse breeding industry is delivering better disease resistance, herbicide tolerance and improved yields in all the pulse commodities.

These varieties are those released in 2011 and 2012. They add to the suite of varieties that are being used by pulse growers across Australia. Check with your agronomist for the best adapted variety for your farming system.

All recent and new releases have Variety Management Packages (VMPs) available to assist growers to choose the variety most suited to their environment.

Check the Pulse Australia website www.pulseaus.com.au for VMPs, along with an extended bulletin about End Point Royalties of all varieties.

Yield performance data is available on the National Variety Testing website, www.nvtonline.com.au

NEW PULSE VARIETIES COMMERCIALY AVAILABLE FOR 2013

Year of release	Variety	Commercial partner	Region applicability	EPR (inc GST)
Lentil				
2011	PBA Herald ^(b) XT	PB Seeds	Southern, herbicide tolerant	\$5.50
2012	PBA Ace ^(b)	PB Seeds	Southern	\$5.50
2012	PBA Bolt ^(b)	PB Seeds	Southern, low rainfall	\$5.50
Desi Chickpea				
2011	PBA Boundary ^(b)	Seednet	Northern, Southern NSW	\$4.40
2011	PBA Pistol ^(b)	Seednet	Northern- CQ only	\$4.40
2012	PBA Striker ^(b)	Seednet	Western & Southern	\$4.40
2012	Neelam ^(b)	Heritage Seeds	Western & Southern	\$4.40
2012	Ambar ^(b)	Heritage Seeds	Western & Southern	\$4.40
Kabuli Chickpea				
2012	Genesis™ Kalkee	AACT & PB Seeds	Southern	\$5.50
Faba bean				
2011	PBA Rana ^(b)	Viterra	Southern, high rainfall	\$3.85
2012	PBA Warda ^(b)	Viterra	Northern	\$3.85
Field Pea				
2011	PBA Oura ^(b)	Seednet	Southern, 'Dun' type	\$2.86
2011	PBA Percy ^(b)	Seednet	Southern, 'Dun' type	\$2.86
2012	PBA Pearl ^(b)	Seednet	Southern, White pea	\$2.97
2013	PBA Hayman ^(b)	Seednet	Forage pea	Nil*
Aust Sweet Lupin				
2011	PBA Gunyidi ^(b)	Seednet	Western & Southern	\$2.75
Aust Albus Lupin				
2012	Amira ^(b)	Heritage Seeds	Western only	\$4.40

* Seed royalty applies

Commercial partner contact details

Seednet	admin@seednet.com.au	ph 1300 799 246
Heritage Seeds	orders@heritageseeds.com.au	ph 1800 007 333
Viterra	chris.farlow@viterra.com	ph 0439 277 122
PB Seeds	info@pbseeds.com.au	ph 03 5383 2213
AACT	www.aacrotech.com	tel 02 6795 3050

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MARKETING POINTERS IN THE PULSE WORLD

Alan Meldrum, Pulse Australia.

When considering your cropping mix for the coming year, as well as thinking about your agronomic needs. Consideration must also be given to what is happening in the market place and thus the likely demand and pricing structure of your various cropping options. For pulses the big influences on prices will be the size of the Indian domestic crop, the size of the Canadian crop and weather conditions generally in the northern hemisphere.

INDIA

The Indian winter crop, Rabi, is the critical time for domestic production of field pea, lentil, and chickpea, among others. Several factors indicate that domestic production of pulses will be average at best for the Rabi season.

- The pace of sowing is slightly behind time. This is partially due to the lateness of the monsoon, or Kharif, season which delayed harvest and then planting of the Rabi crop
- Lower soil water levels and storages for winter irrigation. The Rabi crops

are dependent on stored soil water or irrigation for strong yield potential

- Competition from cereals and oilseeds for land, which has reduced the pulse area or is not allowing production to expand to cater for domestic requirements.
- Recent cold weather may impact Rabi crop production and warrants a close watch over the coming months.

Overall, the indications are that the import requirement for pulses will continue to be 3 to 4 million tonnes per annum. While Canada is the largest exporter to meet this demand, Australian pulses, principally chickpeas and field peas, will continue to find a willing buyer in the sub-continent.

DESI CHICKPEAS

Increasing confidence by Australian growers in this highly important crop has seen Australia produce a record crop during 2012. By continuing to develop and employ on farm Best Management Practice's farmers are producing a very salable, high quality,



desi chickpea meeting the current market demands. Exports, in both bulk and containers, have been brisk and this movement of stock will likely be supportive of prices as we move into 2013. Just weeks after harvest, around 300,000 tonnes of chickpea has been exported. Stocks remain adequate to meet demand which should provide ongoing cash flow opportunities for Australian chickpea producers.

Figure 1: Australian Chickpea Production (Desi & Kabuli)

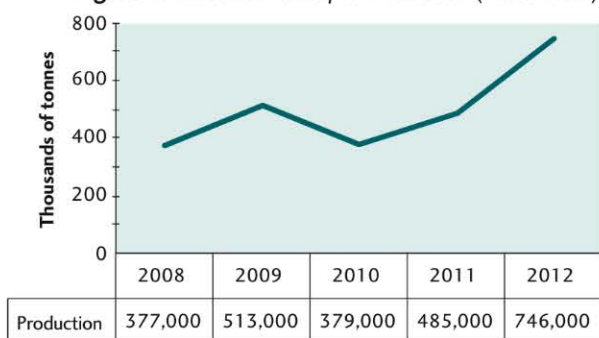
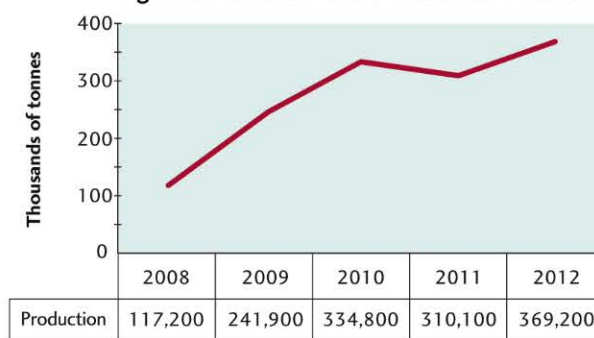


Figure 2: Australian Faba & Broad Bean Production



FIELD PEA AND LENTIL

Stock levels are a good indicator of the potential for price movement. The largest export producer and controller of pulse stocks is Canada. Figure 4, below, shows the current and forecast stock levels for all types of lentil and field pea. The lentil stocks are about 40% red lentil and 60% green lentil, while the field pea stocks are principally Yellow pea.

The high value of chickpea in 2012 and the wide availability due to the large Australian crop has driven interest in lentil as they have become relatively cheaper. This has drawn down the large stock holding both here and in Canada.

The ending stock levels for lentil have fallen, Figure 3, but the forecast sown area in Canada is not expected to increase in 2013, Figure 5. Lack of profitability despite increased buyer interest is cited as the main reason.

The ending stock for field pea is static, but with an increased planted area forecast for 2013, ending stocks should increase with an average season. This forecast increase is due to higher demand due to the high value of chickpea in the Indian market, where field pea is substituted for chickpea to reduce domestic food costs. An increased stock level after 2013 may reduce the chance of improved field pea value.

FABA BEANS

The market for faba beans continues to be buoyant. France has been a strong exporter of beans to the Middle East in recent years, but the last two seasons have produced either poor yields or quality. This has pushed demand for Australian faba beans. Whether this will be maintained is dependent on the state of the northern Hemisphere crop. Figure 2, shows the strong rise in Australian production, with a commensurate rise in exports.

Australia has a good reputation for quality faba bean and this will help maintain demand in 2013.

LUPIN

Focus of late has been on the size of the Western Australian crop. At less than 300,000t and with limited export quantities after domestic demand is satisfied, the price for growers in 2012 was over \$300/t.

The South American soybean crop is forecast to be above average when harvested in March and April. This may dampen pricing for lupin with increased quantities of soymeal coming onto the market.

Albus lupin demand continues to be subdued, but indications are that the last of the 2010 crop, which vastly oversupplied our markets, is all but sold. This will likely allow pricing to improve for the 2013 crop.

Figure 3: Canadian Ending Stock Forecast

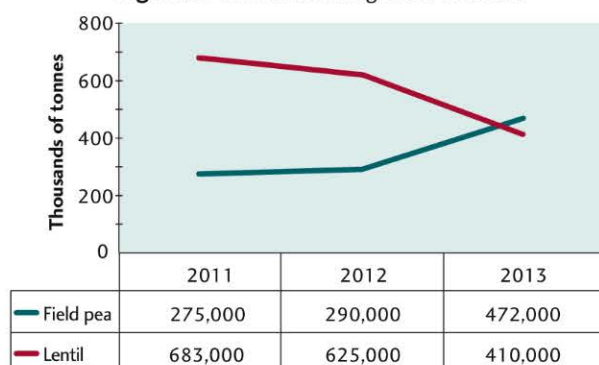


Figure 4: Canadian Pulse Stock Forecast

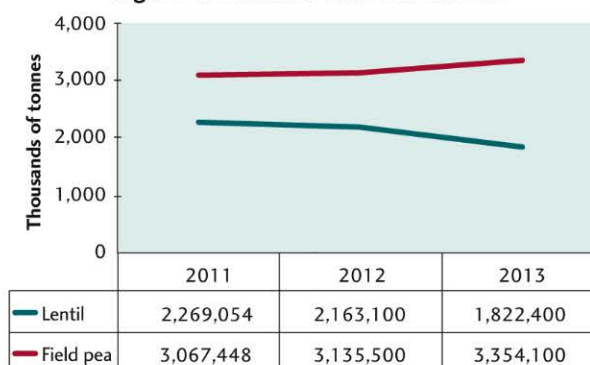
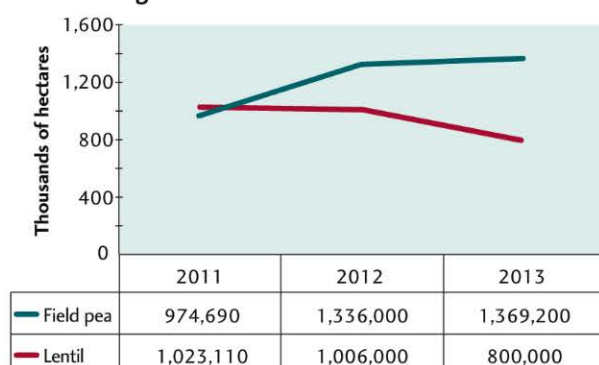


Figure 5: Canadian Sown Area Forecast



Food outlets in India use Australian 'Kaspa type' field pea and desi chickpea to sell meals and snack foods in traditional and 'western' styles.



FOR THE SECOND YEAR IN A ROW, INDIA'S PULSES PRODUCTION IS SET TO DECLINE FROM THE PEAK ACHIEVED IN 2010-11

G. Chandrashekhara, *The Pulse Pod* – January 2013

India's Rabi season (winter planting spring harvest) pulse crops are in the making. As per latest information available, rainfall across the country for the period October 1 to December 14 was 21 percent less than the long period average. Across the country, 60 percent of the area under cultivation has received deficient rains. Central India which accounts for a substantial size of chana or desi chickpea crop has faced 28 percent deficiency in precipitation.

The pace of planting is satisfactory. Normal area planted to various pulses in the Rabi season is about 12.7 million hectares. According to the Ministry of Agriculture, this year, as of December 14, pulses acreage totalled 12.25 million hectares a slight improvement over 12.06 million hectares same time last year.

Chana is the most important and dominant pulse crop in India's rabi season. Acreage for chana is currently estimated at 8.4 million hectares, slightly higher than 7.9 million hectares planted this time last year. The area planted to lentils (masur) is 1.3 million hectares (unchanged from last year) and other pulses 2.5 million hectares.

Pulses harvested in September/October 2012 during the kharif season registered an output of 5.3 million tons far below the target of 7.0 million tons. For the Rabi season, production target has been fixed at 10.5 million tons versus last year's actual production of 11.0 million tons.

Of the total Rabi season production target of 10.5 million tons, chana's production target is 8.0 million tons. The minimum support price for gram has been raised by Rs 200 to Rs 3,000 per 100 kilograms or Rs 30,000 a ton.

This represents \$550-560 a ton. For lentil, the minimum support price is Rs 2,900 per 100 kgs or Rs 29,000 a ton (\$530-540).

EMERGING SCENARIO

Even assuming that the rabi season pulses production target of 10.5 million tons is achieved (although potentially it can fall slightly lower), total pulses production for the year 2012-13 (kharif plus rabi) would be 15.8 million tons. This would be markedly lower than 17.2 million tons harvested in 2011-12 and 18.2 million tons in 2010-11. In other words, for the second year in a row, India's pulses production is set to decline from the peak achieved in 2010-11.

IMPORTS

Under normal circumstances, one would expect higher imports of pulses into India to meet the domestic supply shortfall. But it is seen not happening. India's import statistics are maintained on a financial year basis (April to March).

During 2011-12, India's pulses imports totalled 3.4 million tons. For the current financial year 2012-13, from April 10 September 2012, India's pulses import aggregated 1.54 million tons. For the second half of the year that is from October 2012 to March 2013, there is general consensus that arrivals may aggregate 1.2 million or at best 1.3 million tons. In the event, total imports would be about 2.8 million tons, considerably lower than the previous year despite lower domestic production.

The slowdown in India's pulses imports is attributable to high international prices which are exacerbated by a considerably weak Indian currency

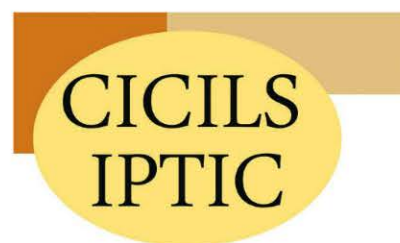
which pushes up the landed cost of imported pulses. High domestic prices are seen slowing consumption demand as reflected in sluggish sales of pulses in the domestic market.

PULSES IMPORTS BY PSUS

The Government of India supported Public Sector Undertakings such as STC, MMTC, PEC and so on have been tasked to import pulses for and on behalf of State governments which are desirous of supplying pulses through the public distribution system to poor people. The State governments would be responsible for import, processing, distribution and monitoring of supplies. The Central government would provide a subsidy of Rs 201 - per kilogram of such supplies.

IMPORT DUTY ON PULSES

There is talk in the market that the government may impose customs duty on imported pulses. There is little evidence that such a move is under consideration. Indeed, there is no case at present for imposing customs duty on pulses as the country's shortage is widening and imports are inevitable. The weak rupee is itself acting as a tariff wall for importers. Any fiscal impost over and above the adverse price effect of a weak rupee will fan food inflation. Policymakers are conscious of this.



You can read the monthly "The Pulse Pod" from CICILS IPTIC at www.cicilsiptic.org/emagazine.php

Conferences

THE AUSTRALIAN GRAINS INDUSTRY CONFERENCE 2013

Australia's preeminent and longest running grains industry conference takes place from 29 to 31 July in Melbourne, Australia. The Australian Grains Industry Conference (AGIC) is Australian owned and run by the industry for the industry.

It provides a one-stop opportunity to hear the latest developments in the industry, meet with clients and catch up with friends and colleagues. It is the must attend event on the grains industry calendar and once again will tackle the big issues influencing the Australian and global grain industries.

With over 850 delegates and over 25 exhibitors, AGIC offers unparalleled networking opportunities with delegates, speakers and trade exhibitors.

AGIC 2013 is the best opportunity for anyone interested in the Australian or global grains industry to hear the latest news, outlook and trends shaping the industry's future. The Conference is the opportunity to reach decision-makers in the Australian grains industry; hear the latest outlook; debate industry issues; and network with old and new colleagues.



Sponsorship opportunities are available – download the prospectus at www.ausgrainsconf.com or contact the organisers on administration@ausgrainsconf.com

The Australian Grains Industry Conference is hosted by the Grain Trade Australia, Australian Oilseeds Federation and Pulse Australia.

CICILS 2013 – GOLDEN JUBILEE CONVENTION

from The Pulse Pod – January 2013

The CICILS 2013 Golden Jubilee World Pulses Convention is scheduled for April 15-18, 2013 at Marina Bay Sands in Singapore.

The Singapore convention is expected to attract delegates representing 600 companies from over 50 countries. Attendance will be drawn from large agri-businesses, exporters, importers, traders, brokers, government agencies, trade promotion bodies and others involved in the pulse trade. The CICILS IPTIC Global Pulses Convention is a platform for every stakeholder in the food & pulses industry to meet, network, exchange ideas, conduct

business and chart the strategy for the future. The annual Convention represents each and every component of the supply chain related to the US \$100 billion and growing pulse trade.

CICILS-IPTIC has now been based at DMCC for over 4 years. The association decided to bring its annual event to the United Arab Emirates. CICILS is the largest and most well-known pulse event in the world and hosting the event in Dubai is testimony to the UAE's important position in the global pulses industry.



CICILS 2103 World Pulses Convention

April 15 to April 18 2013

Marina Bay Sands, Singapore



For more information visit:
www.cicilsiptic.org

HAVE YOU CHECKED YOUR PULSE?

When was the last time you ate pulses? Maybe in vegetable soup or some baked beans on toast? Most Australians don't eat pulses (legumes) very often, but two recent studies add to the evidence that eating them regularly significantly reduces the risk of heart disease, Australia's leading cause of death. So, maybe it's time we checked our pulse.

The Heart Foundation estimates that heart disease accounts for approximately 33% of deaths each year, killing one Australian every 11 minutes.¹ Older Australians are at the greatest risk, but changes to diet such as eating pulses more often could help reduce your risk.

In a recent study of people aged 50 years and older, people were asked to eat pulses such as lentils, chickpeas, beans and peas regularly for 2 months while another group ate their usual meals. In the group eating pulses, cholesterol levels dropped significantly. This was estimated to reduce their risk of heart disease by 17-25%.²

People in the study ate approximately 36% more fibre during the pulse based diet compared with their regular diet. This helps to explain why their cholesterol dropped because fibre in pulses is thought to bind cholesterol and prevent re-absorption into the blood (similar to plant sterols in margarine).

As well as older people, another group at high risk of heart disease is people with diabetes. Nearly one million Australians have diabetes, and about half of those are not aware that they have it. This is especially concerning as poorly controlled diabetes significantly increases the risk of dying from heart disease. However, small changes in diet can help control diabetes and so help reduce the risk of heart disease.

One important way to control diabetes is by choosing foods with a lower glycemic index (GI). Low GI foods are



digested slowly and so help improve blood glucose control. Most pulses are low GI so have long been thought to be a good choice and now a recent study has confirmed this.

The Canadian study compared a high fibre diet based on wheat foods with a low GI diet which encouraged people to eat at least one cup of cooked pulses per day. The researchers concluded that the low GI diet including pulses was more effective at improving blood glucose control and reducing the risk of heart disease in people with diabetes.³

To help reduce your risk of heart disease, try to aim for eating pulses two or three times a week. For tips on cooking legumes and recipes visit www.gln.org.au

KEY POINTS:

- Eating pulses regularly leads to higher fibre intakes and lower cholesterol in older people.
- Most pulses have a low Glycemic Index.

- Eating pulses more often can improve blood glucose control and decrease risk of heart disease in people with diabetes.

Further reading- Grains and Legumes Nutrition Supplement GRDC Ground Cover July-August 2012.

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2. Abeysekara, S et al. A pulse based diet is effective for reducing total and LDL cholesterol in older adults. *British Journal of Nutrition* 2012, 108, pp S103- S110
3. Jenkins, D et al. Effect of legumes as part of a low glycemic index diet on glycemic control and cardiovascular risk factors in Type 2 Diabetes Mellitus: a randomized controlled trial. *Archives of Internal Medicine* 2012. Published online.

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BEST MANAGEMENT PRACTICES TRAINING COURSES - 2013

The level of interest and grower confidence in the production of pulse crops continues to grow throughout Australia, particularly in the growing of chickpea and faba/broad bean crops following recent good years and excellent returns.

Pulse Australia will be conducting a number of agronomy training courses throughout Australia this Autumn focusing on chickpea and faba/broad bean best management practices.

Each course is crop specific and is delivered in association with key industry specialists and state departments of Agriculture. The courses are industry accredited with the expressed objective of providing the attendee with the technical knowledge and practical skills required to assist growers achieve more reliable and profitable pulse production.

This is achieved by providing the science and reasoning behind current Best Management Practices and an update on the latest research and advancements in the pulse industry.

Key considerations and management skills needed to produce and market successful pulse crops are addressed,

within the 10 modules covering rotational benefits and profitability, plant physiology, variety selection, general agronomy, weed management, disease management, insect management, desiccation, harvest and storage, marketing, end uses and standards and chemical application.

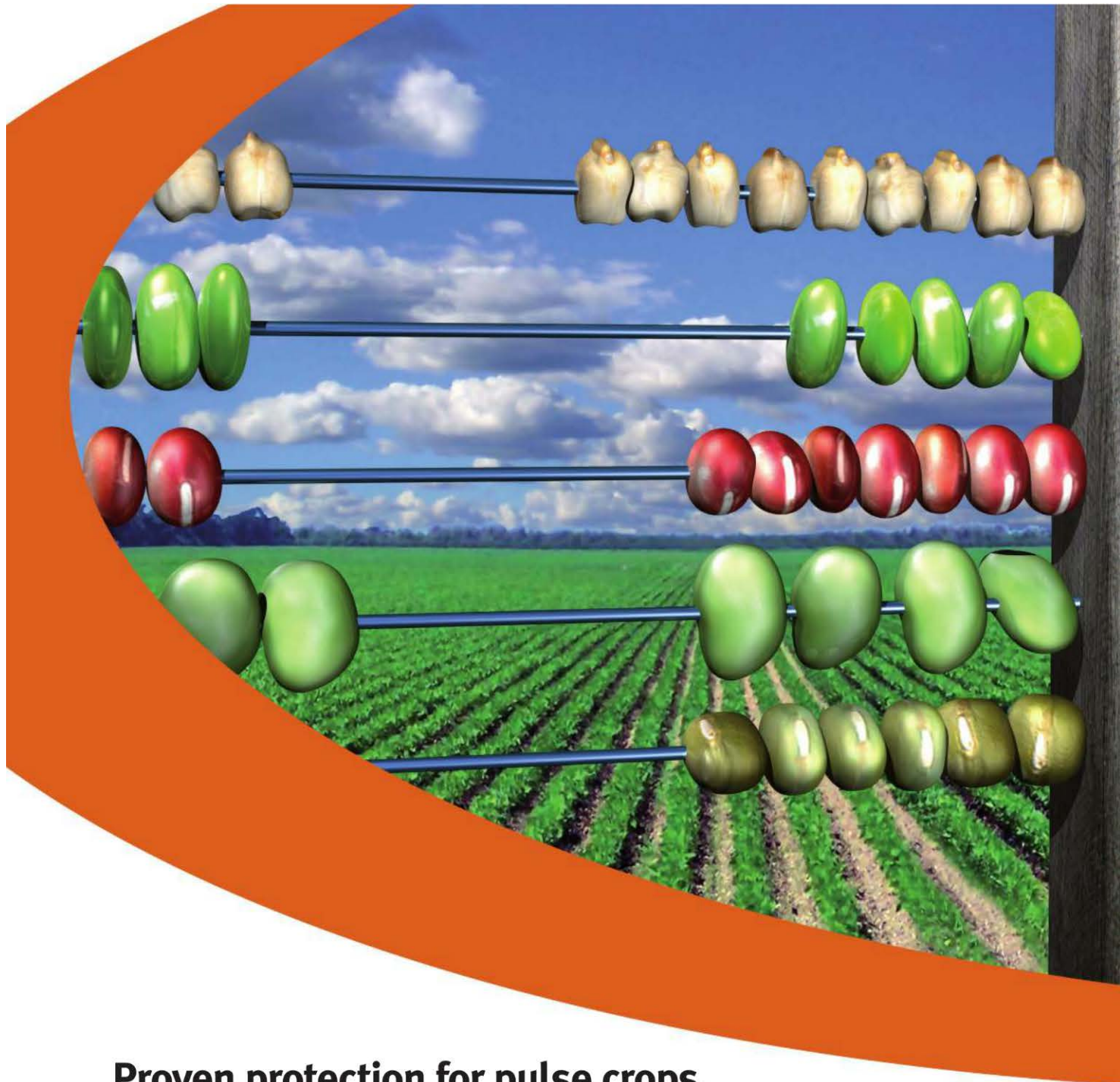
The comprehensive course manual will continue to provide a key reference source for future production questions and issues as well as the contacts made with key industry researchers and personal continues to build the attendees contact network.

PROPOSED COURSE LOCATIONS AND DATES;

South Australia.		
• Riverton	Faba bean	March 5th
• Cummins	Faba bean	March 7th
• Naracoorte	Faba bean	April 4th
Victoria.		
• Horsham	Faba bean	March 12th
• Lake Bolac	Faba bean	March 14th
Southern New South Wales		
• Wagga Wagga	Faba bean	April 9th
• Colleambly	Faba bean	April 11th
Northern New South Wales		
• Narrabri	Chickpea	April 23rd & 24th
Queensland		
• Emerald	Chickpea	April 30th & May 1st
• Dalby	Chickpea	April 16th & 17th
Western Australia		
• Kellerberrin	Chickpea	March 19th

For additional information contact your local Pulse Australia representative. To register online go to: www.pulseaus.com.au/workshop_registration.aspx





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