

# cultivate

PRODUCED FOR THE BENEFIT OF AUSTRALIAN BROADACRE FARMERS BY BAYER



**Data management  
to drive PA future**

**Growers can expect  
improved disease  
control from 2017**

**Lucerne 'enemy'  
back under control**

**Fungal disease predictor  
now a powerful  
decision-making tool**

**Key inputs lifting  
crop yields**

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# Welcome

IT'S GREAT to read about farming success stories, whereby a change in practices and new solutions may have delivered positive outcomes to real problems, and a number of these are featured in this latest edition of *Cultivate*.

We highlight some of the different weed and disease control challenges faced by growers around the country and reveal how they are addressing and getting on top of them in their own particular situations.

Some growers were hitting roadblocks in areas and were questioning what their next move might be in what is a continuing game of chess in some scenarios.

These challenges have forced a change in some practices and, in conjunction with working closely with local representatives, it is promising to see that this has been successful and allowed them to fight on and improve their situations.

In the same vein, we are looking forward to another new foliar fungicide solution becoming available for the 2017 season for disease control in canola and chickpeas, and later for cereal crops. Aviator Xpro will also offer a new mode of action for resistance management.

This issue also highlights the excellent work of vibrant rural businesses and farm improvement groups and the importance of them having strong relationships to help deliver and advise on different developments and solutions for their areas.

The unique pod shatter reduction trait in canola is continuing to surprise growers; we also talk with a couple of regional representatives who are enjoying the work in their areas; and we update new developments with a powerful disease management tool increasing in popularity with growers.

Meanwhile, the 2016-17 harvest may not have attracted the strongest returns for some grains, but yields in many areas were impressive.

**James Catherall,**  
*Grower and Channel Services Marketing Manager  
Broadacre and SeedGrowth*



**COVER: New South Wales grower Allan Hutchison, Hillston, Agronomist Gus De Notta, formerly with Cotton Grower Services at Hay, and Bayer Territory Sales Manager Mark Norbiato check crop development late last season, noting the weed control benefits from using Sakura® pre-emergent herbicide.**

# Data management to drive PA future



LEFT: JMAJ Precision Managing Director and farmer Adrian Roles with his daughters, Edith and Maeve, during harvest on the family's property near Young in New South Wales.

## Adrian Roles' three rules for precision agriculture:

- 1 The farmer and agronomist's knowledge of the country is the most important data set.
- 2 Good ground truthing is essential.
- 3 Gross margin – ensure an investment will be worthwhile in dollars per hectare per 100 millimetres of growing season rainfall.

WHILE the future of precision agriculture is likely to involve robotics and other cutting edge technologies, the big focus is likely to be on data ownership, according to JMAJ Precision Managing Director Adrian Roles.

Adrian's career in precision agriculture (PA), or digital agronomy as he prefers to call it, started at a grassroots level on the family farm near Young in New South Wales.

The 920-hectare property is dedicated to a 70:30 split livestock and cropping enterprise, mainly focused on a self-replacing Merino flock, comprising 4200 ewes.

Adrian lives on the farm with his family, wife Amber and their two children, Edith (2) and Maeve (5), and also involved in the farm are Adrian's parents, John and Margaret, his brother, Julian, and sister, Imogen.

A third generation farmer, Adrian returned to the family farm after completing a science degree and said his interest in PA was a natural progression.

He said the farm simply wasn't large enough to support the three families involved at the time, so they were looking for off-farm income, with the idea of expanding the property in the future.

Their contract spraying business expanded to include windrowing, and the trucks needed to transport the windrowers were then fitted with spreaders. The focus shifted to contract spreading, which proved to be more profitable.

"We had a client at the time who wanted variable rate data collected and I had an interest in the technology, as it was obvious that it was the way things were heading," Adrian said.

"It was fairly natural for us, as Dad was always a progressive farmer. He had the first lime spreader in the district in the 1980s and had been very proactive in his lime program and being involved in farming groups.

"He was quite the home engineer, so he was always building things to try and make things better.

"So we got into EM38 (electromagnetic induction device) and pH sampling with Veris equipment. We were one of the first to have a Veris in Australia at the time.

"It never stood out that much for us, because Dad had applied as much as 15 tonne/ha of lime on the farm for the last 35 years, and with our granite-based soils, there was a stark contrast in pH.

"Dad had pretty much been doing variable rate application anyway, as he knew parts of the paddock were less acidic than others, so with an old Marshall he would do sections of the paddock at different rates."

## ACCURATE READING

At the time, they were taking the variable rate data samples using hydrogen ions at one shot per hectare, but Adrian said they realised they needed more data to obtain a more accurate reading.

So when Veris released a new, automated machine that allowed them to get 20-30 samples per hectare, Adrian said they eagerly embraced the technology.

"It gives us really good quality data and, in my opinion, the more data you have the better your maps will be," he said.

As the interest in PA increased, their off-farm business, JMAJ Precision, changed direction.

The truck fleet downsized, but their arsenal of PA tools grew.

Adrian's thirst for knowledge in the field also increased and when he was introduced to Mark Pawsey from SST Software Australia, the game changed again.

"It was a life changing moment," Adrian said.

"Mark kept talking about standardised spatial data and I didn't really know what he was talking about or think I needed to know, because I wasn't a consultant, I was just a contractor.

"Finally the penny dropped on what standardised spatial data was, and when that happens, it blows everything else that most people in the industry are doing out of the water.

"If you don't have a full standardised spatial system, then you can't use the data sets to their full advantage.

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“At this stage, I had been using yield maps for about seven years and I realised that they were just pretty maps, with very little value.

“Once I got that, Pawsey sucked me further into the world of standardised spatial data and things snowballed from there.

“It suddenly went from a cute little farm business to flying all over Australia and on overseas trips, all within the last two years.”

JMAJ Precision now works with a range of clients, from individual farmers through to various corporate agribusinesses and private agronomists, consulting on digital agronomy and providing the necessary equipment.

Adrian is passionate about empowering agronomists, as he believes they should play the main supporting role in a farmer's business.

He is also committed to testing new methods and technologies on his own property before recommending it to others.

## REGIONALLY-BASED INDEXES

To make that easier, Adrian said he would like to see regionally-based productivity indexes developed to provide a base recipe for anyone doing locally-based modelling.

“The recipe for what I use here in Young isn't going to work somewhere in WA – and a lot of companies only have one recipe base.”

“We need to develop regionally-based indices so we can use that as locally-based modelling, rather than having to do all that initial trial and error work ourselves.

“The best thing you've got in this business is reputation and I would rather know something is tried and tested before I recommend it.”

When Bayer released the Group K pre-emergent herbicide, Sakura®, in 2012, Adrian conducted strip and broadacre trials on the farm to see if the product was a good investment.

Containing the active ingredient, pyroxasulfone, Sakura controls annual ryegrass, barley grass, silver grass, annual phalaris and toad rush and also suppresses wild oats (black oats) and brome grass in wheat (not durum wheat), triticale, chickpeas, field peas, lentils and lupins.

He compared Sakura to trifluralin, using standardised spatial data to compile a report which compared the data.

“In 2012, when we used it in one paddock, it was the cleanest paddock we had,” he said.

“In 2013, we thought we would do some broadacre trials and we ran it side-by-side with trifluralin. Where we used Sakura, the paddocks were cleaner by visual inspection and they were consistently about 0.4-0.5 t/ha better off.

“That's a good example of how, if everything is done according

to a standardised spatial data set, you can compare all your spray logs, yield and costings, and you don't have to sit there analysing a spreadsheet. You just plug it in and it will spit out the report for you.”

On their own farm, Adrian said they were currently using a range of PA tools, including elevation data off GPS and autosteer; sectional control; Veris soil ECA (apparent electrical conductivity) maps at four depths; pH mapping; soil colour through a spectrometer; various nitrogen ion sensors; yield data; Normalised Difference Vegetation Index (NDVI); and atmospheric corrected NDVI.

“The most important tool set we're using is AgX-based software – that's the only full standardised spatial system software in the world,” he said.

“It can seem overwhelming, but most farmers have a lot of the data sets already, they just don't realise it.

“Every farmer will know where the high yielding and low yielding parts of their paddocks are and most of the time they can tell you the reasons why.

“We always say: Go with what's free and then do some soil tests, which will help you decide what the next course of action will be.”

With some exciting technologies on the horizon, such as robotics, Adrian predicts that over the next five years, PA will become industrial.

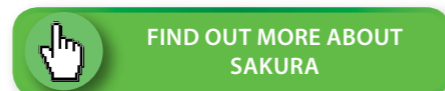
He viewed that as a positive, but he said ownership and access to data was likely to be a bigger issue.

“This is an industry built around a handshake deal. Trust is a big thing for farmers.”

“I prefer to talk about administration of the data and, if farmers are concerned, I suggest to them that they sign a contract which states they have full administration rights of the data sets.

“I think the data should actually be assigned to the paddock rather than an individual, so that if you buy land, the data goes with the sale. That won't happen anytime soon, but hopefully, in the meantime, AgX gets adopted in Australia as industry standard and farmers would be the 'admins' of all their own data and have the ability to opt in and out.

“If a company like Bayer had access to data of what was planted and where, then farmers could farm more accurately and forecast their chemical requirements,” Adrian said.



**RIGHT: With all the precision agriculture tools fitted, space is at a premium in Adrian Roles' tractor cab.**

***“The recipe for what I use here in Young isn't going to work somewhere in WA – and a lot of companies only have one recipe base. We need to develop regionally-based indices so we can use that as locally-based modelling, rather than having to do all that initial trial and error work ourselves.”***

**Adrian Roles, JMAJ Precision Managing Director and farmer at Young, NSW**



# Strong trials program benefits Yorke Peninsula growers

Bayer Territory Sales Manager Graham Hatcher and Daniel Hillebrand, YP AG, pictured discussing some of the latest developments in weed control in lentils in South Australia.



CONTINUED strong investment in crop trials allows YP AG an early insight into new solutions for Yorke Peninsula growers in South Australia.

YP AG has had major technology centres in the northern and central areas of the peninsula and last year coordinated multiple sites in these areas, plus additional sites with product suppliers, including Bayer. The business' northern trials field day often attracts about 100 farmers.

Daniel Hillebrand, who has spent six years with YP AG, including four years focused on trials whilst based at Maitland, said the business conducted

a major trials program on the peninsula.

"We do trial work up to three to four years prior to the release of products, so this gives us a head start on them," Daniel said.

"We look at the label rates and double rates, pushing the tolerances, and we also do a lot of mixes."

Last season, YP AG coordinated its first joint trial with Bayer at Maitland, investigating the use of Group K pre-emergent herbicide, Sakura®, in lentils, which has since been added to the product label.

Sakura was compared with standard

farmer applications as well as Boxer Gold® herbicide in the trial.

"On the Maitland soil it looked very safe, whereas Boxer Gold surprisingly touched up the lentils a fair bit," Daniel said.

"Maitland is a higher rainfall area and has heavier soils, so the next step is looking at it on sandy soils, where a higher likelihood of damage would normally be anticipated."

Containing the active ingredient, pyroxasulfone, Sakura controls annual ryegrass, barley grass, silver grass, annual phalaris and toad rush and also suppresses wild oats (black oats)

and brome grass in wheat (not durum wheat), triticale, chickpeas, field peas and lupins, as well as lentils.

Daniel said Sakura had become a popular choice for the wheat phase of growers' cropping rotations, with Boxer Gold used in barley.

"Sakura and Boxer Gold have been massive. About 90% of my grower clients use Sakura on wheat.

"What we have seen in trials and on-farm with Sakura is its length of control. That is why I prefer to use Sakura over Boxer Gold in wheat. With the last couple of seasons having warmer starts and the cold weather coming in later, ryegrass

can sneak out late and some products run out of puff."

He said Sakura was particularly preferred for wheat-on-wheat and was taking over from Treflan® and Avadex® Xtra in these situations.

"Treflan with Avadex isn't stacking up anymore. It's no good in high stubble situations.

"If a grower still wishes to go with Treflan and Avadex in wheat-on-wheat, I now advise that they burn to get the most out of it."

Daniel said Sakura had helped growers to better control ryegrass, with brome

grass and wild oats now becoming more concerning. However, he said trial work with Sakura and Avadex Xtra on brome grass had shown good results in some situations, so he has recommended growers use this mix when required.

Daniel said growers have been fantastic at employing other strategies to aid weed management, including crop-topping high population areas of paddocks and growing pulses and Clearfield® barley.

[FIND OUT MORE ABOUT SAKURA](#)

# Gus takes a grower's perspective for problem solving

GUS MacLennan likes problem solving.

It's a handy characteristic to have in his role as Technical Advisor for Bayer, and it's strengthened by the fact that when Gus tackles a problem at work, he likes to do it from the growers' perspective.

Gus grew up on a small, mixed horticulture property in Mildura, Victoria, but it wasn't until after high school that his interest in agriculture really sparked.

He spent time working as a farm assistant at Rice Research Australia, which is when he developed an interest in broadacre agriculture.

After completing an agricultural science degree at Melbourne University, Gus went on a working holiday to America.

He worked and travelled with his USA-based family for six months, working on their farm for harvest of corn and soybean crops.

"It solidified my interest in agriculture, as well as giving me time to focus on exactly what I wanted to do career-wise when I returned home," Gus said.

"A few months ago as part of a study tour, we went to the US and reconnected with the same family who I worked for all those years ago, and showed a group of Australian farmers through their farm."

## PASSION

When Gus returned to Australia, he interviewed for a number of roles in both agricultural research and agronomy, and during the process he realised his passion lay in the research sector.

This led him to his first role, as a Research and Development Officer with Nufarm, where he stayed on for six-and-a-half years, based at Wagga Wagga.



BELOW: Bayer Technical Advisor Gus MacLennan pictured in the field at a 'Growing Smarter Together' (GST) demonstration site at Temora in New South Wales, discussing with advisors the influence of pre-emergent herbicides and cereal seed treatments on crop emergence.

*"When we're doing demonstrations, I like to make them as realistic as possible, but also tie in other factors such as varietal choice or sowing times. There are many other contributing factors to disease control rather than just applying a fungicide."*

Gus MacLennan, Bayer Technical Advisor, NSW

He then moved into the position of Business Development Manager, which he did for a further two-and-a-half years.

The opportunity then arose to join Bayer as a Technical Advisor.

"The role itself was similar to what I was already doing, but I saw more opportunities with an increased focus on research and development," Angus said.

"I could see the role was something that was going to keep me interested for the longer term, which it has and continues to do."

Gus has been with the company for six-and-a-half years in his current role, based at Junee, 40 km north of Wagga Wagga, where he lives with his wife, Alexandra, and their two sons, Finn (four) and Hugo (two).

He said the flexibility of his role allowed him to spend maximum time with his family and for hobbies such as fishing and scuba diving.

His role as Technical Advisor varies from year to year according to the company's focus and the lifecycle stage of products, but can include educating internal staff on the latest product developments, conducting trials and training packages for agronomists, or facilitating product extension and knowledge transfer through grower demonstrations.

From March through to October, Gus will spend three to four days per week in the field, often spraying and assessing various trials and demonstration sites that he has established throughout the region.

"I like solving problems and the way I choose to go about that is looking at it from the growers' perspective and not just focusing on the product," Gus said.

"When we're doing demonstrations, I like to make them as realistic as possible, but also tie in other factors such as varietal

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BELOW: Gus with his family, wife Alexandra and their two sons, Finn (four) and Hugo (two).



choice or sowing times. There are many other contributing factors to disease control rather than just applying a fungicide.

“There are other things that can be done to reduce risk and by incorporating those factors, you offer a more well-rounded solution to the grower and offer more longevity to the solution.”

Gus joined Bayer at a particularly exciting time, in the year leading up to the launch of the company’s ryegrass herbicide, Sakura®.

He said he was involved in conducting Sakura pre-launch trials and demonstrations, and ramping up the education phase in preparation for the launch.

“To see the results coming out with Sakura was both exciting and rewarding, and it created a lot of interest in the product and the company.

“One of the most encouraging aspects of my involvement has been that we’ve seen the difference Sakura has made to growers.

“It’s helped them in so many ways. As well as being such an effective herbicide, it’s also raised awareness around resistance, cultural practices and how herbicides actually work.

“It’s enabled growers to get right on top of annual ryegrass to the point where, for a lot of famers now, ryegrass isn’t public enemy number one anymore.

“Growers now have an arsenal and knowledge of how to control ryegrass effectively.”

While Sakura well and truly lived up to the hype preceding its launch, Gus said one of the more surprising successes for him had come from his involvement with the foliar fungicide, Prosaro®.

He said positioning Prosaro into the canola market, particularly for use on sclerotinia, with such strong results had been extremely rewarding.

#### DISEASE CONTROL

“Disease control in canola has become such an important topic for the industry because there is more than just yield at stake and the effectiveness of Prosaro has really drawn us into a position of leadership in this field.” Gus said.

“It’s a time where canola is a very important and profitable crop and it’s worth protecting. Blackleg as well as sclerotinia are more prevalent now than ever before.

“Whilst timing has played into our hands with the success of Prosaro, we’ve also deliberately taken the lead in this segment and plan to continue with that leadership role with new and exciting products that the industry desperately needs.”

Gus said working with Bayer had certainly lived up to his initial expectations and he remained excited about the future of agriculture and continuing to help growers maximise results.

“It’s a great time to be involved in the industry, particularly with an innovative and progressive company like Bayer, and I’m excited about the potential opportunities that lay ahead,” he said.

# Pre-emergent trials continue to underline Sakura strength

- EXTENDED GRASS CONTROL
- HIGHER YIELDS, RETURNS
- REDUCED WEED SEED

**“Later in the season, with strong spring growth across the State, the performance from Sakura was still going strong across not only these trials, but also in farmers’ crops, whereas control from some other options dropped away, allowing late weed germinations to occur, resulting in some pretty dirty crops.”**

Rick Horbury, Bayer Technical Adviser, WA

WITH stand-alone prosulfocarb (800 g/L) pre-emergent chemistry set to enter the broadacre herbicide market for the 2017 season, four small plot trials were conducted across Western Australia this year aimed at comparing the performance of a range of different pre-emergent grass control options, including prosulfocarb.

The trials were conducted in wheat at Coorow, Pithara, Nugadong and Cunderdin, all of which had good soil moisture at depth and, with the opportunity for a double knockdown of pre-sowing weeds, presented largely ideal conditions for pre-emergent herbicide applications at the start of the season.

In addition to prosulfocarb, the different grass control options assessed included trifluralin, Boxer Gold®, Sakura® and Avadex® Xtra, including different tank mixes of some of these products and applications at the lowest and highest label rates.

The trial plots at the different sites were inspected at around 4 and 10 weeks after sowing, as well as at the end of September, with early crop safety also assessed following the applications and final yields recorded at harvest to calculate and compare return on investment from the different treatments.

Bayer WA Technical Adviser Rick Horbury said at the early inspections, most products were controlling the annual ryegrass populations quite well, especially after an effective double knock. However, by the mid-season assessments, with good soil moisture and subsequent germinations of annual ryegrass, treatments were starting to differ in control.

Sakura, with its strong residual activity, continued to offer excellent control. At the final panicle assessments, it’s length of activity, as recognised by growers over recent seasons, was the clear stand-out for ryegrass seed-set control, while that offered by other treatments had faded.

The Group K pre-emergent herbicide, which contains the active ingredient, pyroxasulfone, controls annual ryegrass, barley grass, silver grass, annual phalaris and toad rush and also suppresses wild oats and brome grass in wheat (not durum wheat), triticale, chickpeas, field peas, lentils and lupins.

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“Later in the season, with strong spring growth across the State, the performance from Sakura was still going strong across not only these trials, but also in farmers’ crops, whereas control from some other options dropped away, allowing late weed germinations to occur, resulting in some pretty dirty crops,” Rick said.

“You get a better knock-on effect from using Sakura and that level of control helps better manage your weed seed banks for future seasons, allowing you to stick to the plan with your crop or fallow rotations if you have a cleaner paddock.”

By the final assessments, Sakura, with around 90 per cent control, recorded at least 18 per cent improved control of the annual ryegrass populations compared with the next best product in the trials, while the difference in return on investment at harvest was considerable.

Sakura treatments yielded an average 2.14 tonnes per hectare, achieving an average \$73.48/ha return on investment. Applications of Boxer Gold at 2.5 L/ha achieved an average yield just under 2 t/ha for a return of \$18.40/ha. However, with 18% lower average weed control, Boxer Gold also allowed more ryegrass seed to enter the seed bank.

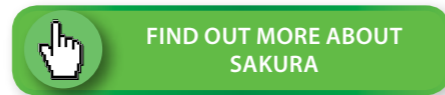
Prosulfocarb applied at 3 L/ha achieved a similar yield and return on investment to Boxer Gold at around 2 t/ha, however, assuming a cost over \$30/ha, its return on investment was lower than with Sakura.

A Sakura and trifluralin mixture at 1.5 L/ha only added a couple of percent in weed control, but still returned the highest yield and return on investment across the trials at 2.23 t/ha and \$78.50/ha respectively.

Applications of trifluralin at 2 L/ha, which didn’t achieve acceptable ryegrass control, produced a \$7.20/ha return, while a tank mixture with Avadex Xtra produced a negative return.

Rick said that with good soil moisture at sowing, trifluralin applications, and to a lesser extent Avadex Xtra, also affected crop emergence.

Emergence in the Sakura treatments was comparable with the untreated plots and better than trifluralin.



If effective annual ryegrass management and extended control is not achieved, the result can be “dirty” cropping paddocks.

Pre-emergent control of annual ryegrass, final yield and return on investment at Coorow, Pithara, Nugadong and Cunderdin, WA, 2016

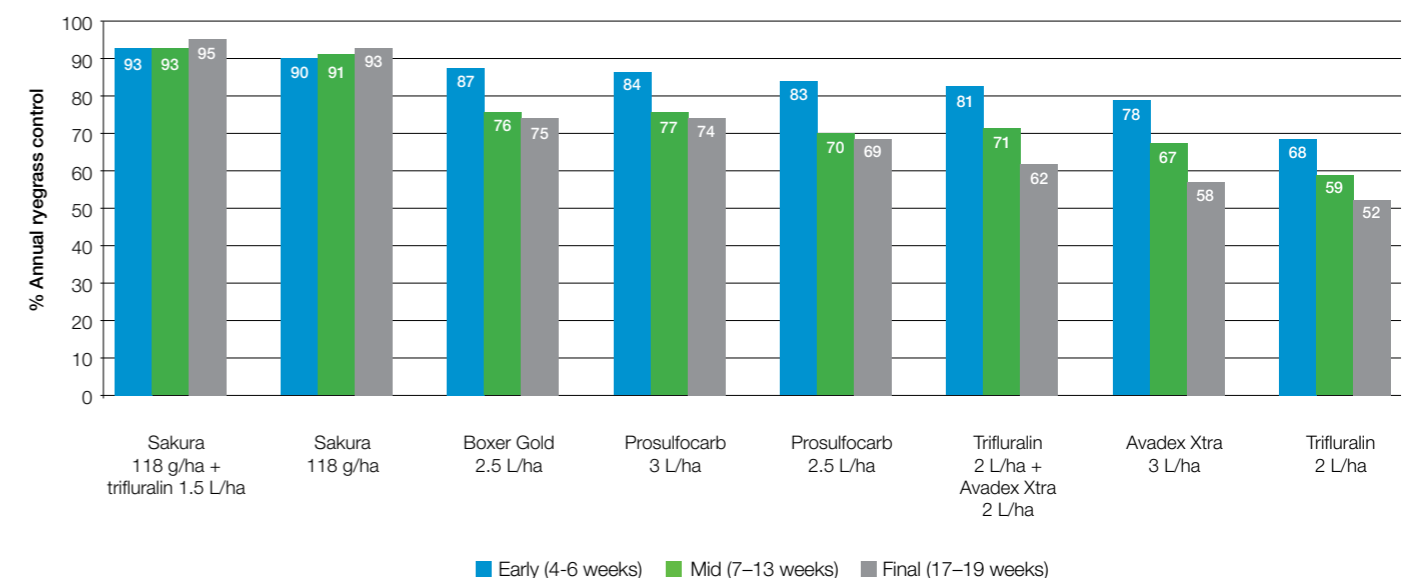
Trial Location and weed density	Coorow (1831 panicles/ m2)	Pithara (843 panicles/ m2)	Cunderdin (1033 panicles/ m2)	Liebe - Nugadong (493 panicles/m2)							
Treatment	Cost \$/ha	Final %ARG control	% ARG wt/grain sample	Final %ARG control	% ARG wt/grain sample	Final %ARG control	% ARG wt/grain sample	Final %ARG control	% ARG wt/grain sample	Mean Final %ARG control	Mean % ARG wt/grain sample
Sakura 118 g/ha + trifluralin 1.5 L/ha	\$51.90	97	0.8	96	0.1	90	0.6	98	-	95	0.5
Sakura 118 g/ha	\$40.10	93	1.4	95	0.0	92	0.4	92	-	93	0.6
Prosulfocarb 3 L/ha	\$35.70	76	3.1	83	0.7	72	0.6	67	-	75	1.4
Boxer Gold 2.5 L/ha	\$38.28	75	6.8	75	0.4	70	0.9	78	-	75	2.7
Prosulfocarb 2.5 L/ha	\$29.75	73	3.4	77	0.4	61	0.8	67	-	70	1.5
Trifluralin 2 L/ha + Avadex Xtra 2 L/ha	\$31.63	62	6.7	66	0.8	53	2.3	68	-	62	3.2
Avadex Xtra 3 L/ha	\$29.75	58	2.1	63	0.5	53	0.6	-	-	58	1.1
Trifluralin 2 L/ha	\$11.80	48	7.7	58	0.1	35	0.5	68	-	52	2.8

Treatment	Cost \$/ha	Yield t/ha	\$ROI	Yield t/ha	\$ROI	Yield t/ha	\$ROI	Yield t/ha	\$ROI	Mean t/ha	Mean \$ROI/ha
Sakura 118 g/ha + trifluralin 1.5 L/ha	\$51.90	2.60	\$158.40	2.82	\$57.54	1.81	\$61.50	1.68	\$36.55	2.23	\$78.50
Sakura 118 g/ha	\$40.10	2.31	\$109.30	2.81	\$67.12	1.95	\$106.90	1.50	\$10.59	2.14	\$73.48
Prosulfocarb 2.5 L/ha	\$29.75	1.91	\$119.65	2.65	\$41.95	1.66	-\$2.15	1.57	\$35.99	1.95	\$48.86
Avadex Xtra 3 L/ha	\$29.75	1.85	\$23.05	2.41	-\$11.33	1.75	\$69.25			2.00	\$26.99
Prosulfocarb 3 L/ha	\$35.70	2.34	\$29.70	2.70	\$14.70	1.65	\$39.30	1.40	-\$4.49	2.02	\$19.80
Boxer Gold 2.5 L/ha	\$38.28	2.14	\$75.42	2.40	-\$22.08	1.67	-\$8.58	1.57	\$28.84	1.95	\$18.40
Trifluralin 2 L/ha	\$11.80	1.87	\$45.20	2.35	-\$6.70	1.31	-\$18.40	1.35	\$8.70	1.72	\$7.20
Trifluralin 2 L/ha + Avadex Xtra 2 L/ha	\$31.63	1.75	\$0.17	2.43	-\$37.93	1.50	-\$37.63	1.42	\$2.26	1.77	-\$18.28

\$ROI includes \$6.00/ha application cost and quality. All AGP1 apart from Pithara

Untreated	\$0.00	1.57	\$329.70	2.30	\$510.60	1.50	\$315.00	1.23	\$257.32	1.65	\$353.16
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Pre-emergent control of annual ryegrass (early, mid and final panicle ratings) at Coorow, Pithara, Nugadong and Cunderdin, WA, 2016



# High weed pressures come under control



OPPOSITE: Bayer Territory Sales Manager Mark Norbiato, New South Wales grower Allan Hutchison, Hillston, and Agronomist Gus De Notta, formerly with Cotton Grower Services at Hay, inspect a spray miss in one of Allan's wheat paddocks, which highlighted the annual ryegrass and black oat pressure successfully controlled by Sakura herbicide in the remainder of the paddock.

RIGHT: Pictured shows the excellent weed control from using Sakura herbicide.

WHEN you grow wheat on a property for 14 out of 15 years, you are bound to meet some weed control challenges and this has been the case for New South Wales grower Allan Hutchison at Hillston.

Allan and his wife Karlene, together with daughter Renae and son-in-law Dion, grow Drysdale and Spitfire wheat varieties over about 1000 ha at their 1620 ha 'WeePool' property, which is in a 300-millimetre rainfall zone. They also grow cotton on a smaller block nearer to town and it is grown at 'WeePool' as well, although it was not in production there last year.

A former policeman and contract harvester, Allan acquired 'WeePool', which previously carried sheep and grew some wheat, in 2000. He was particularly attracted by the property's water licence and now operates four pivots for some of the wheat production.

Treflan® and Logran® herbicides have been repeatedly used over the years and have contributed to increasing weed pressures, which could be shaving up to 0.5 t/ha off crop yields.

Allan said barley grass, brome grass and black oats were his major weed problems.

While many farmers in the region sow dry and do not use pre-emergent herbicides because they are not confident crops will come up, Allan sows into moisture and last year, encouraged by his Agronomist Gus De Notta, formerly with Cotton Grower Services at Hay, he applied the Group K pre-emergent herbicide, Sakura® 850 WG, from Bayer.

Containing the active ingredient, pyroxasulfone, Sakura controls annual ryegrass, barley grass, silver grass, annual phalaris and toad rush and also suppresses wild oats (black oats) and brome grass in wheat (not durum wheat), triticale, chickpeas, field peas, lentils and lupins.

Following a knockdown with Roundup®, Sakura was incorporated at seeding via a Case Concord drill with press wheels from 14 May.

Allan said compared to Treflan, the extra incorporation flexibility with Sakura was a bonus, especially if machinery breakdowns occurred.

Although concerned about high stubble loads in the paddocks, he said while it didn't rain soon after incorporation, the results and length of weed control provided by Sakura was far better than with Treflan.

"The brome grass remained all stunted," Allan said.

"In the future, I wouldn't hesitate to dry sow and have Sakura there, ready for the rain."



Gus said Sakura worked well everywhere throughout the region last year.

"Compared with Treflan, Sakura is doing a cleaner job and lasting longer for farmers. And once crops are clean, they can then manage any late weed germinations with the crop canopy.

"It is improving the situation for growers for years to come."

Compared with some farmers who use seeding rates of up to 60 kg/ha, Allan sows his wheat at 25 kg/ha with 45 kg/ha of MAP fertiliser with zinc. He also sprays a bacteria-based fertiliser product with Roundup, which has helped to improve grain protein levels, as well as urea.

With good moisture at depth and generally good rainfall throughout the season, Allan's wheat crops performed well last year.

The dryland area averages 1.6-2 t/ha, but last season produced 2.5-3 t/ha, while the irrigated wheat achieved 4.5-5 t/ha.

Now having some control of weed populations, Allan said in future he would focus on rotating herbicides and crops and would continue to fallow significant areas.

Bayer Territory Sales Manager Mark Norbiato said 18-month fallow was a common practice in the area.

He said many farmers in the region also now used Sakura herbicide over one-third of their properties.



# Growers can expect improved disease control from 2017

The launch of foliar fungicide, Aviator® Xpro®, by Bayer for the 2017 season is expected to set a new disease control standard in canola and chickpeas, and for other crops in the future.



Aviator Xpro has already been registered for blackleg control in canola, while its use for sclerotinia as well as fungal diseases in chickpeas, including ascochyta blight, is anticipated to be added to the label next June. An application for registration in other crops is expected in 2017, with registration expected in time for the 2018 season.

Aviator Xpro offers a new mode of action for resistance management, containing bixafen, a new member of the Group 7 (SDHI) fungicides, as well as the proven performance of prothioconazole.

"It is a stronger acting and longer lasting product, with the benefits of bixafen improving plant health through excellent disease control, and it has a faster rain-fast period than Prosaro®," said Rick Horbury, one of Bayer's Technical Advisors in WA.

"Aviator Xpro can pull up early infections, rather than just acting as a protectant like some other alternatives, giving growers added flexibility on application timing.

"It will be the new standard for canola diseases, as we have seen in our large area trials in WA over the last couple of seasons, and in future for other high yielding crops."

He said the new mode of action would be a valuable resistance management tool, helping to reduce the reliance on triazole chemistry, especially in canola, where there are limited registered useful options.



"So where Jockey® Stayer® or flutriafol (early generation triazoles) are used upfront, bringing in Aviator Xpro will be a good tool to delay blackleg resistance, because some of the researchers have detected populations in southern Australia with reduced susceptibility to early generation triazoles.

"Currently, much of the farmer-retained TT (triazine-tolerant) canola grown is reliant on only group A genetic resistance (for example, Bonito and Gem). So if this group breaks down, it will, in turn, put more pressure on the seed or in-furrow treatments – and this is where a foliar application of Aviator Xpro can mix things up a little to delay the onset of resistance."

## EXTEND EXISTING CHEMISTRY

Gus MacLennan, Technical Advisor with Bayer in NSW, agreed the new mode of action would be vital for blackleg in canola, and later for other crops, which had shown some tolerance and resistance to existing chemistry.

"There are instances of certain triazoles breaking down to diseases such as blackleg in canola," Gus said.

"The new mode of action will also help add longevity to some of the existing chemistry."

He said Prosaro fungicide had been a great product for growers and Aviator Xpro would also be great for the industry.

Gus said in chickpeas, Aviator Xpro would predominantly be used to control ascochyta blight.

"There has been an effort in chickpea breeding against ascochyta blight, but varietal resistance to the disease appears to have broken down again.

"Due to the conditions this year, pressure from ascochyta blight and other diseases has been big and, as a result, there has been a huge demand on fungicide supply.

"With grain prices being the way they are, growers will want to keep chickpeas in their rotations and with the inoculum levels that will be around next year, it will be a benefit to have another effective product in the market."

He said Aviator Xpro also offered good compatibility, its patented Leafshield™ formulation system would enhance and extend its activity against diseases, and its fast rain-fast period, estimated at around 30 minutes to one hour, would be particularly beneficial for chickpea growers spraying ahead of rainfall events.

"Our data shows that it's taken up very rapidly. As a result of the adjuvant package, we are confident that the product will perform very well, with a rain-fast period much shorter than many other fungicides. This has been a limiting factor with other products – especially when growers are stretched for time and rain is imminent."

Gus said Bayer had conducted more than 120, large-scale Aviator Xpro trials under permit across the country in 2015-16 in all intended crops for registration.

"The major focus this year has been in canola and chickpeas, as they will be the crops on the first commercial label, and we will have another year of permit work next year to focus more on the remaining crops expected to be added to the label for 2018.

"In canola, the signs are strong for good blackleg and sclerotinia control, where we are assessing up to two applications in some cases.

"Chickpea crops, especially in south-eastern areas including the Mallee and Wimmera in Victoria, have been hit hard by disease this year and Aviator Xpro has performed really well."



# Trials show Aviator Xpro wins for disease control, yields

RESULTS from 2016 trials investigating the effectiveness of new foliar fungicide, Aviator® Xpro®, against blackleg and sclerotinia diseases in canola have reinforced its claim to be the next benchmark for disease control.

In a trial in Western Australia at the West Midlands Group site near Moora, the highest levels of blackleg control were observed following foliar application of Aviator Xpro in combination with an earlier seed treatment or in-furrow flutriafol application (see table).

“It was this multiple fungicide application strategy that really paid off under high blackleg pressure,” said Bayer WA Technical Advisor Rick Horbury

“Bringing in a foliar application of Aviator Xpro, with its combination of prothioconazole and the new active bixafen, offering a different mode of action, really extended the disease protection and reduced blackleg infection, which maximised the yield.”

Gaicho® seed treatment (an insecticide) was used as a non-fungicide reference treatment to assess the impact of blackleg, with the use of Jockey® Stayer® seed treatment reducing the number of lodged or dead plants due to blackleg by 54%.

When Aviator Xpro was applied at 550 mL/ha at the 6-leaf stage, following the Jockey Stayer seed treatment, control increased to 92%, compared to a 78% reduction from the use of flutriafol in-furrow. Using all three in combination recorded 100% control.

EverGol® Xtend was included in the trial due to it being a common seed treatment on purchased seed for the control of damping off and hypocotyl rot caused by rhizoctonia and fusarium. EverGol Xtend is not effective against blackleg and so under higher blackleg risk, it is recommended that Aviator Xpro or flutriafol be applied.

The improved control in the trial also translated to increased yields. Using Jockey Stayer seed treatment increased the yield by 19% over the Gaicho treatment and gave a return on investment of \$111.61/ha.

The combination of Jockey Stayer and Aviator Xpro increased profitability and recorded a return on investment of \$197.07/ha.

The addition of flutriafol to this combination further increased control, which lead to a \$213.39/ha return on investment.

“While it’s great to see improvements in disease control, it’s really pleasing to see the value added to the grower’s return on investment from using Aviator Xpro,” Rick said.

At Temora in New South Wales, Aviator Xpro was applied in a trial comprising different canola varieties with varying levels of blackleg resistance.

Bayer NSW Technical Advisor Gus MacLennan said positive yield responses were recorded across all blackleg resistance groupings, which also correlated strongly with internal stem canker data, and, as expected, the greatest responses were on varieties with lower blackleg resistance.

Gus said results with Bonito, a commonly grown variety that is rated moderately resistant to moderately susceptible (MR-MS) to blackleg, were particularly interesting.

“The Group A genetics that this and other varieties rely on heavily for disease resistance have started to become less effective and, hence, additional control measures such as foliar applications of Aviator Xpro will be required for blackleg protection. Where genetic protection isn’t sufficient, yield loss can be significant,” Gus said.

In the trial at Temora, applications of Aviator Xpro increased yield by up to 900 kg/ha and oil content by 1.6 % in Bonito. This equated to a return on investment of up to \$450/ha, excluding oil bonuses.

In large-scale trials against sclerotinia in Western Australia at Badgingarra, Cataby, Cunderdin and Beverley, Aviator Xpro consistently reduced disease infection and was comparable or superior to Prosaro® foliar fungicide. This was also reflected in smaller plot trials at Badgingarra.

Aviator Xpro recorded excellent disease control in the Badgingarra trial as part of a two-spray program with an 800 mL/ha rate at the 25% flowering timing, which recorded the lowest percentage of severe sclerotinia infection and the highest return on investment of \$286.16/ha above the untreated.

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Responses for blackleg control on varying canola resistance groups, including yield and return on investment, Temora, NSW, 2016

Foliar Application	Variety*	Blackleg grouping - resistance	Yield t/ha	Gross \$/ha	% Oil	\$ROI/ha
Nil	Bayer 3000TR		0.55	\$253.41	45.2	
Aviator Xpro 550 mL/ha	Bayer 3000TR	B - MS	1.31	\$603.58	46.9	\$307.08
Nil	Bonito		1.33	\$666.00	46.3	
Aviator Xpro 550 mL/ha	Bonito	A - MR/MS	2.23	\$1,116.67	47.94	\$425.48
Nil	Stingray		2.30	\$1,151.73	47.23	
Aviator Xpro 550 mL/ha	Stingray	C - MR	2.38	\$1,191.79	48.24	-\$15.21
Nil	Hyola 525RT		1.16	\$580.87	47.31	
Aviator Xpro 550 mL/ha	Hyola 525RT	ABD - R/MR	1.34	\$671.01	47.28	\$21.89
Nil	43Y23		1.45	\$726.09	44.83	
Aviator Xpro 550 mL/ha	43Y23	BC - R/MR	1.73	\$866.30	45.83	\$83.05
Nil	Hyola 474		1.60	\$801.20	47.02	
Aviator Xpro 550 mL/ha	Hyola 474	ABF - R/MR	1.90	\$951.43	46.97	\$85.06
Nil	GT41		1.23	\$566.72	46.42	
Aviator Xpro 550 mL/ha	GT41	BF - R	1.45	\$668.09	48.47	\$54.16

Aviator Xpro 550 mL/ha	\$29.98
Application cost	\$7.00
Temora \$/t	500.75

\*All varieties had an effective seed treatment.

Blackleg control, yield, oil content, gross and return on investment in Crusher canola (13/10/16), Moora, WA

Treatment	Seed treatment only						Seed treatment + Aviator Xpro 550 mL/ha at 6 leaf				
	Cost \$/ha at 2.5 kg sowing	% Blackleg control	Yield t/ha	% Oil	Gross \$/ha	ROI \$/ha	% Blackleg control	Yield t/ha	% Oil	Gross \$/ha	ROI \$/ha
Gaicho 4 L/t	\$0.44	0	1.11	37.5	\$585.64	-	62	1.39	41.0	\$733.92	\$111.87
EverGol Xtend 650 mL/t + Poncho® Plus 5 L/t	\$4.03	34	1.24	40.2	\$654.72	\$65.04	80	1.44	41.0	\$760.32	\$134.67
Jockey Stayer 20 L/t + Poncho Plus 5 L/t	\$4.99	54	1.33	41.3	\$702.24	\$111.61	92	1.56	40.3	\$823.68	\$197.07

Treatment	Seed treatment + flutriafol 400 mL/ha						Seed treatment + flutriafol 400 mL/ha + Aviator Xpro 550 mL/ha at 6 leaf				
	Cost \$/ha + flutriafol	% Blackleg control	Yield t/ha	% Oil	Gross \$/ha	ROI \$/ha	% Blackleg control	Yield t/ha	% Oil	Gross \$/ha	ROI \$/ha
Gaicho 4 L/t	\$5.24	64	1.34	40.8	\$707.52	\$116.64	88	1.54	39.9	\$813.12	\$186.27
EverGol Xtend 650 mL/t + Poncho Plus 5 L/t	\$8.83	72	1.28	40.2	\$675.84	\$81.36	86	1.64	40.3	\$865.92	\$235.47
Jockey Stayer 20 L/t + Poncho Plus 5 L/t	\$9.79	78	1.48	39.5	\$781.44	\$186.01	100	1.60	40.6	\$844.80	\$213.39

CAN Kwinana del. 9/11/16	\$528.00
Flutriafol 400 mL/ha	\$4.80
Aviator Xpro 550 mL/ha	\$29.98
Application cost \$/ha	\$6.00



Aviator Xpro trial, Beverley, WA – untreated.



Aviator Xpro trial, Beverley, WA – Aviator Xpro at 800 mL/ha.

“At the end of the day, yield and return on investment is what growers want and Aviator Xpro delivered that in this trial. While some other treatments also reduced disease, it was the green leaf retention brought about by superior disease control in the Aviator Xpro treatment that allowed the crop to really achieve its yield potential,” Rick said.

In similar trials at Cootamundra in New South Wales and Dookie in Victoria, Aviator Xpro showed better control of sclerotinia than Prosaro.

“While both products were very effective at reducing sclerotinia levels in the trials, Aviator Xpro did perform better,” Gus said.

“The longer residual control offered by Aviator Xpro has been a strong advantage this year, with the extended spring being conducive for disease development.”

Registration of Aviator Xpro for sclerotinia control in canola is expected in time for the 2017 season. Always use Aviator Xpro according to the most recent registered label.

Sclerotinia treatment cost, yield, oil content, gross and return on investment compared to untreated in Hyola 559 canola, Badgingarra, WA, 2016

TREATMENT		TREATMENT			25% flower + 50% spray			
25% flowering	Cost \$/ha	50% flowering	Cost \$/ha	% Severe sclerotinia 27/9/16	Yield t/ha	Oil %	Gross \$/ha	\$ROI/ha
Aviator Xpro 800 mL/ha	\$43.60	Aviator Xpro 550 mL/ha	\$29.98	2	4.20	47.8	\$2,389.00	\$286.16
Prosaro 450 mL/ha	\$32.85	Prosaro 375 mL/ha	\$27.38	4	4.09	48.2	\$2,336.17	\$246.67
Aviator Xpro 550 mL/ha	\$29.98	Aviator Xpro 550 mL/ha	\$29.98	5	4.10	47.9	\$2,333.56	\$244.34
Aviator Xpro 650 mL/ha	\$35.43	Aviator Xpro 550 mL/ha	\$29.98	3	4.08	47.7	\$2,316.75	\$222.08
Prosaro 375 mL/ha	\$27.38	Prosaro 375 mL/ha	\$27.38	4	3.95	48.3	\$2,259.52	\$175.50
Sumiscler® 1 L/ha + BS1000 0.2%	\$30.50	Sumiscler 1 L/ha + BS1000 0.2%	\$30.50	3	4.02	46.6	\$2,250.88	\$160.61
Rovral® Liquid 2 L/ha	\$30.00	Rovral Liquid 2 L/ha	\$30.00	8	3.83	48.3	\$2,191.14	\$101.88
Amistar® Extra 1.2 L/ha	\$42.78	Amistar Extra 1 L/ha	\$35.65	9	3.88	47.5	\$2,198.29	\$90.59
Untreated	\$0.00	Untreated	\$0.00	18	3.61	46.4	\$2,017.27	\$0.00

CAN Kwinana del. 9/11/16	\$528.00
Application cost \$/ha	\$6.00
Oil bonus over 42%	\$7.00

# Lucerne ‘enemy’ back under control

WHEN your main farming enterprise starts to be threatened by one of its biggest “enemies” and conventional solutions are no longer achieving the desired results, productivity can start to slip.

For New South Wales lucerne hay and seed producers Anthony and Heidi Ord, Coolah, this became a real scenario when silver grass decided to colonise a couple of their paddocks, but fortunately a new solution emerged to “save the day”.

“You can have ryegrass in hay, but not silver grass – they (stock) don’t eat it,” Anthony said.

“Silver grass is more prevalent this side of town and when it gets into lucerne, you can’t get it out.

“We were running into some problem paddocks for production and would have had to plough-in a fair bit.”

Anthony is the third generation at the family’s 730-hectare ‘Marombi’ property, which comprises light land and silty river flats – “good lucerne country” – through to heavy soils.

He continues to farm with his father, Richard, who was one of the first farmers in the region to grow the perennial summer grass, lovegrass, of which they sell seed of the variety, Consol, in addition to their sixth generation, semi winter dormant lucerne. They are sold under the banner, MPC (Marombi Pastoral Company) Produce.

[Continued next page](#)



New South Wales farmer Anthony Ord, Coolah, Ed Blackburn, Agronomist with local CRT store, Haynes Farm and Hardware, Anthony’s father Richard and Bayer Territory Sales Manager Kyleigh Black inspect one of the excellent lucerne crops at the Ord’s ‘Marombi’ property.



LEFT: Pictured in the corner of the Gregory wheat paddock shows the level of the grass weed population that was effectively controlled by Sakura herbicide.

OPPOSITE: Kyleigh, Anthony, Richard and Ed were pleased with the grass weed control provided by Sakura herbicide in the Gregory wheat crop.

About half of their light country is cropped, including to grazing oat and wheat varieties, with smaller lucerne hay bales mostly marketed to the Sydney horse racing industry and larger bales sought by local livestock producers at weaning.

The Ords also run about 1500 trade Merino wethers and 200 trade steers, including on other subtropical grasses, of which they also sell seed, and the lucerne.

Anthony said silver grass, which he called 'kerosene grass', "smashed" a 15 ha lucerne paddock in 2014 and was becoming an increasing concern in another paddock, together amounting to about 50 ha.

"It is also through our light country, but the Consol lovegrass out-competes it there.

"We didn't use a cover crop when we sowed it (in the 15 ha paddock) and there were grasses in it. Jaguar® (herbicide) worked on the broadleaf (weeds) and clethodim worked on the other grasses, but it didn't do any good on the silver grass. We did use Verdict®, but it did nothing.

"The population of silver grass was huge. We baled the silver grass and lucerne and had 130 bales – and the majority of it was silver grass."

In February last year, the Ords ploughed the paddock twice to eliminate the lucerne and then, in consultation with their Agronomist, Ed Blackburn, of local CRT store, Haynes Farm and Hardware, they decided to apply the Group K pre-emergent herbicide, Sakura® 850 WG from Bayer, in a mix with 1 L/ha of glyphosate prior to sowing wheat.

The Gregory wheat was sown in June into good soil moisture using an Agrodill with knife points and press wheels set on 30 cm tyne spacings. A further 25 mm of rain fell soon after sowing.

"We slowed down too, so we didn't throw soil into the furrows. Sakura is not cheap, so you want it to do a 100% job," Anthony said.

Sakura was extremely effective on the silver grass and at harvest the wheat crop achieved a yield of just under 3 t/ha

Sheep graze the lucerne paddocks during winter to also help keep them "clean", but Anthony quipped that "they are not quite as good as Sakura".

Containing the active ingredient, pyroxasulfone, Sakura controls annual ryegrass, barley grass, annual phalaris and toad rush, in addition to silver grass, and also suppresses wild oats (black oats) and brome grass in wheat (not durum wheat), triticale, chickpeas, field peas, lentils and lupins.

"We will go with Sakura in the first year, look at other options for the second year and then go back to good lucerne," Anthony said.

The Ords have previously applied simazine and gramoxone in autumn, used Spray.Seed® with diuron, which was no longer effective, and Broadstrike® with clethodim, which had been good and so needed to be safeguarded.

"You can spend \$35/ha on a mix, but it doesn't get everything. Spray.Seed with diuron and then Broadstrike with clethodim gets expensive," Anthony said.

Ed said any in-crop spray was going to be \$35/ha plus a boom pass.

He said the six-week withholding period with Sakura in wheat before grazing also posed no major issues.

"The best plan is to plough these paddocks out and then go with wheat and Sakura, because we know that it works. Then we will go into a forage phase for three to four years, which will be good with the strong cattle market now," Anthony said.



***"The best plan is to plough these paddocks out and then go with wheat and Sakura, because we know that it works. Then we will go into a forage phase for three to four years, which will be good with the strong cattle market now."***

Anthony Ord, Coolah, NSW



# Two sprays now common for wild radish in WA's north



Landmark agent at Carnamah in Western Australia, Graham Doust, Doust Agri-Services, says local farmers are using Velocity herbicide to manage their bad radish and they are getting better management of paddocks.

ONGOING herbicide resistant wild radish concerns in Western Australia's northern wheatbelt has seen a two-spray strategy become the norm in the region, while growers are also increasingly adopting various weed seed management practices and other production strategies.

Landmark Carnamah agent Graham Doust, of Doust Agri-Services, said wild radish control remained a widespread problem in the area and most farmers now conceded that two herbicide sprays were required.

"They now do it regardless. They budget for it," Graham said.

He said farms had moved to 70-100% cropping in recent times, with two to three years of wheat followed by canola being a popular rotation, and most farms had some paddocks with bad wild radish populations.

"There had been consistent use of phenoxy herbicide treatments, for example LV Ester and diflufenican – and then the use of Jaguar®."

"There is resistance to Group B and F, and we are now seeing a lot of populations resistant to Group I herbicides.

"Yields were being compromised and paddock hygiene was bad. Yields were probably being reduced by about 20% – 300-700 kilograms (per hectare).

"If paddocks were really bad, growers looked at fallow or pasture and sheep, but that was only managing it – it wasn't going to fix it."

However, with the availability in recent years of the Groups H and C herbicide Velocity®, from Bayer, farmers have been using it to target their bad radish paddocks.

"Growers were hungry for a new chemical and there was strong uptake, but only for use over small hectares. There was exponential growth and now it is consistently used," Graham said.

"Farmers are using Velocity to manage their bad radish and they are getting better management of paddocks. They order it for about 20% of their program each year and use it around the farm."

Velocity is based on the novel active ingredient, pyrasulfotole, and also includes bromoxynil and Bayer's crop safener, mefenpyr-diethyl. The pyrasulfotole interrupts several biological

*"Farmers are using Velocity to manage their bad radish and they are getting better management of paddocks. By ideally targeting small weeds twice, we don't see any escapes – the return on investment is over a 20-year period."*

Graham Doust, Doust Agri-Services, Carnamah, WA



processes crucial to weed growth, while the bromoxynil, which acts primarily as a contact foliar herbicide with virtually no soil residual activity, further disrupts the photosynthetic process, resulting in a unique action against weeds.

"Previously, growers were going toward using two sprays, like Jaguar and then 2,4-D Ester," Graham said.

"Now, if they have real nasty paddocks, they will hit them with Velocity early.

"It's certainly making things manageable. By ideally targeting small weeds twice, we don't see any escapes.

"It's a salvage operation in the first year and the return on investment is over a 20-year period. That's what it's about – planning."

With massive seedbanks, he said one spray in one year did not solve the problem and growers were also employing other strategies.

"In bad paddocks, farmers might go to a Roundup Ready®

canola to tidy it up and then come back to Velocity (the following year).

"They also may still fallow it – that's still done a little bit.

"Burning windrows and chaff carts are also coming into play for weed seed management. There are now a handful of chaff carts in the area.

"Growers may also change to a later-sown wheat variety and get a couple of (herbicide) knocks, or also look to using a Clearfield® system crop.

"If they can get a good level of control in a paddock over a number of years, they may be able to go back to Jaguar with a phenoxy product follow-up," Graham said.



# Multi-pronged approach meeting weed challenges

EVERY farming generation faces some key challenges during their chapter on the land and for New South Wales grower Craig Ward, Parkes, one of them has come in the form of weed management, enhanced by a switch to a continuous cropping operation back in 2006.

Craig is the fourth generation of the Ward family, cropping 2100 hectares of the 2300 ha 'Mimosa' property to wheat, barley, canola, legumes and, more recently, some summer crops with

wife Lisa and supported by workman Jeff Evans. Craig and Lisa have three children, Taylor, Lachlan and Aleisha. The farm first commenced in 1897 as a 375 ha block.

'Mimosa', which comprises red loams to heavy clay country, also previously carried 6000-8000 Merinos before running a Dohne sheep flock.

Craig remembers when he recognised herbicide-resistant ryegrass in a paddock in 2001 and after recently employing a

conventional cropping system with a focus on post-emergent weed control sprays, Group A, particularly fops, and Group B herbicides have become less effective.

"We no longer use Achieve® or Topik®," Craig said.

"Ryegrass, barley grass and silver grass have been our main problems. We have had trouble getting two cereal crops in a row and we couldn't farm it out of the system."



OPPOSITE: Agronomist Peter Yelland, PY Agronomy, New South Wales grower Craig Ward, Parkes, and Bayer Territory Sales Manager Jon Bennett pictured checking grainfill and quality on the Ward's 'Mimosa' property late last season.



ABOVE: Peter, Jon and Craig discuss the various weed management strategies being implemented on the Ward's property near Parkes.

Growing Roundup Ready® canola has helped in certain situations and several years ago the Wards adopted the Group K pre-emergent herbicide, Sakura® 850 WG.

Containing the active ingredient, pyroxasulfone, Sakura controls annual ryegrass, barley grass, silver grass, annual phalaris and toad rush and also suppresses certain grass weeds in wheat (not durum wheat), triticale, chickpeas, field peas and lupins. It has also recently been registered for use in lentils.

## GOOD CONTROL

Sakura is now used across all of their wheat and it has provided good control in both dry and moist early conditions.

"We noticed straight away that it really cleaned things up," Craig said.

"It has helped us maintain our cropping. In bad country, we wouldn't have been able to do what we have done."

The Wards have safely applied Sakura with Roundup®, Logran® B-Power and

LV Ester 680, also to control broadleaf weeds.

"The more (herbicide) modes of action we can apply, the better," Craig said.

Typically, sulphate of ammonia is also applied prior to sowing and the Ward's Gregory and Suntop wheat varieties are drilled at 50 kg/ha with 75 kg/ha of MAP fertiliser. They also receive top-up applications of urea.

"We apply 80 kg/ha of nitrogen and 15 kg/ha of phosphorus every year," Craig said.

The Wards are also implementing other strategies in a multi-pronged approach to weed management.

They try to maintain a four-year crop rotation spread by including legumes; cut hay and carry out brown manuring occasionally in problem areas; they have returned to full burning where suitable; and they fallow areas when required.

Agronomist Peter Yelland, PY Agronomy, who assists the Wards, said using different herbicide modes of action and strategies was very important to help

extend the weed control benefits offered by Sakura, especially since other options were limited.

Summer crops have also been introduced the last two years to help manage herbicide-resistant black oats.

Axial® herbicide is being applied on the black oats and Lontrel® is also being sprayed for broadleaf weeds.

Peter said there were limited control options for black oats and many growers chose not to spray them.

"The black oat problem has got to a stage where farmers will leave paddocks out (of cropping programs)," Peter said.

He said brome grass was now becoming a growing concern through the area.

The Wards have achieved average crop yields of 3-3.5 t/ha over the past decade.

'Mimosa' receives 500-600 millimetres of rainfall annually, including about 300 mm during the growing season.





# Shatter-reduced canola an eye-opener

Evan Lowe, who farms near Wangaratta in North East Victoria, says the unique PodGuard shatter reduction trait in the Roundup Ready hybrid canola variety, IH 51 RR, helps open a far greater window for windrowing or direct heading.

NORTH East Victorian grower Evan Lowe had a different experience when harvesting his canola windrows last year – there was no pod shattering or shells coming up from the machine.

Evan was harvesting the Roundup Ready® hybrid canola variety, IH 51 RR, featuring the unique PodGuard® shatter reduction trait.

“It was impressive to watch,” Evan said.

“You could particularly see the benefit when we were windrowing through the very mature patches – with normal canola it would be going everywhere.”

Evan and his wife, Louise, farm about 730 hectares, including their Greenvale property as well as share-farmed and leased land, at Thoona, near Wangaratta.

Located in a 600-millimetre rainfall zone, the land comprises mostly red loam over gravel soils, as well as some clay areas.

The Lowes crop about 600 ha to wheat and canola and also run about 700 first cross ewes.

While they have predominantly grown triazine-tolerant (TT) canola, last season they tried IH 51 RR with the PodGuard trait as “another tool” for their program. It was grown alongside another RR variety, 45Y25.

Developed by life science company, Bayer, over almost a decade, the PodGuard trait is designed to strengthen canola pods as they ripen.

It strengthens the dehiscence zone, the seam that runs along the top and bottom of pods and which breaks down as plants reach maturity, effectively allowing later windrowing or direct harvesting and opportunity for higher yields through reduced harvest losses. The reduced seed loss at harvest also reduces volunteer canola the following year, which has caused problems for some growers.

Following applications of gypsum and lime, the Lowe’s IH 51 RR canola was sown at 2 kg/ha with 80 kg/ha of MAP fertiliser



*“You could particularly see the benefit when we were windrowing through the very mature patches – with normal canola it would be going everywhere.”*

Evan Lowe, Wangaratta, North East Victoria



treated with flutriafol. Top-up applications of urea were applied in May at 80 kg/ha and July at 110 kg/ha.

Roundup Ready® Plantshield® herbicide was applied at the full 900 g/ha label rate in May and Prosaro® 420 SC fungicide was also applied later in August to help combat sclerotinia disease.

The IH 51 RR is a faster maturing canola and Evan said the PodGuard trait meant he could delay windrowing, allowing the variety to mature more evenly across the paddock whilst the 45Y25 reached the correct maturity for windrowing.

## FLEXIBILITY

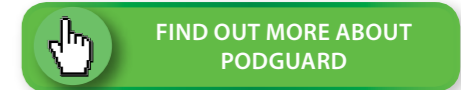
“The flexibility it (IH 51 RR) allows is great. It just opens a far greater window for windrowing or direct heading,” Evan said.

“From the evidence I saw, all indicators pointed to quite a potential saving and the yield and oil is all there. Even without a weather event, the IH 51 RR went as good as the other Roundup Ready varieties.

“We can get some winds here, but they can be a bit hit and miss.”

Paddock trials like Evan’s across Australia have shown IH 51 RR can produce yields similar to benchmark varieties. The PodGuard trait allows the variety to fully mature without shattering losses at windrowing and harvest, resulting in a distinct yield advantage even without extreme weather.

With the new PodGuard variety, InVigor® R 5520P, set to be available in 2017, growers across mid and mid-late zones will also now be able to access the benefits of reduced shattering, in addition to those in the early-mid zones with IH 51 RR.



# Fungal disease predictor a powerful decision-making tool

Powerful fungal disease prediction tool, the Prosaro® Scale, is becoming more broadly adopted across the canola industry and further enhancements – linked to user feedback – are now set to increase its use as a decision-making tool for growers.

LAUNCHED in 2015 by Bayer, the Prosaro Scale for blackleg is based on the Blackleg Sporacle model developed from research by the Department of Agriculture and Food Western Australia (DAFWA), in conjunction with the Grains Research and Development Corporation (GRDC). Bayer also introduced its second disease model to help predict sclerotinia infection in canola this season.

With blackleg infection increasing significantly this year, the Prosaro Scale recorded more than 800 submissions for disease prediction, a jump of more than 60 % compared with 2015, while more than 1000 were received for sclerotinia. Subscriber numbers of the Prosaro Scale newsletter are also increasing considerably.

Using daily weather data and future weather scenarios, the model predicts the likely commencement of blackleg spore showers, allowing growers to make effective decisions, such as the tactical use of a foliar fungicide, to help minimise the risk of yield loss. A simple postcode input returns a predicted ascospore maturation risk rating for blackleg, with each postcode aligned to a local weather station.

The Prosaro Scale provides an alert level (colour code) depending on the likelihood of blackleg spore showers

commencing from a previous seasons' canola stubble. Yellow indicates a low probability, orange indicates medium and red indicates high; hence infection risk is high if canola is at a susceptible stage.

For sclerotinia, it provides a disease incidence warning, supported by a graph indicating the infection levels for the previous seven days. A red line in the graph indicates the threshold of when the model assumes sclerotinia infection occurs. The length of the canola rotation determines the infection threshold. As with the blackleg model, the colours on the scale represent the potential risk of infection. Once the scale is showing red, conditions conducive for a potential sclerotinia stem infection have occurred.

The sclerotinia model determines conditions conducive to petal and stem infection based on hourly relative humidity and temperature measurements. The results are then summed to determine if infection thresholds have been exceeded for the previous 24-hour period.

Last year, the Prosaro Scale provided predictions for more than 800 postcode locations nationally, whereas it now covers all Australian postcodes.

Earlier this year, Bayer also signed a collaboration agreement with DAFWA

to further enhance the Prosaro Scale, following requests from growers and advisors.

Brand, Advertising and Campaign Specialist with Bayer, Clemens Gschwandtner, said the requested improvements had been developed with DAFWA and would effectively transition the Prosaro Scale for blackleg from a disease prediction tool, closer to a powerful decision-making tool.

Next year with the Prosaro Scale, growers will be able to add into the calculation the particular sowing date and crop growth stage, whether a seed treatment has been used, as well as the canola variety and its resistance rating for blackleg.

"All the parameters running behind these enhancements in the background are based on scientific research outcomes and are very accurate," Clem said.

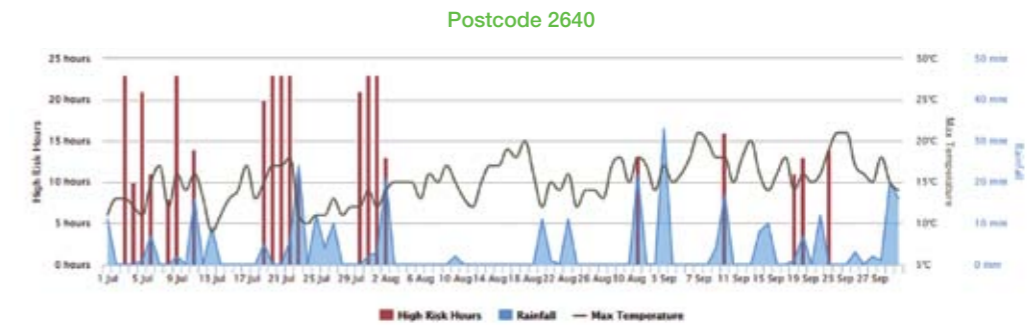
"It will look at what stage the plant is at in the field, aligned with the conditions in the field, and it will produce a risk factor presented as a percentage. Growers will love the personalised output."

He said they would also be able to access seasonal disease reports (see above right), which would provide a summary of how sclerotinia risk may have evolved in specific areas.

## Example of a seasonal report from the Prosaro Scale

Three years crop rotation – Sclerotinia Risk Assessment 2016

The graph presents days of >8 hours high risk spore infection periods for sclerotinia. Please note that sclerotinia can continue to develop during periods of moderate risk where infection has already occurred.



*Using daily weather data and future weather scenarios, the model predicts the likely commencement of blackleg spore showers, allowing growers to make effective decisions to minimise the risk of yield loss.*

[FIND OUT MORE ABOUT THE PROSARO SCALE](#)



## Perfect storm for blackleg disease in eastern areas

SEVERAL factors combined to significantly increase the prevalence of blackleg disease in canola this year, especially across eastern Australian growing areas.

Steve Marcroft, of Marcroft Grains Pathology at Horsham in Victoria, said the area sown to canola had been increasing since 2010-11 and this had meant more canola stubbles and more inoculum.

Steve said a Decile 10 growing season then ensured there was plenty of moisture throughout the growing season and, finally, there may have been increased blackleg tolerance to fluquinconazole fungicide.

"Blackleg has been widespread right

across eastern Australia, even where problems are not normally encountered, like in the Mallee in Victoria," he said.

"A lot of Prosaro foliar fungicide has been used."

Steve said of 200 paddocks surveyed in 2015, about 15 per cent had some tolerance to Jockey® Stayer® seed treatment.

"A lot of open-pollinated, TT (triazine-tolerant) cultivars contain Group A resistance. If growers have used these cultivars extensively over the past five years, they may now have less resistance." The current 2016 Blackleg Ratings show some of these cultivars

have fallen from MR rating to MR-MS rating.

"So overall, there is higher disease severity and we are growing some cultivars with lower resistance. We have now got populations with greater virulence against particular resistance genes."

Steve encouraged growers to consult the latest blackleg management guide and to assess the resistance profile of different cultivars.

He said the following year, canola crops should be at least 500 metres away from the previous season's canola stubbles, while growers should also vigilantly monitor their crop growth and apply fungicide if required.

# Key tools helping to reduce weed pressures



OPPOSITE: Ryan Pratten, of Muldoon Pratten Ag Consulting, and Bayer Territory Sales Manager Jon Bennett inspect a paddock with good weed control from the application of Sakura herbicide with New South Wales growers Richard and Kevin Flinn, Trangie.

LONG fallow and select use of newer herbicide modes of action are playing major roles among a suite of tools helping to reduce weed pressures at the Flinn family's farming enterprise near Trangie in New South Wales.

Kevin and Jill Flinn, together with their son Richard and his wife Emma, daughter Johanna and son-in-law Will Leader, operate the 3600 ha 'Iona' property, which includes a 1000 ha separate block acquired about 10 years ago and 400 ha of irrigation on another block.

On land comprising from heavy black clays through to light country, they grow wheat, barley, oats, canola, chickpeas and lucerne and run about 1000 Wiltipoll ewes and 350 Poll Shorthorn cows.

Kevin said weed pressures, including herbicide resistant weeds, were more prominent on the 1000 ha block and on the main farm, where there had been high use of Group A and B herbicides after applying trifluralin pre-sowing. Growing oats for grazing only had been another contributor to the weed populations.

Annual ryegrass, black oats, phalaris and barley grass are some of the major problem weeds, while others include doublegee, blue heliotrope, fleabane and umbrella grass.

Crop rotations vary, but can follow a program of canola-wheat-wheat-chickpeas-wheat-fallow.

Ryan Pratten, of Muldoon Pratten Ag Consulting, who Kevin said was one of the "most important cogs in the wheel" of the family's farming operation, said there was now a strong focus on fallow, including long fallowing every six to eight years, which involved cultivating, ripping and then minimum tillage.

"Fallow has been very successful for total production and weed control – and it gives country a break. It helps drought-proof the business," Ryan said.

Weed populations were increasing (up to 500 per square metre) and were significantly limiting production before the Flinns also switched to using the Group K pre-emergent herbicide, Sakura® 850 WG.

Containing the active ingredient, pyroxasulfone, Sakura controls annual ryegrass, barley grass, silver grass, annual phalaris and toad rush and also suppresses certain grass weeds in wheat (not durum wheat), triticale, chickpeas, field peas and lupins.

*"The flexibility with Sakura is really helpful. We have sprayed Sakura, gone and planted other areas treated with Treflan® and then went back to the Sakura paddock."*

Kevin Flinn, Trangie, NSW

It has also recently been registered for use in lentils.

The family generally sows into moisture, with the Sakura incorporated via their 12-metre Flexi-Coil bar set on 30 cm tyne spacings with knife points and press wheels. Their black soils can be sown dry, while rainfall has been received soon after seeding to assist herbicide activity.

"In our first year with Sakura, we applied it in the worst area for grasses in a paddock and it brought it back to the rest of the paddock," Kevin said.

## GOOD SUPPRESSION

"We are also getting reasonable results on black oats – very good suppression.

"The flexibility with Sakura is really helpful. We have sprayed Sakura, gone and planted other areas treated with Treflan® and then went back to the Sakura paddock.

"It is also good for standing stubbles and on heavy stubble loads, like back-to-back wheat stubble."

He said they planned to use Sakura on areas within paddocks when needed.

"We don't want to develop weeds resistant to Sakura.

"We haven't relied on Treflan a lot and so it is still good for us here. We use Treflan for fallow, on the bare soil, as well as on stubbles."

During the season, the post-emergent broadleaf herbicide, Precept®, is proving to be effective.

"Its compatibility and crop safety when used with a grass herbicide in one pass is excellent and it has provided good weed control," Ryan said.

To further aid weed management, the Flinns are also growing triazine-tolerant canola, burning broadleaf stubble windrows and baling stubbles, although Ryan said burning was only carried out as a last resort.

 FIND OUT MORE ABOUT SAKURA

# Variety the spice of life for Mark



LEFT: Bayer Territory Sales Manager for the Griffith/Murrumbidgee Irrigation Area in NSW, Mark Norbiato. Mark's current trial work includes an Aviator Xpro trial in barley at Barooga.

BEING involved in such a diverse agricultural region as Griffith, New South Wales, means there is never a dull moment for Mark Norbiato, but he wouldn't have it any other way.

As the Bayer Territory Sales Manager for the Griffith/Murrumbidgee Irrigation Area, Mark is faced with the often complex task of finding unique and tailored solutions for the area.

It's an area he knows very well, having grown up and spent much of his life in Griffith and its surrounds.

Mark's father managed an agricultural supplies store at Yenda, which predominantly serviced the horticultural industry, so he grew up spending a lot of time in-store and working there on weekends.

## EARLY INTEREST

His interest in agriculture was engrained early and he concentrated on the sector throughout high school before going on to study a Bachelor of Applied Science in Agriculture at the Charles Sturt University in Wagga Wagga.

Fresh out of university and seeking adventure, Mark and a few friends packed-up and decided to venture around Australia in a 1975 Toyota Landcruiser.

Their trip saw them wind up in Albury, where they stayed for four years, while Mark worked at an agricultural supply store at nearby Wadonga.

After making some good memories during that time, Mark decided to get serious with his career and headed back to Griffith, where he began working as a horticultural agronomist with Elders.

His path then crossed with his wife, Emma, a winemaker who was soon beckoned by work in the Barossa Valley,

South Australia, so they relocated.

Mark transferred with Elders and worked as a viticulture agronomist in the Barossa region.

Four years on and the couple returned to Griffith, with Mark initially staying with Elders before he took on a role as Territory Sales Manager with Nufarm.

He stayed in that position for seven years before joining Bayer as a Territory Sales Manager two years ago.

"I made good friends and had good times with Nufarm, but I chased down the opportunity to work for Bayer as the portfolio suits my area so strongly between cotton, rice, summer crops, broadacre and horticulture," Mark said.

"The diversity of this area and being able to effectively service that diversity is one of the most exciting aspects of this role.

"My area never sleeps. There is no quiet time – which suits me as I prefer being busy."

The area can be categorised into three distinct zones, including marginal dryland country, an intensive irrigated zone and the south-eastern side, which is a higher rainfall zone.

Now part of the broadacre team, Mark's role sees him facilitating sales, providing support for agronomists and growers, stewardship of products, conducting trials and demonstrations, and providing input for marketing campaigns.

He has a particular passion for developing new products and finding new use patterns for existing products.

His current trial work includes a canola variety demonstration at Lockhart and an Aviator® Xpro® trial in barley at Barooga.

"One of the appealing things to me in this role is that it's not just about the product or the deal, it's far more about the stewardship and development of the products, which I really like," he said.

"It's taking the products that aren't quite registered yet and running demonstration programs in the field for growers to see how it performs, and seeing it right through to reality and being a fully registered product.

"Training and supporting agronomists and growers along the way and actually being a voice for certain crop segments or industries."

## HIGHLIGHT

Mark said one of the highlights during his time with the company so far had been the uptake of Prosaro for use on canola.

He said the crop was predominantly grown on the south-eastern side, where rainfall was generally higher, but growers had been struggling with sclerotinia and blackleg.

"The way we've been able to react in a huge, volume wise, and timely manner to meet the market demand has been quite remarkable.

"Being involved in that process has been very rewarding."

Mark and Emma are based in Griffith with their three children, Archie (seven), Florence (five) and Edward (three).

When he's not working, Mark enjoys mountain biking and competes in races around the country two to three times each year.

He and Emma recently completed the City to Surf in Sydney, while the family are also keen water skiers.

# Finding the answer to big farming question



**LEFT: Pictured shows the control of grasses in wheat from the use of Sakura pre-emergent herbicide (on the right) on the Turnbull family's property at Wedderburn in Victoria, compared with the untreated (on the left).**

WHEN Victorian grower Cameron Turnbull, Wedderburn, noticed some annual ryegrass survivors in a paddock and recognised reduced effectiveness from Group B and many Group A herbicides, it raised a big question in the family's farming operation – what do we do?

Cameron and Kathy Turnbull, who have two children, Ella (15) and Finn (11), and Cameron's parents, Graham and Maureen, operate a 1000-hectare cropping program and one of Australia's oldest Corriedale sheep studs, 'Woodhall'. They also use Dorset Down terminal sires over their sheep for prime lamb production. The sheep also play an important role for weed management.

A wheat-barley-canola rotation is employed and varied according to soil types or production areas, with a significant portion of their land continuously cropped.

Cameron said following the reduced effectiveness of some herbicides, he initially turned to paraquat and diquat, trifluralin, higher rates of clethodim and growing canola as a break crop. Hay would have been another option to help control grasses, but they were not set up for hay production on a large scale.

"With a couple of paddocks we were hitting the wall," Cameron said.

"We have had some weed management issues and we will test for resistance for confirmation. We know that we have applied sub-lethal doses on ryegrass due to the rates of fop herbicides applied for wild oats."

Working closely with local Agronomist Hayden Coombes, Rodwells, in recent seasons the Turnbulls have introduced the Group K pre-emergent herbicide, Sakura® 850 WG, after viewing its performance in a trial near Elmore.

Containing the active ingredient, pyroxasulfone, Sakura controls annual ryegrass, barley grass, silver grass, annual phalaris and toad rush and also suppresses wild oats and brome grass in wheat (not durum wheat), triticale, chickpeas, field peas, lentils and lupins.

**BELOW: Graham and Cameron Turnbull discuss weed management on the family's Wedderburn property with Bayer Territory Sales Manager Wes Amor.**

"We started using it in a glyphosate tank mix in a paddock of wheat to chase silver grass and it absolutely obliterated it," Cameron said.

"The population was wild in that paddock – there was that much there. We went back through the paddock and there was a teardrop area we missed where we turned and the silver grass was thick."

The Turnbulls have since used Sakura with Spray.Seed®, Roundup and Logran® B-Power in select wheat paddocks, also to control annual ryegrass, with good results.

"We used it in a fresh paddock for ryegrass and silver grass on a block we bought and it turned out to be one of our better paddocks," Cameron said.

The Turnbulls have incorporated Sakura into moisture following April rains and while they don't normally dry sow, they did last year.

Bayer Territory Sales Manager Wes Amor said in early moisture conditions, some growers use Treflan® with Sakura to help control early ryegrass germinations before further rainfall completes the incorporation of Sakura herbicide.

Wes said Sakura moved well laterally in soils with moisture and it binds to clay particles, contributing to its long residual protection.

Cameron said he had experienced difficulty getting Treflan onto the soil in heavy stubble situations because it adhered to the stubble, whereas Sakura herbicide seemed to be less affected by stubble load.

Being largely a sole operator, he also valued the incorporation flexibility with Sakura compared with Treflan.


"After using Treflan, any amount of flexibility is good."

Cameron said the use of Sakura in wheat, Boxer Gold® herbicide in barley and growing triazine-tolerant canola had meant some paddocks were "as clean as a whistle", and he was now focused on rotating chemicals and using other methods to help extend their benefits.

"We have got a good product that works well, so let's not stuff it up," he said.

"We are also looking at some sporadic tillage around the place to help with weed control, as well as hay and maybe silage in the future."



 [FIND OUT MORE ABOUT SAKURA](#)

# Independent analysis builds confidence in demo trials



*“At the end of the season, results and yield maps are being analysed by Precision Agriculture, providing both the grower and Bayer the fairest comparison between products on their property.”*

Jeremy White, Bayer Market Development Agronomist

LEFT: Bayer Market Development Agronomist Jeremy White and Brendan Torpy, Precision Agriculture, pictured discussing demonstration trial results, analysed by Precision Agriculture.

BAYER is ensuring growers and consultants alike have the greatest confidence in the company’s canola varieties by teaming up with Precision Agriculture for independent analysis of its canola variety and crop protection product trials across the country.

The company conducts numerous trials as part of its MySeed™ trials program, as well as large area demonstration trials in farmer paddocks to support the launch of new crop protection products.

The alliance with Precision Agriculture will add new expertise and technology to Bayer trials, thereby helping to produce a more comprehensive picture of the results.

Bayer Market Development Agronomist Jeremy White said the company was keen to work with growers to test new seed variety and crop protection products in local conditions, however, compared with replicated trials, differences in results can often be difficult to determine.

“Paddock variability, past practices and the difficulty in repeating treatments (or varieties) numerous times across a paddock often means that differences can be as much due to how the trial was set up as the products being tested,” Jeremy said.

However, he said by drawing on previous paddock history and yield maps, combined with Precision Agriculture’s independent analysis, the accuracy of on-farm demonstration trials could now be significantly improved.

“The analysis will use past history and yield maps to select suitable paddocks and parts of paddocks for trials, ensuring that differences between treatments are caused by the treatments, not the paddock,” Jeremy said.

“At the end of the season, results and yield maps are being analysed by Precision Agriculture, providing both the grower and Bayer the fairest comparison between products on their property.

“When the results are collated with others, we then get a strong picture of how the Bayer products have performed against alternatives in the field.

“This way, when growers purchase Bayer products, they can have confidence that they have been tested in paddocks just like theirs,” he said.

Precision Agriculture Ag Services General Manager Andrew Whitlock said historical data helped to determine consistent areas of paddocks, while trials could also be deliberately run through high and low production zones. Results will then later be reconciled to effectively extract accurate data.

“Farmers can then look at a demonstration site and have confidence in the results. More confidence also means more value for all involved,” Andrew said.

He welcomed the opportunity to work with Bayer and said the company’s desire to conduct highly professional trials and, in turn, achieve quality data was most encouraging.

[FIND OUT MORE ABOUT MYSEED](#)



# Strong relationships, research paying dividends for BCG

BELOW: Bayer Market Development Agronomist for Seeds, Jeremy White, and Birchchip Cropping Group Research and Extension Officer Linda Walters pictured discussing the 'Diversity Can't Wait' program and resistance test results with Manangatang/Hopetoun GAPP group members in October.



SINCE its inception 25 years ago, the Birchchip Cropping Group (BCG) has successfully forged strong relationships between its farmers and the science community.

The outcomes of those relationships has paid dividends for BCG members, giving them priority access to technologies and data and allowing them to integrate new concepts into their own farming systems.

BCG prides itself on the fact its members embrace new technologies, with chair Caroline Welsh describing members as “sceptical optimists”.

According to BCG Chief Executive Officer Chris Sounness, the group has continually strengthened over the years due to the fact it is continually tackling issues relevant to its members.

“BCG has always worked hard to ensure we’re at the leading edge of research and that takes foresight on behalf of the farmers,” Chris said.

“BCG works very hard on providing researchers with opportunities to better engage with the farming community.

“Researchers know they can work with BCG farmers in a supportive and objective environment.”

## PARTNERSHIPS VITAL

According to Chris, given that BCG is a not-for-profit organisation, partnerships with groups such as Bayer are absolutely vital, especially with less research being performed in the public sector.

He said BCG members were particularly keen on understanding how research could be deployed in the paddock.

“We’re very much about partnering with people and organisations with similar values to BCG.

“Our partnership with Bayer allows us to work with our members to ensure that as new technologies and opportunities get introduced into farming systems, our farmers have the ability to adopt the concept earlier than they otherwise would have.

“Accessing herbicides for trials and demonstrations has been one particular area that has been valuable for our members. We’ve also been doing some resistance work with Bayer, so we can help farmers to understand how we maximise the life of herbicide products.”

In 2015, BCG, in conjunction with the Victorian Government, launched its growth, adoption, production and profit (GAPP) initiative in an effort to bring young farmers and female farmers together, with the aim of upskilling to boost productivity and profitability.

Chris said BCG had established eight GAPP groups throughout the Wimmera and Mallee, which met up to four times each year to discuss agronomy and business management.

“We want to help farmers to assess new technologies by looking at the financial impacts compared with the benefits,” he said.

[Continued next page](#)

“So they can look at products such as Sakura herbicide and PodGuard technology and see that, although they may cost more initially, there can be positive, longer-term impacts on their overall business.”

Earlier this year, BCG ran a joint workshop with Bayer focused on risk management.

Participants discussed risk in general and how growers can think about risk, while Bayer provided specific information on PodGuard and how the technology can be incorporated into each grower's own farming system.

“Often people only see things from their own point of view and think of their own challenges, but this workshop helped them to consider overall stewardship and longer term consequences of their cropping practices,” Chris said.

### STRONG SUPPORTER

He said Bayer had been a strong supporter of the GAPP project and recently helped fund a trip to Melbourne for 15 GAPP participants to look at the whole supply chain, including integrated weed management and risk management practices.

Bayer also supplied 10 herbicide resistance test kits, valued at \$440 each, to GAPP growers, through Jeremy White, Bayer's Market Development Agronomist - Seeds.

Jeremy said while the company could have distributed the tests to any growers, it recognised the progressive nature of BCG's members.

Growers responded positively and Jeremy and his team have been collating the results. These will be presented at various GAPP meetings, which will highlight the importance of rotating herbicides and reinforce the 'Diversity Can't Wait' message.

“That's above and beyond their partnership and reflects the strength of the relationship between Bayer and BCG,” Chris said.

“Both sides can see the value in that sort of investment.”

## IN FOCUS Birchip Cropping Group (BCG)

Established in 1992 by a group of Birchip broadacre farmers, who believed there was not enough local research and extension being done in the area.

Today, BCG has a membership of 430 family farms, generally located within a 150-kilometre radius of Birchip.

Members are typically from larger broadacre farms, which are run by multi-generational farming families, with a thirst for knowledge and who are keen to embrace new technologies and ideas.

The group prides itself on its relationship with the science community and, hence, is often sought out for partnerships to conduct trials, research, development and extension.

The BCG trial program involves 140 trials, including 12,000 plots in 40 locations throughout the Wimmera and Mallee.

BCG employs 22 staff, the majority being young, agricultural science professionals who relish the opportunity of working with esteemed public and private researchers.

Being a not-for-profit organisation, partnerships are vital to the success of BCG and it values support, both financial and otherwise, from key companies such as Bayer.

One of BCG's flagship project outcomes has been the development of the crop production model, Yield Prophet®, in conjunction with CSIRO. Yield Prophet uses the APSIM model to help farmers improve their risk management and to support decision-making.

Yield Prophet is now used in more than 800 paddocks around Australia.

### THE BCG HOLDS FOUR MAIN EVENTS ANNUALLY:

- The members' trial results day is held in February, where results from the previous year's research program are presented ahead of the new season. About 180 people attend.
- The Future Farming Expo, which is held in July, normally draws around 200 people. This event focuses on the business of farming, technology and future challenges and opportunities.
- The Sheep Management Showcase is held in August and also attracts about 200 people. The event focuses on livestock management and opportunities to integrate sheep into a cropping system in dryland areas.
- BCG's Main Field Day, which is held in September, attracts about 400 people at the group's main research site. Research is presented and topical in-season issues are discussed.

BELOW: Bayer Territory Sales Manager Paul Crack pictured speaking with the Rupanyup GAPP group in October.



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# Key inputs lifting crop yields

FOUR key cropping inputs are contributing to yield gains of around 1 tonne per hectare for some farmers around Minlaton in South Australia, according to local Landmark Agronomist Sam Davies.

Sam said sulphate of ammonia and copper fertilisers, flutriafol fungicide and EverGol® Prime seed treatment were playing a major role for healthy crops, the latter to help control an increase in rhizoctonia root rot.

He said rhizoctonia, which was more prevalent on sand-over-clay soils, had presented challenges for generations of local farmers.

“Bare patches in crops have largely been due to either sheet rock or rhizoctonia,” Sam said.

The mixed farming area provided a range of hosts for the disease, including medic pasture and grassy weeds in pastures, such as brome and barley grass, that needed to be controlled.

A shift to minimum tillage practices, including the use of disc seeders, has also resulted in reduced disturbance of the pathogen in soils.

Sam said the increase in rhizoctonia had prompted a more professional approach to seed treating and higher adoption of EverGol Prime seed treatment, which contains the active ingredient, penflufen, and also controls smut diseases in wheat and barley.

“The uptake of EverGol Prime has been very strong. It was 1.5-3 per cent in its first year, then 30% and then 60-70% last year,” Sam said.

“Growers had just hit the wall with Baytan®, particularly on loose smut in Hindmarsh barley, which EverGol Prime also controls effectively. It doesn’t control powdery mildew, however that is picked up through the use of flutriafol on fertiliser. EverGol Prime and flutriafol are a match made in heaven for farmers.”

Local Landmark trials with EverGol Prime have shown 6-8% yield increases (or 200-300 kg/ha gains) from the improved rhizoctonia control. However, Sam suspected the average loss in the region due to the disease could be around 0.5 t/ha.

“We’ve had a trial site going for three years looking at EverGol Prime, Vibrance® and other fungicides in four reps and it has



BELOW: South Australian seed grader Gavin Phillips, Minlaton, Lawson Seed Graders, local Landmark Agronomist Sam Davies and Bayer Territory Sales Manager Graham Hatcher discuss the rise in seed treating by growers to combat rhizoctonia disease.

RIGHT: Bayer Territory Sales Manager Graham Hatcher and Minlaton seed grader Tony Porter, Porter Seed Grading, pictured while looking over Tony’s Petkus seed treater.



reasonable levels of rhizo’, although nowhere near as much as there would be on lighter country. Our 6-8% gains may have been more likely 10-12% in lighter soils.”

Sam said work by the SA Research and Development Institute (SARDI) in the region had shown up to 20% yield increases with EverGol Prime and 1-2% gains compared with using Vibrance.

“This gave us the feedback that rhizo’ is the predominant issue in this region.”

## FASTER CROP EMERGENCE

He said another major benefit with EverGol Prime, which also can be applied in-furrow at seeding, was significantly faster crop emergence.

“Growers are seeing the difference in emergence and growth compared with previously using Baytan.

“One grower did some laps in a paddock with and without EverGol Prime and flutriafol and he probably doubled his biomass with the treatments.

“In other paddocks with EverGol Prime, bare patches were smaller and the barley grows through it – and the rest of the paddock was a table top. In this situation, and with the combination of EverGol Prime, flutriafol and the use of SOA (sulphate of ammonia) and copper fertilisers, numerous growers have doubled their best yields ever.

“This type of yield increase is equivalent to the significance of the green revolution. It’s massive – and it’s very exciting.”

However, Sam cautioned relying on EverGol Prime alone and expecting big yield increases in the absence of integrating other, equally important technologies.

“This is fraught with danger. There’s no doubt EverGol Prime will do its job and suppress rhizo, however, if correct nutrition is not applied, there won’t be enough nutrients to reap the higher yields – a common mistake made by farmers and omitted by their advisors.”

He said the worst rhizoctonia-infected paddock he saw last year would have lost 70-80% yield.

[Continued next page](#)

Pictured shows the impact of rhizoctonia root rot disease in a paddock near Minlaton.



Landmark also coordinated a seed size trial (less than 2 mm, 2.5 mm and greater than 2.8 mm) and Sam said it produced some surprising results.

“The bigger, healthier seed grew a better crop. There was a significant difference with the tillering and heads.”

However, he alerted farmers that by using larger seed, they needed to retain 10-20% more seed.

Minlaton seed grader Gavin Phillips, who took over the Lawson Seed Graders business three years ago, said growers should save the best seed from their best paddocks for cleaning, grading and treating.

He said most farmers supplied good quality harvested seed, which also helped ensure even treatment coverage, however some supplied poor quality seed that did not meet grain receival standards.

For protection against loose smut, Gavin recommends growers purchase new seed. If farmers have bad rhizoctonia and loose smut in barley, he urges them to apply EverGol Prime at the full label rate of 800 mL/t.

Sam said he recommends the full label rate of EverGol Prime for barley and the low rate (400 mL/t) for wheat.

Another local seed grader, Tony Porter, who has been operating Porter Seed Grading for 17 years, agreed that farmer retained seed can vary a lot in quality, while he urged growers to also pay attention to on-farm grain hygiene.


Tony said with the increase in cropping in recent times, as well as a rise in rhizoctonia root rot, the workload had doubled.

“Last year was a big year with EverGol Prime and there was quite a bit of satisfaction with it,” he said.

“We also apply Baytan and Raxil®, but farmers are swinging from older to newer technologies.”

Tony said whole grain coverage when treating seed was critical and he had taken advantage of Bayer’s seed coverage test to properly confirm seed coverage.

He also applies EverGol Prime at the full label rate for barley and at the half (low) rate for wheat and urges farmers to use label rates.

 **FIND OUT MORE ABOUT EVERGOL PRIME**

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