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THE AUSTRALIAN AGRONOMIST MAGAZINE

Soilborne Disease Expert Named Bayer Horticulture Researcher of the Year p12

CSIRO report sows seeds for Australia's farming future p24

APVMA Performance Drop Costs Australian Farmers Millions p29

Testing for Pod Shatter Tolerance

Pod shatter is a longstanding challenge for canola growers, causing yield losses at harvest lowering grower profitability. Varietal selection is one of the simpler and easier decisions a grower makes, but plays a pivotal role in guiding growers toward optimal crop choices and management practices. However, to this point, the comparison of varieties for pod shatter resistance has been difficult as there has been no standard test used across canola breeding companies.

In order to select canola varieties with the best tolerance, seed breeders need an accurate, consistent and repeatable test that is able to discriminate effectively between varieties with differing degrees of shatter tolerance.

Nuseed's scientists have developed a random impact based testing methodology to help growers and their advisors compare canola varieties on their relative levels of pod shatter tolerance.

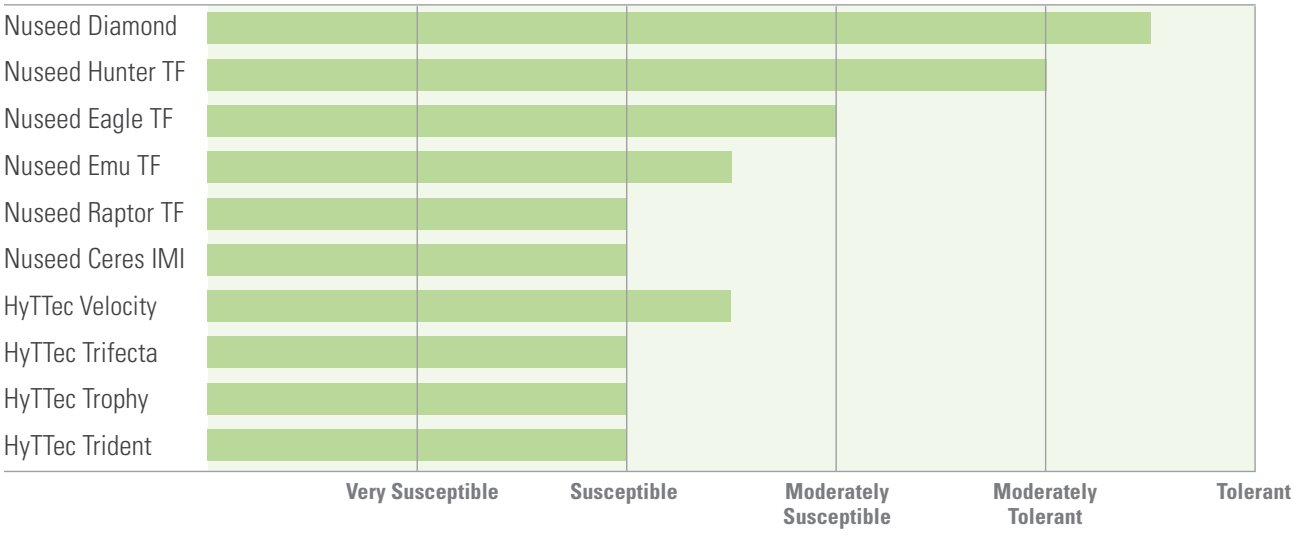
nuseed.com/au

The Methodology:

1. 20 pods are harvested from a mature canola plant.
2. Pods are pre-conditioned in an oven at 40° for 24 hours to standardise their moisture content.
3. Pods are placed in a plastic container.
4. 6 containers at a time are loaded in the Geno/Grinder®.
5. Pods are shaken in a vertical up-down motion at 1000 RPM for 30, 60 and 90 seconds with shatter scoring after each time interval.
6. Each 20-pod sample is scored according to the amount of seed loss that occurs after each time period.
7. These scores are translated into a rating scale from Susceptible to Tolerant.

Through rigorous testing of this methodology, the scientists at Nuseed have developed an improved laboratory-based method for pod shatter tolerance classification that is higher throughput than the more labour-intensive lab-based methods, and delivers reliable data with a high degree of accuracy and reproducibility.

Our latest testing shows the following ratings of Nuseed's current commercial portfolio:



For more information about the Random Impact Based Test, scan the QR code to hear from our scientist that created it, or talk to your Nuseed representative.

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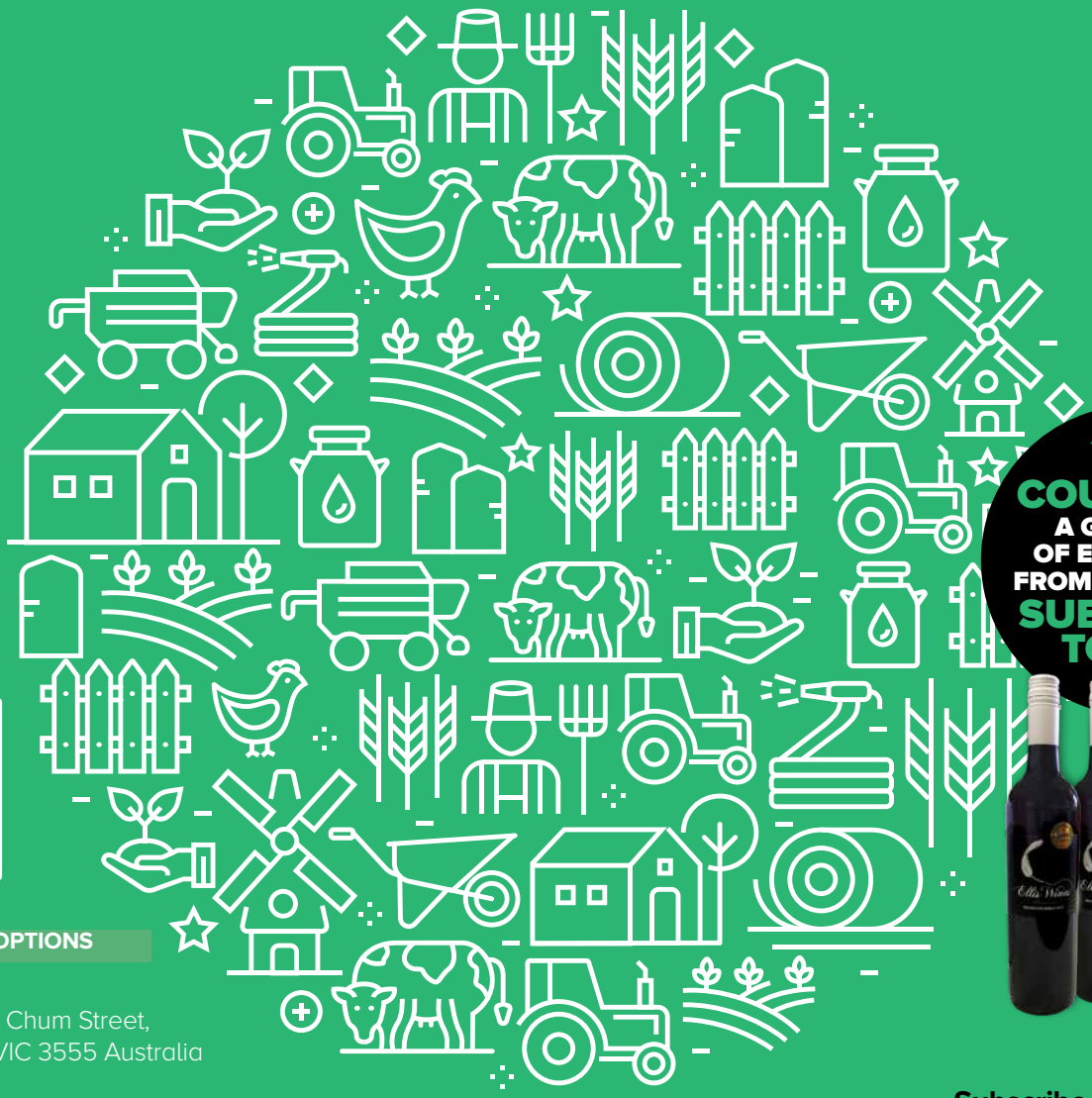

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INTERSTATE GRAIN AND HAY MUST PASS VIC BIOSECURITY LAWS

Jim Moran Victorian Grains Industry Biosecurity Officer – Agriculture Victoria

Livestock producers are reminded they must adhere to biosecurity laws when importing grain and fodder from interstate.

Varying weather conditions since late 2023 are likely to have impacted the quality and quantity of available local fodder across much of eastern Australia, resulting in livestock producers sourcing interstate fodder to meet ongoing feed demand.

Fodder movement laws are in place to prevent the spread of weeds, pests, and diseases beyond known infestations and onto your paddocks.

To mitigate these threats, Agriculture Victoria administers legislation (Plant Biosecurity Act 2010), aimed at preventing the introduction, establishment and spread of biosecurity threats.

This legislation describes restrictions on the entry into Victoria of material which is a host of a specified pest or disease.

There are penalties for non-compliance with the Plant Biosecurity Act, so please check all the biosecurity requirements that apply to the importation of grain, fodder and other livestock feed products in the Victorian Plant Quarantine Manual (PQM) ***https://go.vic.gov.au/3PudQKK***

In some cases, the consignment will need to travel with a Plant Health Certificate (PHC) issued by Biosecurity Officers in the source state.

This certificate assures Victoria the prescribed conditions for entry, including sampling, testing, inspection, and other analyses, have been conducted and the consignment is free from risky pests and diseases.

If inspections and certification are required, there will be additional costs beyond the quoted price for the product.

An example – cereal grain and hay for feeding livestock

The entry or importation of cereal grain (wheat, barley, oats) and lucerne, pasture, and cereal hay into Victoria for livestock feed is prohibited unless it meets Condition 20A of the Victorian PQM.

This condition states:

- it must originate from a state or territory free from Annual Ryegrass Toxicity (ARGT), including Queensland, Northern Territory, and Tasmania, where the respective state government has issued an area freedom certificate for ARGT.
- if it comes from New South Wales, Western Australia, and South Australia, it will need to travel with a Plant Health Certificate (PHC) issued by Biosecurity Officers in that state. This assures Victoria the consignment is free from ryegrass containing the bacterium that causes ARGT.
- if grown or packed on a property within 25 kilometres of a green snail infestation, it is prohibited under Condition 23D in the Victorian PQM. A Plant Health Certificate (PHC) or Plant Health Assurance Certificate (PHAC) must accompany the consignment to certify compliance with this entry condition.

The entry or importation of grain legumes (chickpeas, faba beans, field peas, lentils and lupins), from any state, into Victoria for stock feed only, is allowed without restrictions.

Related biosecurity matters

- • It is important to note importing seed into Victoria for planting involves further and different quarantine conditions to be met and may well be prohibited, depending on the origin state and species of plant. • The Catchment and Land Protection (CaLP) Act states that you can't bring noxious weeds into Victoria and that anything contaminated with noxious weeds are prohibited. Information about weeds that should be vigilantly monitored for can be found here https://go.vic.gov.au/3PqL6T9
- Be rigorous with your interrogation about the quality, integrity, providence and composition of the feed you're buying and importing. You don't want to import new problems such as noxious and problematic invasive weeds.
- If possible, feed your livestock only in designated quarantine paddocks, where any potential issues can be contained and are easier to look for. Thereafter, be on the lookout for anything new or suspicious that germinates in your paddock and have it identified and eradicated quickly.
- Practical and inexpensive farm biosecurity tactics are found at Farm Biosecurity and Biosecurity | Agriculture Victoria

For more information on the biosecurity entry conditions, when importing feed for your livestock from interstate, and for any other biosecurity query please contact Agriculture Victoria to speak to a Biosecurity officer on ***136 186***.

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Take control of disease early this season with Aviator® Xpro® and Prosaro®. Purchase by 30 June to receive extended payment terms until 20 December 2024.

- Aviator Xpro: wheat, barley, canola and selected pulse crops.
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AUSTRALIAN MADE

INDUSTRY WELCOMES GOVERNMENT'S INITIAL RESPONSE INTO THE RAPID REVIEW OF APVMA GOVERNANCE AND COMMITMENT TO CONSULT

CROPLIFE AUSTRALIA WELCOMES THE GOVERNMENT'S INITIAL RESPONSE TO A REVIEW INTO THE FUTURE STRUCTURE AND GOVERNANCE FOR THE AUSTRALIAN PESTICIDES AND VETERINARY MEDICINES AUTHORITY (APVMA).

"I commend Minister Watt for taking the appropriate time to ensure a measured and considered response to the Rapid Review Report (the Report) and making clear commitments to reject the recommendations that would significantly disrupt the APVMA," said Mr Matthew Cossey, Chief Executive Officer of CropLife Australia, the national peak industry organisation for the plant science sector.

"This cautious approach and commitment by the Minister to further consult is particularly important considering the vast array of recommendations, the fact the Report has gone well beyond its original scope, and that the Report did not involve consultation with industry or relevant experts.

"The Minister's sophisticated approach to responding to the Report is particularly impressive and commended considering that while there are several insightful and beneficial recommendations in the Report, it also contains some that have been previously universally rejected. If implemented these would reduce the Regulator to an antiquated and overly bureaucratic entity unable to meet its important and targeted compliance work. These are nothing more than a poor attempt to rehash bad policy ideas from the Agvet Policy Branch of the Department.

"A review of governance measures for the APVMA provides the opportunity to further improve the standing and operations of this important regulator. It's critical that any changes genuinely ensure Australia keeps a world-class, scientifically and technically competent and independent regulator, while delivering genuine efficiency improvements.

"While CropLife was one of the most vigorous and loud critics of the relocation of the APVMA to Armidale under the previous government, we support the Minister's decision not to make the same mistake twice. Considering the recent history of the agency, preventing further disruptions and providing stability for staff and its operations is a crucial factor to improving its performance.

"However, given the current structure for a small agency like the APVMA, it's important to recognise that multiple locations come with unnecessary extra costs and can further cause a dislocation of staff. Given that in just over 6 months, Canberra-based senior executives have incurred almost $57,000 in travel between offices, it's imperative that the future structure does not have inbuilt additional unnecessary costs to normal operations.

"In its recommendation, the Report suggests the relocation of staff to Canberra as a way to improve the culture of the organisation. This is concerning, considering the Department's own recent, unfavorable capability review. The consultation and communication failures highlighted there could hardly be a benchmark for APS performance, either in Canberra or remotely.

"In particular, industry welcomes recommendations for increased Commonwealth funding to support the public good operations of the Regulator, including compliance and enforcement activities. Also welcome are recommendations for a greater suite of performance measures and direction for internal cultural reforms, and transparency improvements. CropLife has, for over a decade, publicly and privately called for these types of measures.

"Importantly, on-time performance and adherence to legislated timeframes for the assessment and registration of the latest innovative products, which are so crucial for farming productivity, is not mutually exclusive to accomplishing the entire suite of regulatory functions.

"We support the Minister's decision to retain the APVMA Board, which were originally appointed in 2022 to deliver a step change in efficiency of the Regulator. It now falls to the Board and CEO to ensure the development of a high-performing culture supporting the APVMA's dedicated scientific and technical workforce as it delivers the expert regulatory assessment the Australian farming sector and broader community deserves and requires.

"Had the Board been meeting its obligation to establish a culture and doctrine to protect the integrity of the APVMA's independence and ensure good operations, then most of the issues that have been raised over the last 18 months, both those of substance and simply of false perception, would not have occurred.

"It's also disappointing that the Report seeks to apologise for the APVMA Board's failure to meet modern governance standards, rather than outline how it also improves its operations and contributions to a better performing regulator.

"The APVMA has a modern legislative structure that provides the solid foundations for effective and efficient regulation. This foundation was further improved and supported through the APVMA Improvements Act 2021, which had bi-partisan agreement. The APVMA has the essential regulatory tools, powers and resources to fulfil the full breadth of its obligations while still meeting critical statutory timeframe requirements. This level of resourcing and breadth of regulatory powers allows the APVMA to engage all available capabilities and new regulatory technologies to facilitate improved decision-making and on-time performance. It is now just a matter of good management.

"Moving forward, genuine consultation with industry prior to the Government making further decisions related to the APVMA will be crucial to ensure the success of the Regulator.

"With the Report only just having been released, CropLife will work with our partner farming organisations over the following weeks to give detailed critical assessment of all the recommendations.

"CropLife, as the national peak industry organisation for the plant science sector, will continue to work with the Regulator and Federal Government on implementing targeted reforms to see further, genuine operational efficiency improvements at the APVMA so that the Australian farming sector can remain one of the world's most productive and sustainable," Mr. Cossey concluded.

BASF LAUNCHES NEW INSECTICIDE CIMEGRA® PROVIDING AUSTRALIAN FARMERS WITH EFFECTIVE, FLEXIBLE AND LONG-LASTING PROTECTION OF THEIR CROPS.

- **CIMEGRA INSECTICIDE DELIVERS POWERFUL AND QUICK CONTROL OF THE TOUGHEST INSECT PESTS LIKE DIAMONDBACK MOTH**
- **NOVEL MODE OF ACTION WITH NO KNOWN RESISTANCE ISSUES, FOR EFFECTIVE AND LONG-LASTING PROTECTION ON BRASSICA VEGETABLES**
- **EXPANDS THE COMPANY'S PRESENCE IN THE INSECTICIDES MARKET, DELIVERING HIGH-EFFICACY PRODUCTS THAT RESPOND TO FARMERS' NEEDS.**

BASF has launched its novel insecticide Cimegra® in Australia, powered by a new active ingredient, Broflanilide®, formulated with BASF technology. Following the successful registration and launch in China in 2021, and Indonesia in 2023, BASF is excited to help farmers by providing effective and long duration protection against tough insect pests across a wide variety of crops.

With its novel mode of action, Cimegra insecticide is among the first in the market introduced under the IRAC group 30 MoA, representing a new class of insecticides with meta-diamides and isoxazolines. Cimegra has no known cross-resistance with existing products in the market, making it a superior insecticide resistance management tool.

Cimegra is registered for use on Brassica vegetables and offers farmers a powerful solution for controlling critical insect pests such as Diamondback moth, and when used as part of integrated pest management program, it also helps combat resistance.

"Farming is the biggest job on earth as farmers balance the needs of putting food on our tables, whilst taking into account their livelihoods, practicing good environmental stewardship, and coping with today's unpredictable weather conditions, pests, and diseases. At BASF, we work alongside farmers to understand their needs, and this launch of Cimegra will allow farmers to control critical insect pests that they are struggling to deal with," said Gavin Jackson, Head of Agricultural Solutions at BASF.

Cimegra is very effective at controlling Diamondback moth, with its translaminar movement. This versatile insecticide is able to work on insects feeding underneath the leaves, providing comprehensive coverage for growers.

A valuable aspect of Cimegra is its ability to be effective on the toughest resistant insects by attacking their nervous system. Supported by its fast-spreading ability, Cimegra performs excellent control of insects in different crops at various stages. This new technology is highly versatile and offers excellent resistance management at a low application rate. It is also compatible with a wide range of products when mixed in a tank. "This innovation demonstrates BASF's commitment to providing innovative solutions to farmers for controlling various pests," said Gavin Jackson.

For more information about Cimegra and other BASF crop protection products visit **crop-solutions.basf.com.au.**

UTRISHA N: THE NEW BIOSTIMULANT BOOSTING BROADACRE YIELD POTENTIAL

Utrisha® N is a unique biostimulant from Corteva Agriscience that will be available from May 2024. Extensive trials conducted across Australia show it can boost yields in a wide range of crops including wheat and canola by providing a season-long source of supplemental nitrogen with just one application.

Utrisha® N is a naturally occurring bacteria, Methylobacterium symbioticum, that lives within the plant and converts atmospheric nitrogen to plant available ammonium. Plants are colonised by Utrisha N through a foliar application and this can occur in as little as three days depending on temperature and species. This conversion process uses no plant energy and one application lasts for a full growing season.

Corteva Agriscience Plant Health Manager, Dan Cornally, said Utrisha® N is the result of years of research and development.

"Utrisha® N has been brought to market backed by Corteva's rigorous development standards and numerous field trials locally and around the world in order to demonstrate its effectiveness in a wide variety of crops," Mr Cornally said.

"It is now available in Australia and will be the first offering in our new range of plant health products which provide innovative solutions for growers".

Mr Cornally said that the early application of Utrisha® N and the provision of supplemental nitrogen in an annual crops life cycle allowed growers to hedge against unseasonal conditions.

"If growers get Utrisha® N out early, they know they have at least partially applied the topdressing nitrogen requirement," Mr Cornally said. If the growing season gets too wet or dry, or fertiliser availability is compromised, Utrisha® N will be in the crop and providing some level of nitrogen.

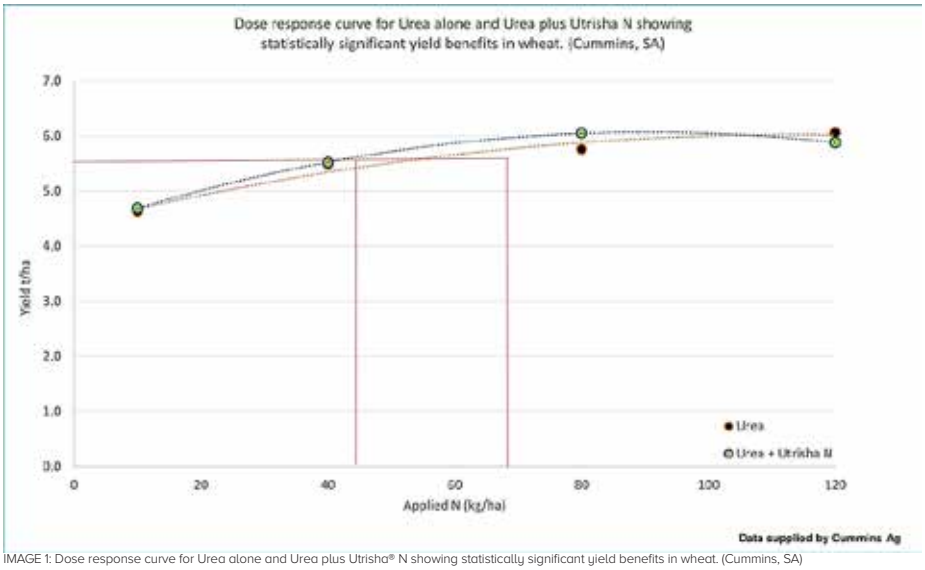


IMAGE 1: Dose response curve for Urea alone and Urea plus Utrisha® N showing statistically significant yield benefits in wheat. (Cummins, SA)

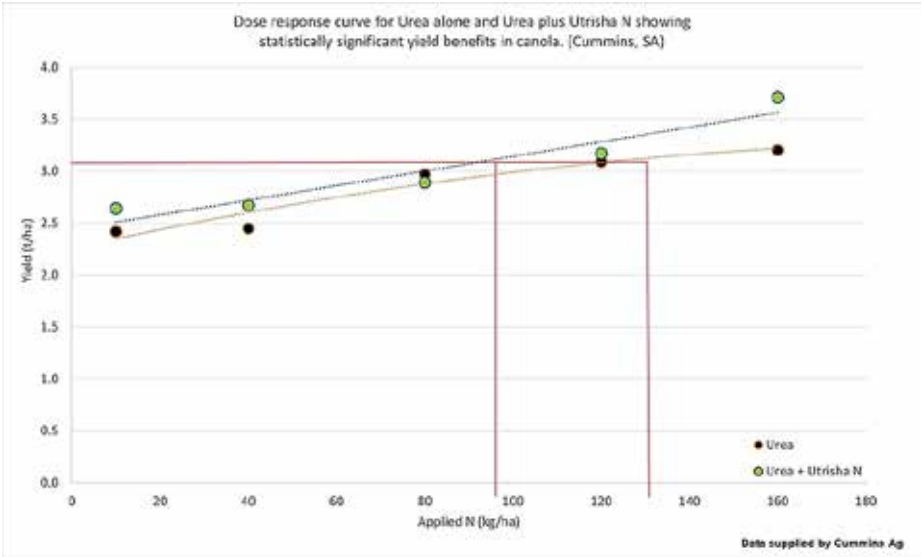


IMAGE 2: Dose response curve for Urea alone and Urea plus Utrisha® N showing statistically significant yield benefits in canola. (Cummins, SA)

Trial data and economic returns

To verify the results seen overseas, field trials were conducted across Australia in 2023 at sites in New South Wales, Victoria, South Australia, Western Australia and Queensland.

In a small plot replicated wheat trial conducted by Cummins Ag in South Australia, equivalent rates

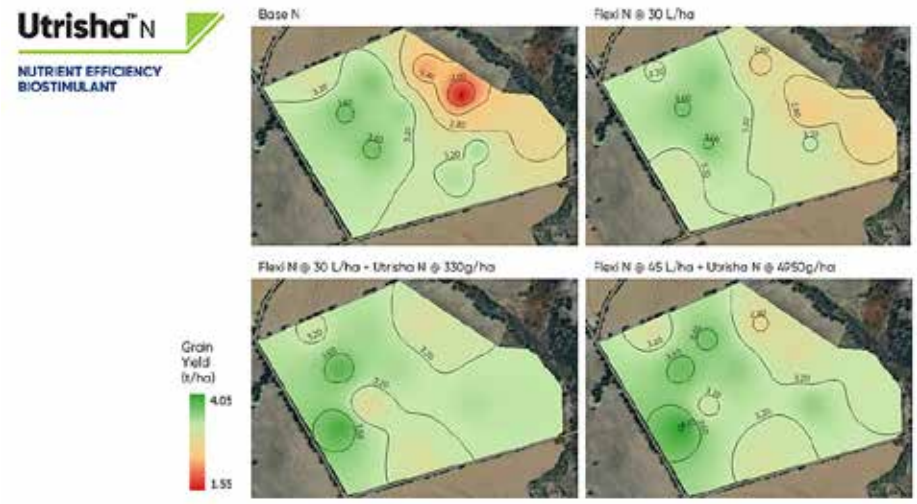


IMAGE 3: Spatial grain yield response to Utrisha N in wheat

of urea plus or minus Utrisha® N applied at tillering were compared to develop a yield response curve. This curve (Image 1) shows a contribution from Utrisha® N equivalent to approximately 30 kilograms of nitrogen per hectare. A similar result was seen with the work conducted by Cummins Ag in canola. (Image 2)

"These are positive dose response curves and show Utrisha® N is effective at supplying supplemental nutrition to the crop above the conventional N application," Mr Cornally said.

A field-scale trial in Calingiri, WA, was conducted to determine if using Utrisha® N in conjunction with Flexi-N® increased grain yield in wheat. All treatments, including the Nil plots had an application of 70L/ha of Flexi-N as a base treatment. Treatments were applied as a top-dressing at GS32 growth stage of wheat.

Yield maps (Image 3) show the reduction in variability across the paddock with different treatments: nothing (Nil) applied as a top dress; Flexi-N at 30L/ha; Flexi-N at 30L/ha plus Utrisha® N at the recommended rate; and Flexi-N at 45L/ha plus Utrisha® N at 1.5 times the recommended rate.

Average wheat yield across 16 replications from Flexi-N alone was 3.11t/ha, compared to 3.27t/ha where Utrisha® N was added. This was a statistically significant yield increase of approximately 5%. (Image 4)

"While individual results will vary due to rainfall, background nutrition, grower programs and other factors, close to 100 small trial and farm demonstrations have been conducted across Australia to verify yield and quality gains provided by Utrisha® N in a variety of domestic crops and conditions," Mr Cornally said.

"What we've seen is Utrisha® N performing as we would expect, based on the results of overseas experience, where it has been established in the market for some time."

Flexibility in Nitrogen Management

Utrisha® N is applied early in a crop, to allow sufficient time for the bacteria to effectively colonise the plant and provide supplementary nitrogen. The ability to mix Utrisha® N with many crop inputs means this application can be built into the field management program that has been planned for that crop. Farmers and agronomists can then plan how best to manage the rest of the nutrition program that needs to be applied to the crop to maximise the yield and quality.

"There are also environmental programs being implemented which reward growers for reducing their inputs and/or improving sustainability. Utrisha® N may have a beneficial role to play in those programs and we will continue to work with growers to help them achieve their sustainability goals and understand if this is an appropriate way for their operation to use the product."

To find out more about Utrisha® N visit www.utrisha-n.com.au

SOURCE: Corteva Agriscience Australia *https://www.corteva.com.au/*

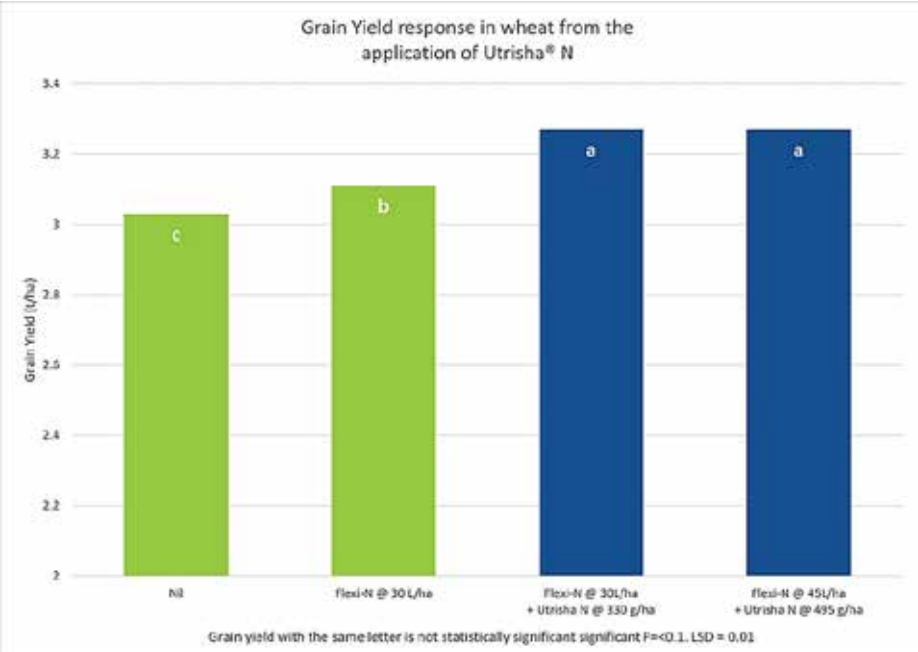


IMAGE 4: Grain Yield response in wheat from the application of Utrisha® N

SOILBORNE DISEASE EXPERT NAMED BAYER HORTICULTURE RESEARCHER OF THE YEAR

30 YEARS OF WORK IN POST-HARVEST MANAGEMENT OF TREE FRUITS AND VEGETABLES, AND SOILBORNE DISEASES IN HORTICULTURAL CROPS HAS SEEN MICHAEL RETTKE NAMED THE 2023 BAYER HORTICULTURE RESEARCHER OF THE YEAR AT THE ANNUAL HORT CONNECTIONS CONFERENCE

Michael works on soilborne diseases of potatoes, onions, carrots and brassica vegetables in his role as a Research Scientist at the South Australian Research and Development Institute (SARDI). His research outcomes have resulted in long-term benefits to the industry – accomplishments well deserving of applause at the Horticulture Awards for Excellence Gala Dinner in Adelaide.

Currently, Michael's main focus is on both understanding soilborne disease risks so horticultural growers can make decisions prior to planting their vegetable crops and recognise what risks they're facing, and also on management solutions to overcome these issues.

"My colleagues and I have developed PREDICTA® PT which is a quantitative DNA-based service for the potato industry, and it is one of the main tools I work on in understanding disease risk," Michael explains.

"We measure the amount of DNA of specific pathogens in the soil using large soil samples and we then validate that against what actually happens in the field so we can get a good understanding of disease risk for certain pathogens prior to planting. It is very good technology."

Michael says another focus area is fusarium basal rot of onions, which can cause losses of up to 50 per cent in a paddock.

"Not a lot of research has been done in Australia prior to this project, so we have essentially started from a low baseline, but are going right through to looking at integrated control solutions."

Looking after soils is Michael's ultimate aim. As an extremely precious resource, he and his colleagues' research aims to sustain the greatest environmental asset that powers Australia's agricultural industry.

"Without good productive soils, we are not going to be able to feed the world, as local and global food security is very reliant on having high quality soils to grow our crops in," Michael passionately shares.

"By mitigating the pathogens in those soils, which is achieved by reducing or maintaining them at low levels, having other soil biology to offset that, or having chemistry or other physical factors to manage the impact of the pathogens, is very important."

However, Michael's love for soils and work in soilborne diseases was preceded by a long term interest in root, bulb and tuber vegetables, making a career in the horticultural space something Michael long had his sights on. Growing up on a mixed farming operation on the Darling Downs in southern Queensland sparked Michael's interest in potatoes and onions from a young age.

"I have wanted to be a researcher since primary school, and I think one of my favourite things about what I do is that I get to work with potatoes and onions, which I liked as a kid, and today I still get to work with them," Michael says.

Now, over three decades later, as he reflects on his expansive career, it is clear his work as a soilborne disease expert is highly regarded by the industry and his peers.

"In my early career there was a problem people had been working on for a while to measure sulphur dioxide concentration on-farm in dried apricots, and they had tried many ways," Michael says.

Michael Rettke is undertaking industry leading research into fusarium basal rot of onions, which can cause losses of up to 50 per cent in a paddock.

Michael Rettke's ultimate aim is to sustain the greatest environmental asset that powers Australia's agricultural industry - our soils.

"I guess I brought in a different perspective, a more basic approach that also capitalised on all the good work they had done. We actually came up with a simple solution that was used by growers, so I think that gave me the impetus to think outside the box and come up with alternate solutions.

"Of course, this means PREDICTA PT would also have to be one of my proudest achievements. Initially we had to take that technology and actually get it validated so we could then deliver it through agronomists to growers. Seeing our research and findings implemented makes me happy and proud."

Michael says he feels honoured to have his work recognised, particularly given Bayer has the naming rights for this award through their partnership with AUSVEG, as Michael has worked closely with Bayer on a range of projects throughout his career.

"Bayer is a global company that is heavily involved in research, so it feels good to be recognised by, and have the support of, a company of that stature. Just being recognised in research alone is a very good thing. It's very encouraging for myself and other researchers," Michael explains.

Awards like these recognise the work that places Australian science on a global stage and inspires future generations, so, with years of experience under his belt, Michael offered an encouraging word of advice to those commencing their careers in the horticultural industry.

"You need to have passion and perseverance, but I think more than anything else, you need to surround yourself with a good team and good people, because the world is way too complicated to try and do it by yourself," Michael says.

PREDICTA® is a Registered Trademark of the Bayer Group.

Source: Bayer Crop Science Australia
https://www.crop.bayer.com.au/

MALTING BARLEY ACCREDITATION FOR MINOTAUR

Following evaluation by the Malting and Brewing Industry Barley Technical Committee (MBIBTC), under the Grains Australia malting barley accreditation program, Minotaur has been accredited as a Malting Barley.

AGT commenced a barley breeding programme in 2014, releasing five varieties so far. Minotaur is the first AGT barley variety to gain malting accreditation, with the varieties Beast, Yeti, Cyclops and Titan AX currently under malt barley evaluation.

About Minotaur:

Minotaur enters the market as a clear step-up from the landmark European variety RGT Planet. While RGT Planet is a direct introduction from Europe, Minotaur is the result of an Australian by European cross, bringing together European yield potential with Australian adaptation to our tough growing conditions. Minotaur has demonstrated adaptation across a broader range of seasonal conditions and regions than RGT Planet, which can be penalized under drier, stressed conditions.

In addition to competitive yields, Minotaur offers some improvements in physical grain quality, delivering higher test weight compared with RGT Planet. The yield stability combined with improved test weight means that Minotaur is a safer variety to use than RGT Planet for growers looking to mitigate the risk of highly variable seasons.

Minotaur has a mid-slow maturity, reaching awn peep a couple of days later than RGT Planet and is ideally suited to medium-high yield potential environments. Minotaur has a relatively compact plant type with moderate resistance to lodging.

Source: AGT *https://www.agtbreeding.com.au/news*

SIMPLOT INVESTS IN POTATO SEED QUALITY WITH VIBRANCE® PREMIUM SEED TREATMENT

A ready supply of quality potato seed, free from diseases, has never been more important for one of Australia's most recognisable vegetable brands, prompting it to invest in the upstream supply chain while making Syngenta fungicide technologies an integral part of its new facilities.

Simplot recently acquired Agronico its trusted long-time suppliers of mini tubers and potato seed, securing not only its seed potato production systems but also cool room storage at Spreyton on the north coast of Tasmania.

The company behind Birds Eye and Edgell says the acquisition will facilitate a significant increase in Simplot's early generation seed potato production capacity, including new capability to use VIBRANCE® Premium seed treatment ahead of storage via application equipment co-developed by Syngenta and Team Sprayers.

These facilities and technologies will underpin Simplot's expansive frozen potato business that supplies Australia's major retailers as well as food service and quick service restaurants, hospitals and sporting venues.

Simplot Farming Operations Manager, Darren Briggs, said they already use more than 6,000 tonnes of seed to grow 1,800 hectares. That is 90,000 tonnes of raw potatoes.

The new facility will be used internally for its frozen lines, with Russet Burbank the main variety grown. Effective disease control in storage is critical to maintaining Simplot's supply chains and providing value to their customers.

Mr Briggs said VIBRANCE® Premium seed treatment had already proven its worth, with excitement building around the completion of the Spreyton-facility's upgrade to include the VIBRANCE® Premium Applicators.

"We have already used VIBRANCE® Premium religiously for the past two seasons, for seed going into storage," said Mr Briggs.

"A broad spectrum of disease control is really important, and we get that with VIBRANCE® Premium."

The liquid formulation of VIBRANCE® Premium adheres to tubers, providing uniform coverage and early control of black dot, black scurf, Fusarium dry rot (seedborne), gangrene (seedborne) and silver scurf. It also suppresses common scab, making it the most versatile and broadest spectrum potato seed treatment on the market. While optimum seed coverage is achieved with the VIBRANCE® Premium Applicator, many growers have also achieved good results using other equipment.

VIBRANCE® Premium seed treatment helps Simplot manage not only seed storage diseases but also Rhizoctonia in high-risk soil. Pictured are Simplot Farming Agronomists Patrick Groenewold and Rhys Beattie.

Mr Briggs said they plant early potatoes in late August to early September, so the factory can start processing in mid-January.

"VIBRANCE® Premium gives us tolerance to the harsh environmental conditions we experience around then, like cold soil temperatures, spring rains and waterlogging. Any seed that doesn't have an established layer of suberin and has wound sites is susceptible to Fusarium and bacterial rots under these conditions," he said.

"We also have some areas of poorer-quality sandy soils where Rhizoctonia (black scurf) can be more of an issue.

"VIBRANCE® Premium is really valuable for managing Rhizoctonia in these patches because the large amount of soil disturbance after planting means our in-furrow fungicides can't work as well."

In past seasons, Simplot has had to double handle seed to apply VIBRANCE® Premium. Come March, Simplot expects its facility-upgrade to be operational with the VIBRANCE® Premium Applicators on all three of their download lines, in time to begin seed treatment for winter storage.

"Having the applicators installed will mean we can apply VIBRANCE® Premium at download instead of having to run seed over another line later," said Mr Briggs.

The VIBRANCE® Premium Applicator features a unique rotating nozzle which directs the spray to give an all-round coverage of the seed tuber. Airflow fans help deliver the spray onto the tubers. The unit delivers 23% more coverage on seed tubers compared to standard hydraulic nozzle systems.

For a complete zone of protection and insurance against potential soilborne diseases, Simplot combines VIBRANCE® Premium seed treatment with in-furrow applications of Syngenta fungicides AMISTAR® 250 SC (Group 11) and RIDOMIL® Gold 480 SL (Group 4).

Syngenta Territory Sales Manager Wayne Richardson said VIBRANCE® Premium was suited to operations of all sizes where quality is paramount, not only companies on Simplot's scale.

"VIBRANCE® Premium can be applied either as seed is downloaded into storage to provide excellent storage disease control, or just prior to planting as a traditional seed treatment following label recommendations to ensure even protection of tubers," he said.

"VIBRANCE® Premium is a market leading formulation of two active ingredients from different modes of action – Group 7 and Group 12 – that delivers comprehensive early control of seed and soilborne fungal diseases in potato crops.

"The combination makes it a robust option when seedborne risk is high."

Scan here for more information on VIBRANCE® Premium or speak to your local Syngenta representative.

NUSEED EXPANDS ITS BIOENERGY PLATFORM; ACQUIRES ASSETS AND SIGNS LONG-TERM ALLIANCE WITH GRANBIO TO ACCELERATE GLOBAL EXPANSION OF ENERGY CANE

NUSEED AND GRANBIO ANNOUNCE A LONG-TERM GLOBAL COOPERATION AGREEMENT TO ACCELERATE ENERGY CANE R&D AND GLOBAL EXPANSION; DEAL SECURES FEEDSTOCK AT LARGE SCALE FOR FUTURE SAF AND 2G BIOMASS BASED BIOREFINERIES.

Nuseed and GranBio have entered into a long-term strategic alliance to accelerate R&D and commercialization into global energy cane markets. Nuseed acquired GranBio's energy cane breeding and commercial assets, and R&D program aiming to fundamentally improve the output energy value through innovation in bioenergy cane.

This is an enormous opportunity, with ready now technology and is a fundamental step change in energy creation and renewable product generation from cane. The opportunity includes two exciting platforms:

Scalable, drop-in improvement in energy output with the existing ethanol + cogeneration bioelectricity cane industry in Brazil (and other markets), and Expansion of energy cane as a reliable feedstock into emerging 2G process technology, which will make it possible to help decarbonize hydrocarbons for applications such as biochemicals and Sustainable Aviation Fuel (SAF).

Nuseed will accelerate breeding product development and broad scale commercial adoption into the existing ethanol + bioelectric cane industry in Brazil and other world markets. GranBio will continue to invest in energy cane development through Nuseed and will be the exclusive licensor of energy cane feedstock into GranBio proprietary process applications in the lignocellulosic field, such as cellulosic sugars and lignin, 2G ethanol, biochemicals, SAF and renewable materials worldwide.

Nuseed and GranBio's agreement will enable the biomass-to-fuel value chain to become a powerful solution to the challenge of securing renewable feedstock at large scale. Dedicated energy cane next generation clusters will also enable carbon neutral biorefineries to respond to global SAF demand and IATA 2050 goals.

Nuseed Group Executive, Brent Zacharias said, "This is a fundamental step change in energy creation and renewable product generation from cane. Nuseed sees enormous opportunity with this exciting new acquisition and strategic partnership with GranBio. As part of our bioenergy platform, we are focused on building technology, capability and partnerships to optimize delivery of bioenergy feedstocks and industrial materials. The proprietary energy cane platform, combined with existing Nuseed innovation, global reach and partnerships, can transform sustainable energy output from a highly scalable crop."

GranBio's CEO and Founder, Bernardo Gradin said, "GranBio has been developing energy cane since 2012 as one of the most effective feedstocks to enable and secure sustainable advanced biofuels and biochemicals with a biopower-to-biomass value chain with net zero carbon footprint.

"The long-term alliance with Nuseed will accelerate and improve the worldwide agricultural and technology advancement of energy cane and allow GranBio to focus on its core technology deployment of its Net Zero Carbon Renewable Biorefineries Program. This cooperation agreement will create a very powerful global solution to secure biomass as a reliable feedstock at scale to biofuels including 2G ethanol and 2G SAF. GranBio's biorefineries, powered by proprietary and partner technologies, projects 50,000 ha of planted energy cane clusters capable of producing the equivalent of 100 million gallons of cellulosic SAF (which aims at cutting greenhouse gas emissions to as close to zero as possible) starting in 2028.

There are tropical and sub-tropical zones in regions of Latin America, South of US, Africa, Asia and Australia corresponding to over 700 million hectares of potentially available land not used for food crops."

Energy cane, with GranBio's demonstrated technologies, can potentially reduce gasoline consumption in tropical countries where the biomass from sugar cane is superior to other crops. It has the potential to reduce to neutral, or even negative, its carbon footprint.

Source: Nuseed *https://nuseed.com/*

AUSTRALIANS CONSUMING FEWER VEGETABLES, FRUIT AND LESS MILK

AUSTRALIANS BOUGHT AROUND 3.9 PER CENT LESS FOOD IN 2022-23 THAN IN THE PREVIOUS YEAR, A DROP OF 63 GRAMS OR 337KJ A DAY, ACCORDING TO DATA RELEASED TODAY BY THE AUSTRALIAN BUREAU OF STATISTICS (ABS).

People consumed less of all the major food groups. Vegetables had the largest drop of 14 grams per person per day. This was followed by Fruit (down 12 grams), Milk products (down 11 grams), and Non-alcoholic beverages (down 9 grams).

Paul Atyeo, ABS health statistics spokesperson, said: "Each person had 186 grams of vegetables a day in 2022-23, down from 200 grams a day in 2021-22.

"We also went from eating 150 grams of fruit to 138 grams a day during 2022-23, while milk products fell from 278 to 267 to grams."

Bucking the trend was bottled water, up 1.6 per cent from the previous year, along with energy and sports drinks (up 3.3 per cent), and chicken dishes like nuggets (up 2.6 per cent).

"Many of the foods that dropped during 2022-23 are part of longer-term trends. We're consuming between 5 and 8 per cent less cow's milk, bread and fruit juice per person compared to 2018-19," Mr Atyeo said.

On the other hand, while some foods dropped in consumption in 2022-23, Australians are still having more of certain foods than five years ago. These include potato chips (up 16 per cent), chocolate (up 10 per cent), and cereals and convenience meals (up 9 per cent).

People are continuing to have fewer sugar-sweetened beverages, falling from a peak of 145 mL in 2020-21 to 134 mL per person per day in 2022-23.

More information can be found in Apparent Consumption of Selected Foodstuffs, Australia, 2022-23 available for free download from the ABS website, ***https://www.abs.gov.au.***

NEW DATA SHOWS FARMERS WILL WALK AWAY IF WORKER ACCESS IS FURTHER ERODED

FARMERS ARE WARNING THEY WILL CHANGE WHAT THEY GROW OR EVEN WALK AWAY FROM FARMING IF THEIR ACCESS TO OVERSEAS WORKERS IS REDUCED, NEW DATA FROM THE NATIONAL FARMERS' FEDERATION HAS REVEALED.

A survey of farmers from nearly every commodity across the country comes as visa fee rises and changes to the UK backpacker rules loom over the industry and latest data shows farmers are abandoning the PALM Scheme.

NFF President David Jochinke said the Federal Government's panacea to agriculture's workforce woes, the PALM Scheme, appears to be faltering with data Department of Employment and Work Relations data showing an 11 per cent fall in the number of PALM workers employed in agriculture in the six months to January.

"With the Government piling on red tape to access the PALM Scheme, farmers are turning to other sources for workers, making backpackers an even more critical part of the agricultural workforce than ever before," Mr Jochinke said. The survey showed a third of the farm workforce was backpackers during busy harvest periods.

"From July 1 British backpackers will no longer be required to work in regional areas and adding more salt to the wound is visa fees will jump 25 per cent, making Australia one of the most expensive countries in the world for backpackers to visit.

"It is clear any further eroding the 88-day requirement for backpackers to work on farms will have major ramifications for producers, with 35 per cent of farmers saying it would have a 'catastrophic' impact.

> **"Alarmingly, farmers are warning if access to backpackers is eroded further it will mean increases in food prices, a fatiguing workforce and, in the worst case, farmers walking away from the industry.**
>
> *NFF President David Jochinke*

"Alarmingly, farmers are warning if access to backpackers is eroded further it will mean increases in food prices, a fatiguing workforce and, in the worst case, farmers walking away from the industry.

"More than half of farmers surveyed said they would consider switching commodities or leaving the industry altogether if access to workers was reduced.

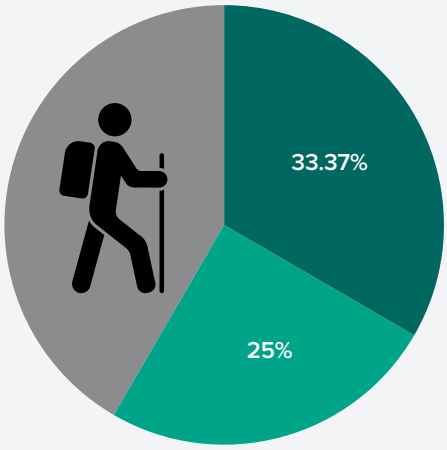
"What it boils down to is less workers means less food and fibre and that pushes up the price for all Australians at the supermarket checkout. "We need the Government to stop debilitating farmers' access to overseas workers.

"If they're not prepared to get serious about finding alternative pathways, they need to reinforce existing measures, rather than eroding and dismantling them."

WHAT THE SURVEY FOUND

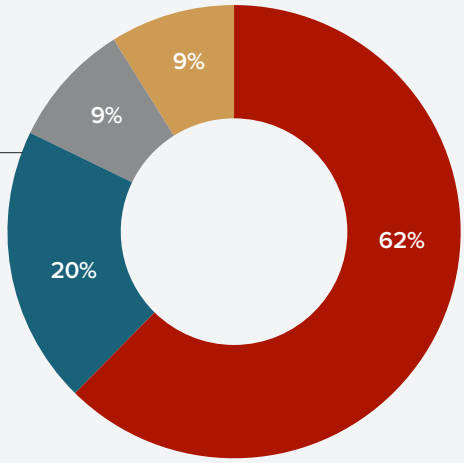
Approximately what percentage of your workforce are backpackers?

- Average Response 33.37%
- Median Response 25%



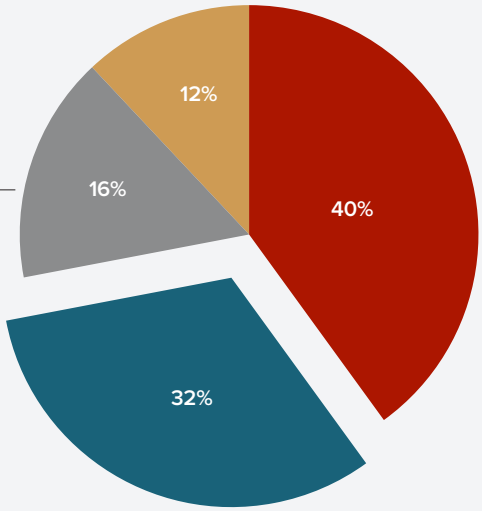
What impact would removal of the '88 day' work incentive have on your business (0-10 scale)?

- Catastrophic (8-10): 62%
- Significant (5-7): 20%
- Minor (1-4): 9%
- Nil (0): 9%



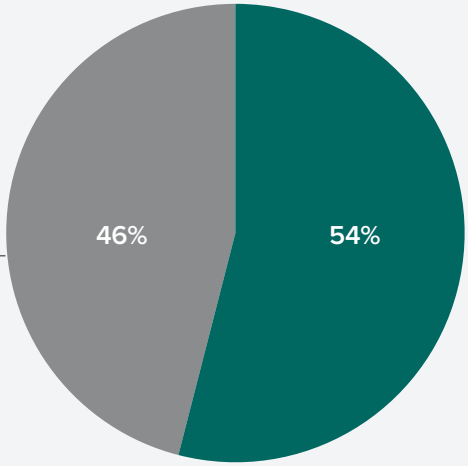
What impact will the phase-out of UK backpackers have on your business (0-10 scale)?

- Catastrophic (8-10): 40%
- Significant (5-7): 32%
- Minor (1-4): 16%
- Nil (0): 12%



Would you consider changing commodities or leaving the industry if access to workers was reduced?

Yes 54% No: 46%



NEW RESOURCES TO HELP CULTIVATE THE NEXT GENERATION OF AGRICULTURAL WORKERS

A RANGE OF NEW RESOURCES RELEASED TODAY WILL HELP TEACHERS AND ADVISORS ENCOURAGE YOUNG PEOPLE TO CONSIDER A CAREER IN AUSTRALIA'S CONSTANTLY EVOLVING AND MODERN AGRICULTURE INDUSTRY.

The resources make up the second part of the Cultivating the Next Generation research project, compiled and delivered by AgriFutures Australia and CQUniversity, with funding from the Australian Government. Stage one of the project, carried out in 2023, aimed to better understand educators' perceptions and knowledge regarding the agriculture industry and subsequent careers in the industry.

It offered valuable insights into the perspectives and challenges faced by teachers, career advisors, and school leadership, including the need for more resources and support to help educators fully understand the breadth of job opportunities across Australian agriculture.

Federal Minister for Agriculture, Fisheries and Forestry, Senator the Hon Murray Watt, said the agriculture sector has a great opportunity to redefine itself in students' minds. "A career in ag is exciting and diverse, whether you want to work with your hands or in an office, in the country or the city. "So many young people are interested in sustainability and technology and that's exactly what ag careers offer.

"I'm proud to see Aussie schools and AgriFutures working hard to foster our next generation of agriculture workers, and can't wait to see the footprint they make on the industry." New resources and learning opportunities The new resources released today include all five recommendations put forward as part of stage one of the project, they are:

1. Curriculum-aligned lessons for five subject areas including agriculture, science, food technology, business and digital technology.
2. 20 video case studies of agriculture industry ambassadors showcasing the diverse range of jobs available in the sector.
3. Work placement guides for industry, schools and students to assist with organising valuable work placements for students.
4. In person and online professional development workshops that delivered training to 247 educators to increase their confidence to promote careers in agriculture.
5. Industry excursions across every state and territory that involved 19 schools, over 500 students and 35 teachers.
6. Each resource was trialed through a national outreach program designed to enhance Year 9-12 students and educators knowledge and perceptions of the numerous agricultural career opportunities across Australia.

Managing Director AgriFutures Australia, John Harvey said the agriculture industry, including fisheries and forestry, must do more to attract and retain a highly skilled workforce.

"Our future workforce is dependent on the next generation seeing agriculture as an industry of choice, and critical to this is the role educators play in encouraging students towards a career in agriculture and we want to do everything we can to make that happen.

"It's crucial that students are informed about the diverse career opportunities within agriculture, and more importantly view it as an attractive employment choice.

"We need to show young people that careers in agriculture are not only rewarding, but also essential for our future, playing an important role in environmental management and food security," Mr Harvey said.

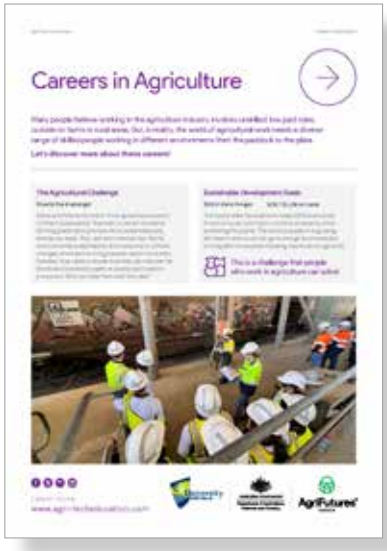
Lead researcher Associate Professor CQUniversity Australia, Amy Cosby, says the responsibility for promoting careers in agriculture extends beyond career advisors and emphasises the role industry can play in connecting students to agricultural careers. "It's important that the agriculture industry provides support to the education sector to enable opportunities and provide knowledge.

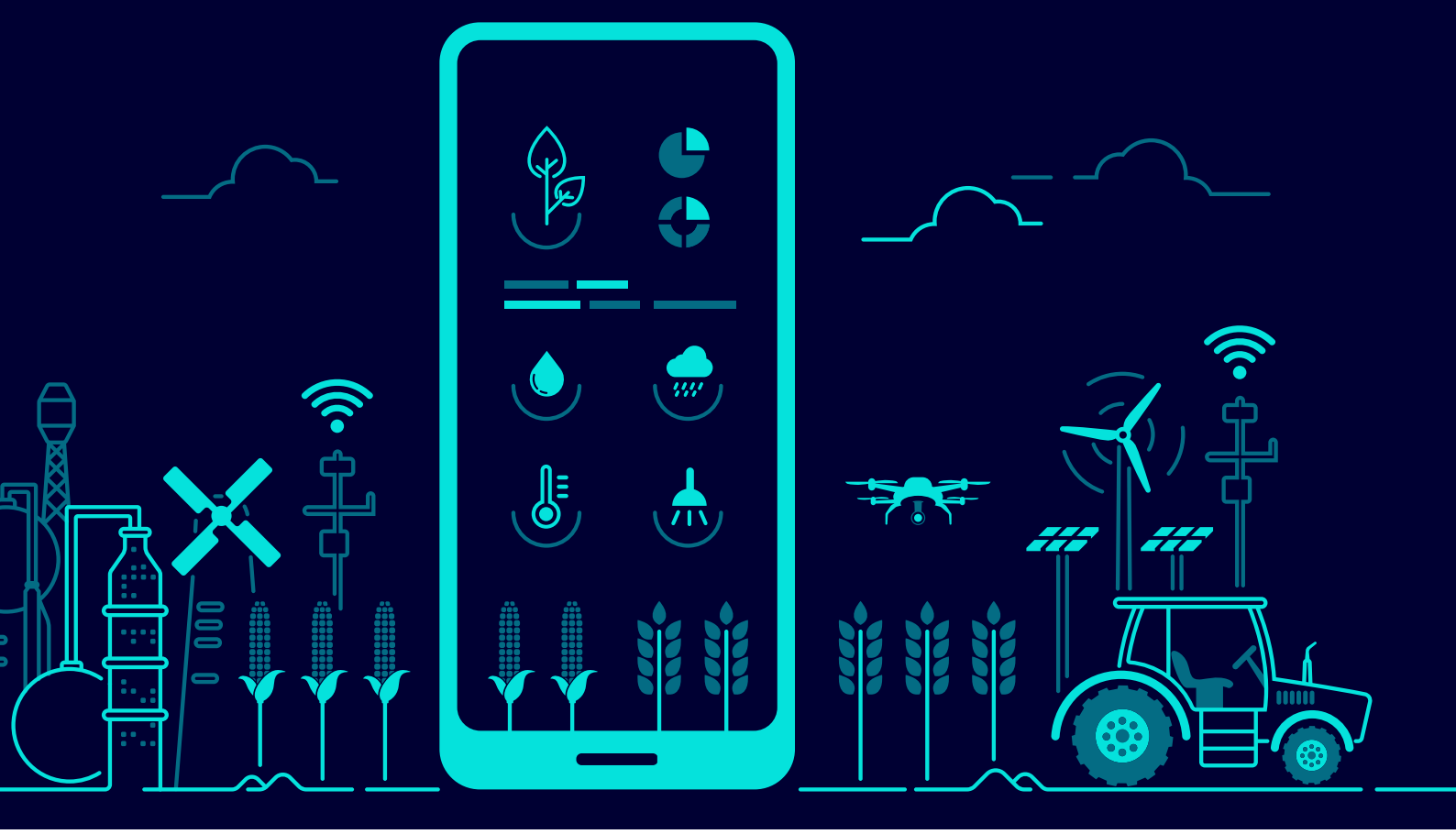
"There are so many unique and varied roles in agriculture, and they all require different skills-sets, and interests but the difficulty is in getting people to go beyond their thinking of what a career in agriculture could look like, that's where the face-to-face interaction and learning experiences are just so important." The resources from both stages of the project are now available for free on the AgriFutures Australia website.

https://agrifutures.com.au/cultivating-futures/

"I'm proud to see Aussie schools and AgriFutures working hard to foster our next generation of agriculture workers, and can't wait to see the footprint they make on the industry."

Federal Minister for Agriculture, Fisheries and Forestry, Senator the Hon Murray Watt,





FARMERS URGED TO CONSIDER THEIR DATA SECURITY

The National Farmers' Federation has warned the farm sector will be exposed to disruption unless farmers take an active interest in how their data is managed and secured.

Speaking from the FutureAG conference in Melbourne today, NFF Data Policy Manager Gabi Ceregra said the increasing digitisation of Australian farms brought enormous benefits, but also risks that needed to be managed.

"Farmers are using a growing number of apps and digital technologies to increase the productivity of their farms. What that means is, as an industry we're seeing a surge in the volume of data held in the cloud, and that data is becoming more and more valuable to farmers.

"As we become more reliant on digital technology, we also become more vulnerable if that data is misused.

"That could be in the form of a cyber-attack, but also by not understanding the business model of the platform you're using and how they'll share and commercialise your data."

Professor Robin Doss is the Director of the Centre for Cyber Resilience and Trust at Deakin University. He warned that agriculture needed to recognise the importance of cyber security and the reality of cyber risks.

"We've seen in recent years with major breaches from Optus or Medibank making headlines just how prevalent data breaches have become.

"As industry embraces new forms of automation into the future the consequences of a breach will be magnified, so now is the time to get effective systems in place.

"Some recent incidents have involved major multi-billion-dollar companies with huge IT resources. On the other hand, most farms don't have an IT department, so keeping data secure will come down in part to industry-wide initiatives. That's where the Farm Data Code can play an important role."

Launched in 2020 with certification commencing in 2023, the Australian Farm Data Code assesses providers against industry standards including data security, transparency, farmer control and portability – aiming to recognise best practice providers for doing the right thing.

"We currently have six software providers certified against the Code and a strong pipeline of companies undergoing assessment," Ms Ceregra said.

"What's critical is that farmers help drive this change and challenge their providers to lift their standards and get certified.

"Certification means the NFF has done the hard work for you, with an independent expert panel reviewing a provider's data standards and processes to ensure compliance with the Code.

"Our data security is only as strong as our weakest link. If you're entrusting your data to a provider not certified against the Code, then you don't have the benefit of that independent assessment.

"The message to farmers is, look for the Farm Data Code certified logo. If your provider doesn't have it, ask them to get certified. As an industry comprised of small to medium businesses, our data security is a team sport and every farmer has a role to play," Ms Ceregra concluded.

To learn more about the Farm Data Code and see a list of certified providers, **click here** or visit **https://nff.org.au/programs/australian-farm-data-code/**

AUSTRALIAN VEGETABLE INDUSTRY SEMINAR BRINGS LATEST VEG INSIGHTS TO HORT CONNECTIONS 2024

The Australian Vegetable Industry Seminar (AVIS) will again run alongside the Hort Connections conference and trade show this year, bringing a lineup of expert speakers sharing information and insights specifically tailored for vegetable growers.

Held at the Melbourne Convention and Exhibition Centre on 3-5 June, Hort Connections is the largest conference and trade show for the horticulture sector in the southern hemisphere. A number of affiliated events run alongside Hort Connections this year, including AVIS and Avo Connections, the annual forum for the Australian avocado industry.

The Australian Vegetable Industry Seminar is a Hort Innovation Vegetable Levy-funded R&D initiative held each year to showcase emerging products and innovations in horticulture, as well as focussing on key areas for business and personal development of vegetable industry members.

This year the event will be emceed by Olympic gold medallist and broadcaster Giaan Rooney, and will kick off with a presentation by Jane Bunn on unlocking productivity and driving efficiency with hyper-local weather forecasting.

Jane is well known as Channel 7's meteorologist and weather presenter, but beyond her on-screen work she's also the founder and CEO of Jane's Weather, an advanced weather forecasting system to help Australian farmers boost agricultural output. Jane's Weather aims to advance yield with agriculture-specific guidance on frost, spraying conditions, evapotranspiration, growing degree days and more.

AVIS will also feature presentations on weights and measures legislation and what it means for vegetable growers, industrial relations laws for horticulture, the role of biological inputs in modern agriculture and more.

Beyond supporting AVIS with Vegetable Levy funding, Hort Innovation also returns as the Principal Convention Partner of Hort Connections 2024, and sponsor of the Exporter of the Year Award.

Hort Innovation works to advance Australia's $16 billion horticulture industry by investing in research and development, marketing and trade to build a prosperous and sustainable future for growers. The grower-owned company partners with Australian and international co-investors including government, leading science, technology, and consumer strategy experts to anticipate future challenges and opportunities.

"Hort Innovation's return as the Hort Connections Principal Convention Partner is the continuation of a long and successful collaboration between Australia's grower-owned horticulture research and development corporation and the country's largest horticulture event," said AUSVEG National Manager – Events and Partnerships Nathan McIntyre.

"As well as being the Principal Convention Partner, Hort Innovation also has a large activation within the Trade Show and a significant involvement within the conference program."

Hort Innovation's support of Hort Connections provides an opportunity to spotlight the numerous research, development and marketing programs the organisation invests in to benefit Australian growers, according to Hort Innovation CEO Brett Fifield.

"Hort Connections is the largest gathering of horticulture growers and industry stakeholders in Australia, and it offers an unrivalled platform to showcase grower-funded R&D and engage with the industry," said Mr Fifield.

"We are proud to be the Hort Connections 2024 Principal Convention Partner, and we look forward to working with AUSVEG, the International Fresh Produce Association of Australia and New Zealand and other partners to deliver another fantastic event for the horticulture industry."

For more information about Hort Connections, including key convention partners, and to register for the event, please visit hortconnections.com.au.

About Hort Connections

Hort Connections is the largest horticulture conference and trade show in the southern hemisphere. The conference is co-produced by AUSVEG and International Fresh Produce Association A-NZ (IFPA A-NZ).

Hort Connections 2024 will be hosted between 3-5 June at the Melbourne Convention & Exhibition Centre (MCEC). Hort Connections has grown to a 3,000-delegate event and welcomes more than two times the number of growers than it did at the time of conception in 2017.

Speakers and exhibitors will showcase the latest research, technologies, and innovations to offer new perspectives on the future of Australasia's horticulture industry.

About AUSVEG

AUSVEG is the peak industry body for the Australian vegetable, potato & onion sectors, representing over 3,600 growing businesses that employ tens of thousands of workers and produce over 3.5 million tonnes of produce, with a farmgate value of over $5.8 billion.

Hort Innovation CEO Brett Fifield speaking at Hort Connections 2023 in Adelaide.

CSIRO REPORT SOWS SEEDS FOR AUSTRALIA'S FARMING FUTURE

THE AG2050 SCENARIOS REPORT EXAMINES THE QUESTION; WHAT DOES A PRODUCTIVE, RESILIENT AND SUSTAINABLE FARM LOOK LIKE IN AUSTRALIA IN 2050?

Australia must act now to accelerate agricultural innovation to achieve productive, resilient and sustainable farming systems by 2050, according to a new report released by Australia's national science agency, CSIRO.

While Australian farming - including forestry and fisheries – has seen several years of high yield as of early 2024, some key challenges threaten ongoing prosperity.

The challenges already impacting farming systems include climate change, emissions reduction needs, supply chain disruptions, workforce access, changing consumer preferences, maintaining market access, and long innovation timelines.

In response, through consultation and co-design with over 100 industry stakeholders, CSIRO has delivered the *Ag2050 Scenarios Report*. The report explores a range of significant trends, risks, opportunities and actions needed to support Australian farming systems into the future and presents four future pathways for the sector.

Dr Katherine Wynn, CSIRO Futures' Agriculture and Food Lead, said the report underscored the critical need for proactive measures, and should serve as a call to action for the agricultural sector.

"The decline in farm profitability over the last two decades is a stark warning sign, with projections indicating decline by up to 50 per cent in some areas by 2050," Dr Wynn said.

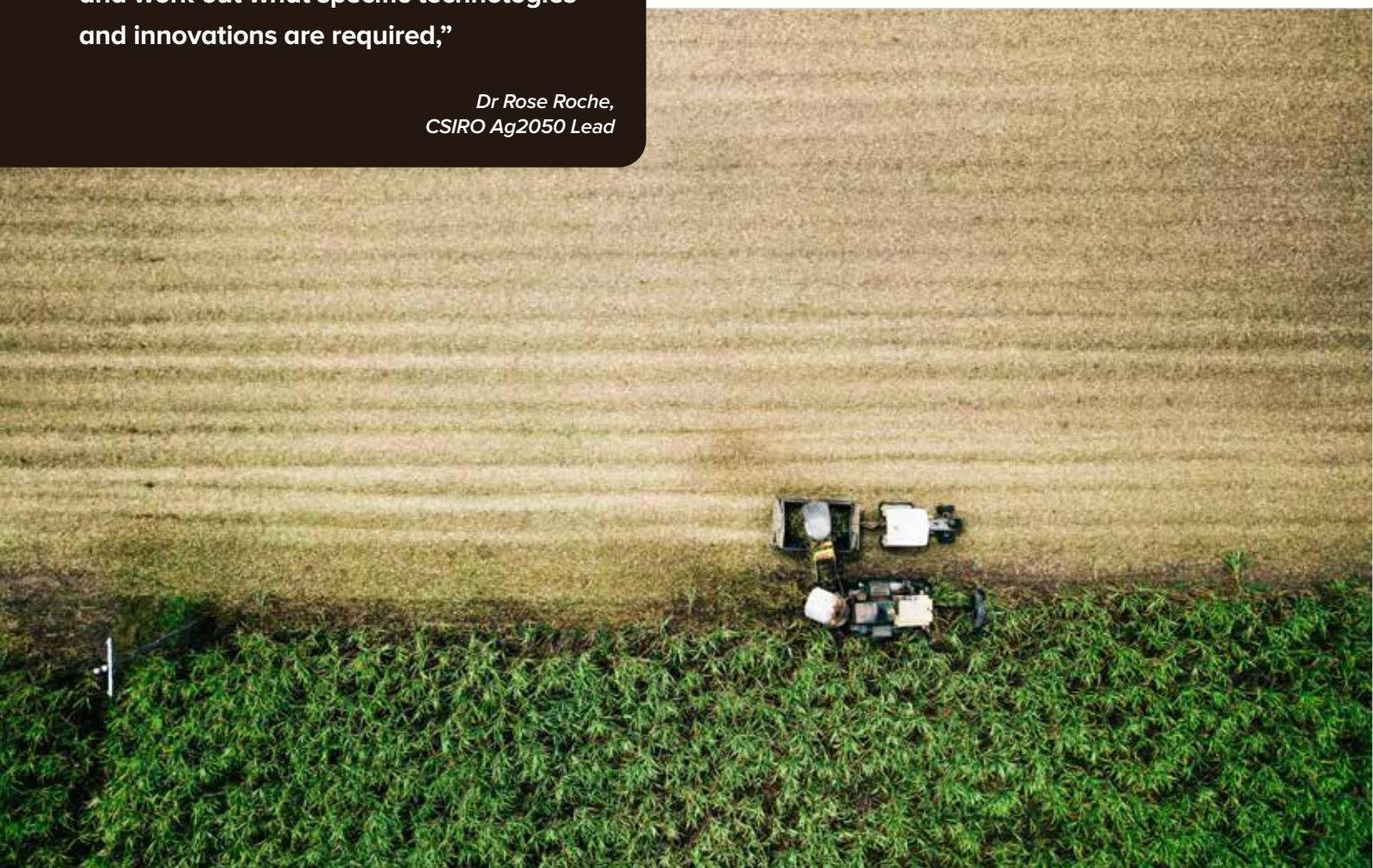
"However, our research offers an optimistic outlook, and indicates Australia can achieve productive, sustainable and resilient farming systems if we act now to facilitate long-term transformative change in agricultural innovation."

The four evidence-based future scenarios, paint a picture of what Australian farming systems could look like by 2050 and include:

Regional Ag capitals – a consolidated and technologically advanced sector, thriving and prioritising food and fibre security.

"We're actively collaborating with industry and stakeholders to tailor these scenarios to local and regional contexts and work out what specific technologies and innovations are required,"

Dr Rose Roche,
CSIRO Ag2050 Lead



Landscape stewardship – a forward-thinking sector embracing new opportunities and novel technologies, allowing the environment to flourish.

Climate survival – a sector focused on climate adaptation and incremental changes allowing it to survive.

System decline – a sector failing to address growing challenges and at a tipping point.

“The four scenarios are designed to prompt collaborative conversations among industry, researchers, and other stakeholders to envision, deliberate, and plan strategic actions for the future of farming we aspire to achieve,” Dr Wynn said.

Dr Rose Roche, CSIRO’s Ag2050 Lead, highlighted the work CSIRO is doing to support the agricultural sector through its Ag2050 program.

“We're actively collaborating with industry and stakeholders to tailor these scenarios to local and regional contexts and work out what specific technologies and innovations are required,” explained Dr Roche.

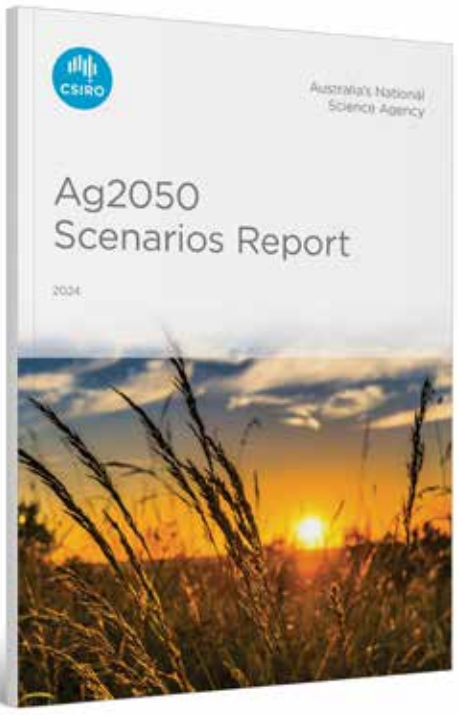
“Our goal is to make cutting-edge scientific solutions accessible to our stakeholders to help them achieve their desired future.”

The Ag2050 Scenarios Report is the first phase of CSIRO’s Ag2050 program, a disruptive multi-year initiative aimed at identifying interventions, innovations, and support necessary for a productive, resilient, and sustainable future for Australian agriculture.

Download the Ag2050 Scenarios Report.

https://www.csiro.au/en/work-with-us/services/consultancy-strategic-advice-services/CSIRO-futures/Agriculture-and-Food/Ag2050-Scenarios-Reimagining-Australian-Farming-Systems

The Ag2050 Scenarios Report was led by CSIRO with financial and in-kind support from the Australian Department of Agriculture, Fisheries and Forestry (DAFF).



ASK AN EXPERT...

DR ROBERTO BUSI, SENIOR RESEARCH FELLOW (AHRI)

WHAT ARE THE OPTIONS TO MANAGE GLYPHOSATE- AND PARAQUAT-RESISTANT RYEGRASS?

FENCE LINES ARE AN ONGOING CHALLENGE AS THEY ARE FREQUENTLY THE SOURCE OF HERBICIDE-RESISTANT WEEDS IN CROPPING SYSTEMS.

Dr Roberto Busi, senior research fellow at the Australian Herbicide Resistance Initiative (AHRI) says the rising number of annual ryegrass populations with high-level resistance to both glyphosate and paraquat demands a change in fence line weed management.

"Dual resistance in annual ryegrass to glyphosate and paraquat was first confirmed in broadacre cropping systems in 2022 in Western Australia, and since then we have identified six similar populations," he says. "The management of fence line weeds like ryegrass that readily evolve resistance to herbicides requires careful consideration and high priority in a weed management program."

Roberto and Farmanco agronomist Brent Pritchard collected seeds from these six populations in 2022 and 2023, then tested them against various herbicide double-knock and tank-mix treatments.

"We conducted trials using seed collected from these resistant populations and found that under optimal glasshouse conditions, it was possible to achieve up to 100 per cent control," says Roberto. "However, field application is rarely ideal, and our trials demonstrated that control levels of around 40 to 50 per cent were more likely. This allows growers to suppress a blow-out but does not provide a long-term strategy."

In addition to glyphosate and paraquat, these populations were also resistant to clethodim, diquat (e.g. Reglone) and paraquat+diquat (e.g. Spray.Seed). At two of the trial sites, the resistant ryegrass had already moved from the fence line to the adjacent cropping areas, posing considerable challenges to the grower.

The WeedSmart Big 6 strategy embraces herbicide and non-herbicide weed control tactics to keep weed numbers low in cropping systems. The latest weed control tactics and technologies will feature at WeedSmart Week in Port Lincoln on 29–30 July 2024.

Can the double-knock control glyphosate and paraquat-resistant ryegrass? These populations were highly resistant to both

Dr Roberto Busi, senior research fellow at the Australian Herbicide Resistance Initiative (AHRI) says the rising number of annual ryegrass populations with high-level resistance to both glyphosate and paraquat demands a change in fence line weed management.

herbicides used in a traditional double-knock treatment. Under field conditions, glyphosate applied on its own achieved 18 per cent control, while a stand-alone application of paraquat achieved 30 per cent control.

Control significantly improved when a double-knock treatment was applied. However, it was clear that most of the improved control was due to the paraquat component. Both the traditional glyphosate followed by paraquat and the 'double paraquat' double-knock strategies achieved around 45 per cent control.

What were the best mixtures to control these populations? Herbicide mixtures that included either glyphosate or paraquat also improved the level of control to around 45 per cent under field conditions. In the glasshouse trial, the paraquat-based mixes were almost twice as effective (80 per cent) compared to the glyphosate-based mixes (42 per cent).

"We conducted trials using seed collected from these resistant populations and found that under optimal glasshouse conditions, it was possible to achieve up to 100 per cent control,"

Dr Roberto Busi, senior research fellow
Australian Herbicide Resistance Initiative (AHRI)

The recommendation is to consider using a tank mix of paraquat with other modes of action, including Groups 13 [Q], 14 [G], 15 [J/K] and 34 [Q], to suppress a ryegrass population with increasing resistance to glyphosate and paraquat.

Switching to paraquat mixed with pre-emergent products with residual activity on ryegrass, such as BoxerGold, Mateno Complete, Overwatch, Sakura + Terrad'or, propyzamide (e.g. Rustler) or Voraxor will help extend the efficacy of paraquat, the last reliable knockdown herbicide available in many farming systems.

What are the long-term options for fence line weeds? The first step is to stop using glyphosate and paraquat as stand-alone weed control treatments on fence lines (or anywhere else). In the short term, implement a double-knock strategy when the weeds are small and actively growing. Where possible, add other modes of action as a tank mix with the paraquat application.

Resistance testing will provide useful information and highlight herbicide options to help stop the build-up of herbicide resistance genes in the weed seed bank.

Roberto has conducted preliminary glasshouse tests that have confirmed specific products for fence line weed control (e.g. Alion, Terrain, Uragan) are fully effective at their fence line registered rates against glyphosate- and paraquat-resistant ryegrass. He plans to conduct field validation of some of these promising options this year.

For longer-term management of resistant ryegrass on fence lines, it is necessary to look for alternative, non-herbicide strategies to stop seed set.

The optimal strategy is to create competition for resistant weeds by establishing perennial plant species that are easily controlled if the seed blows into the cropped area. If no herbicide is applied to the fence line area, then herbicide resistance will not be a problem. Other options include cultivating or planting the crop as close to the fence as possible to provide strong competition for weeds, then slashing, grazing or baling around the field's perimeter.

In the future, non-chemical technologies like electric weeding could provide another option for managing fence line weeds.

WEED smart

Fence lines are an ongoing challenge as they are frequently the source of herbicide-resistant weeds in cropping systems. The first step is to stop using glyphosate and paraquat as stand-alone weed control treatments on fence lines (or anywhere else) and start using double-knock and tank mix strategies.

THE OPTIMAL STRATEGY IS TO CREATE COMPETITION FOR RESISTANT WEEDS BY ESTABLISHING PERENNIAL PLANT SPECIES THAT ARE EASILY CONTROLLED IF THE SEED BLOWS INTO THE CROPPED AREA. IF NO HERBICIDE IS APPLIED TO THE FENCE LINE AREA, THEN HERBICIDE RESISTANCE WILL NOT BE A PROBLEM. OTHER OPTIONS INCLUDE CULTIVATING OR PLANTING THE CROP AS CLOSE TO THE FENCE AS POSSIBLE TO PROVIDE STRONG COMPETITION FOR WEEDS, THEN SLASHING, GRAZING OR BALING AROUND THE FIELD'S PERIMETER.

NEUTROG UNVEILS $3.5 MILLION INVESTMENT IN GLOBAL FOOD SOLUTIONS

BIOLOGICAL FERTILISER COMPANY NEUTROG AUSTRALIA IS RAMPING UP ITS R&D COMMITMENT TO GLOBAL FOOD SECURITY, INVESTING $3.5 MILLION IN A NEW RESEARCH AND EDUCATION FACILITY IN REGIONAL SOUTH AUSTRALIA.

NEUTROG - JUHEE HADA AND ANGUS IRWIN

The unlisted public company has unveiled plans for the world-class multi-functional facility to be located at its current site in Kanmantoo in the Adelaide Hills.

The investment will expand Neutrog's current on-site laboratory capacity four-fold, significantly boosting the capacity and scope for biological research it carries out, while also creating a new education hub for industry, schools and the community.

"Research and development is an integral part of our company's DNA, " Neutrog Australia Managing Director Angus Irwin said.

"We have outgrown our existing laboratory and with the increasing demand we are experiencing from our customers and partners we need to position for the future. "While we're investing in our research capabilities, we also want to help educate the industry and broader community on the latest global developments in microbes and biologicals and their increasing value to agriculture and horticulture.

"It is widely recognised that over the next 20 years, food production needs to increase by 70 to 100 per cent from diminishing areas of arable land just to feed the world's growing population. Biologicals are increasingly seen as playing a significant role in achieving this goal."

Neutrog has built a world-leading reputation for its R&D on microbes that inhibit soil and plant diseases, currently costing global agricultural and horticultural production billions of dollars in both prevention and treatment, most often with chemicals.

The new research centre will provide Neutrog with significantly increased scope for standalone and partnership R&D projects and to expand its own R&D workforce. It will include a BC2-accredited (biosecurity containment level 2 approved) laboratory.

Neutrog will become the only commercial fertiliser business in Australia to have this accreditation, which allows it to receive and process soils sourced from overseas.

The adjacent 80-seat education centre has been custom designed to meet growing interest from school, tertiary, industry and community groups. It will include interactive multi-media and hands-on learning options, with planned curriculum to align with society, environment, STEM and VET learning pathways.

Within the development an existing 100sqm carpark is being repurposed into diverse greenscape in collaboration with national plant societies and with sensory spaces incorporated for additional hands-on learning options for primary school groups.

The investment comes as Neutrog continues to grow its reach across Australia and overseas. Over the past five years, staff numbers have risen from around 40 to 70.

Annual revenue is on track to hit $22 million this financial year, up from $19 million in 2022-23, with the company investing more than $1 million annually into R&D.

Exports have risen 20% over the year to now represent $1.2 million in annual sales.

In 2022, the company undertook a successful crowd funding campaign, with more than $3 million raised to go towards the new research and education facilities.

Senior Research Assistant Juhee Hada said the new facilities would allow Neutrog to continue helping farmers and growers meet their production challenges in the future.

"What we do at Neutrog is not research for research's sake," Ms Hada said.

"We work closely alongside farmers and growers so we get to see the real life impact of our R&D. I'm excited by the difference our team is making in agriculture and horticulture and what that means for the future of food production."

Juhee is a member of Neutrog's R&D team, which is led by world renowned microbiologist Dr Uwe Stroeher. The R&D program also receives input from the company's Biological Advisory Board led by Professor Paul Manning, who was previously the Head of Molecular Sciences at Astra Zeneca in the USA.

NEUTROG - RESEARCH AND EDUCATION DEVELOPMENT

APVMA PERFORMANCE DROP COSTS AUSTRALIAN FARMERS MILLIONS

In written answers just provided to the Rural and Regional Affairs and Transport Legislation Committee, the Australian Pesticide and Veterinary Medicines Authority (APVMA) have reported escalating delays in registrations of new cutting edge agricultural crop protection chemicals. Now more than one in nine applications for new product registrations have not been completed within the legislated assessment period. These delays are leaving Australian farmers exposed to millions of dollars annually in preventable crop losses.

While the full suite of performance results of the APVMA are yet to be publicly released, the Senate Estimates written answers confirmed that only 78.3 per cent of assessments for major applications were completed on-time for the quarter ending December 2023.

“This is now the sixth successive quarter that the APVMA timeframe performance for major pesticide applications has languished below its own downgraded self-imposed targets,” said Chief Executive Officer of CropLife Australia, the national peak industry organisation for the plant science sector, Mr Matthew Cossey.

“The APVMA is one of the world’s leading regulatory science organisations, with a dedicated skilled and scientific workforce, however sensationalised political distractions and a lack of high-end strategic management over the last 18 months are at the foundation of this diminishing performance.

“Unfortunately, the APVMA’s failure to meet its statutory timeframe obligations is now having very real consequences for effective management of crippling pests and diseases.

“Fall armyworm, red legged earth mite, powdery mildew and fusarium crown rot are costing the farming sector dearly. Fusarium crown rot alone costs the farming sector more than $400 million a year. “The APVMA is an agency that is well resourced and presently sits on significant cash reserves that are at all-time high as a result of higher than required levies and fees that are paid by the plant science industry and add to on-farm costs.

“It is a false economy to assert that timely assessment of new crop protection products needs to be sacrificed in order for the APVMA to meet the full breadth of its regulatory obligations, including chemical review and compliance.

“This level of resourcing and the suite of regulatory tools available to the APVMA allows it to engage competent external scientific reviewers and new regulatory technologies, such as digitally integrated assessment tools which would facilitate on-time performance and improved decision making as part of meeting the full breadth of its regulatory obligations.

“It’s time for the APVMA’s Board of Governance and Executive Management make it their priority to use the tools at their disposal to improve the performance of its organisation and support the work of its brilliant hardworking staff.

“Key to this will be the recruitment of a permanent, full-time, relevantly qualified Chief Executive Officer with appropriate experience. It is time to cease the revolving door of stopgap, interim Canberra Public Servants filling the role. The new leadership of the APVMA needs to grasp the strategic opportunities before it and guide the long-term performance of the regulator out of the mire of mediocrity.

Mr Cossey concluded, “CropLife Australia and our members remain committed to working with the Regulator and the Government to implement efficiency measures that improve the performance and maintain the integrity and community confidence in the system and deliver better outcomes for Australian farmers, consumers, and the environment.”
Source: Crop Life *https://www.croplife.org.au/*

The Hollands have spot-sprayed over 12,000 ha of fallow, and chemical use in the fallow is down by 60 per cent or more. They have also spot-sprayed about 2000 ha using green-on-green weed detection in specific situations where it was the best solution for the target weed and crop safety.

TESTING OPTICAL SPOT-SPRAYERS IN A LOW WEED ENVIRONMENT

Spot-spraying can vastly reduce herbicide use and help manage herbicide resistance risk on Australian cropping farms. The latest weed-detection technology allows growers to find and spray weeds growing in fallow and within their crops, and early adopters are testing the practical and economic realities in the field.

Broden Holland says they have seen immediate benefits, mainly through optical spot-spraying in fallow situations on their 5000 ha mixed farming operation at Young, NSW.

“In 2021, we purchased a Goldacres G6 self-propelled sprayer with Weedetect cameras and Bilberry weed identification software to add spot-spraying to our weed control options,” he says. “We hadn’t done optical spot-spraying before, so it seemed sensible to start with equipment that gave us both green-on-brown and green-on-green capability.”

Detecting and spot-spraying weeds in their summer fallow has paid dividends in the last three (very wet) seasons. This technology has several good use cases, and having a second product tank would bring further value.

The cameras can detect weeds as small as a 10-cent coin, even when travelling at 23 km/hr. This capability reduces the tendency to compromise application timing.

“We are spraying more often and always targeting small weeds, which is a key to effective control of weeds that may harbour low-level resistance to our main herbicides,” says Broden. “Since purchasing the Weedetect cameras, we have spot-sprayed over 12,000 ha of fallow, and chemical use in the fallow is down by 60 per cent or more.”

Broden expects even more benefits in drier seasons and believes green-on-brown weed detection technology is a good fit for their operation going forward.

The cameras work well in high stubble loads (e.g. 5 t/ha wheat crop stubble), and Broden can adjust the settings to avoid re-spraying weeds that are already dying from an earlier application. The cameras also do an excellent job when implementing a double-knock treatment.

The Hollands have also spot-sprayed over 2000 ha using green-on-green weed detection to spray broadleaf weeds in cereals and grasses in canola.

“We are particularly pleased with the early signs of reduced crop damage when we spot-spray annual ryegrass in canola,” says Broden. “Depending on the weed density in the paddock, we are also saving between 20 and 80 per cent of our herbicide costs. The camera system also provides valuable weed mapping data that we can build on each year, and it’s easy to see the yield response in areas that previously had a higher weed burden.”

Broden Holland, Young, NSW says their Goldacres G6 self-propelled sprayer fitted with Weedetect cameras and Bilberry weed identification software has provided immediate benefits, mainly through optical spot-spraying in fallow situations.

However, the accuracy of in-crop weed detection is not yet adequate enough for the Hollands to rely on across a large area of the farm each year. Until the detection accuracy improves, they will use this capability only where it is the best solution in specific situations.

For example, having green-on-green capability helped them avoid a potential blowout of resistant ryegrass and save yield in 2022 when they purchased a 180 ha block and soon discovered clethodim-resistant ryegrass in high numbers in their first canola crop.

“When the initial post-emergence blanket spray had minimal impact, we returned with a spot-spraying tank mix of 300 mL clethodim (Select) and 80 g butroxydim (Factor) before budding,” says Broden. “We were concerned about potential crop damage, so we dialled back the camera sensitivity to around 80–90 per cent. While this did not control all the resistant ryegrass, it had a significant suppressive effect, allowing the crop to gain the advantage.”

At the end of the season, they applied glyphosate over the top of the canola five days before windrowing the crop ahead of harvest. This killed the survivor weeds and minimised the quantity of seed returning to the soil.

At the end of the season, the crop yielded 2.5 t/ha, and they had averted a weed blow-out. The following year, they were able to plan a herbicide program to suit the resistance profile of the annual ryegrass population.

“Many of the chemicals that we use to spot-spray in-crop are relatively inexpensive, so the input cost savings are often not huge,” says Broden. “However, we know there are long-term benefits in reducing herbicide resistance risk and reducing the stress on the crop from broadacre herbicide application.”

The Hollands use many of the WeedSmart Big 6 tactics, including narrow row spacing (19 cm disc system) to achieve early crop competition in their crops. Having low weed numbers and strong competition can make it harder to justify green-on-green spot-spraying as the canopy closes over the inter-row quite early. Broden believes that green-on-green technology would quickly return savings to the grower with cheaper inter-row weed control in regions where wider rows are preferred.

The WeedSmart Big 6 strategy embraces herbicide and non-herbicide weed control tactics to keep weed numbers low in cropping systems. The latest weed control tactics and technologies will feature at WeedSmart Week in Port Lincoln on 29–30 July 2024.

In the Holland’s farming system, the additional costs associated with green-on-green spot-spraying are difficult to fully justify. However, Broden expects that future algorithms will allow them to target a broader range of weeds in their crops. They are particularly keen to be able to target black oats in wheat. A dual tank system would also help justify future use of the green-on-green technology by providing flexibility with each pass over a paddock.

For more information about managing optical spot-spraying, please visit the website: **www.weedsmart.org.au**

WEED smart

THE 12TH WORLD POTATO CONGRESS IN ADELAIDE

In the ever-evolving landscape of global agriculture, certain crops hold a unique significance due to their widespread cultivation, nutritional value, and socioeconomic impact. Among these, the humble potato stands out as a staple food for millions worldwide, offering sustenance and livelihoods to communities across the globe. In recognition of its importance, the 12th World Potato Congress is set to take place in Adelaide, Australia, from June 23-26, 2024, marking a pivotal moment for the global potato industry.

Australia's proud hosting of this prestigious event underscores the country's commitment to agricultural excellence and innovation. Beyond mere celebration, the Congress serves as a platform to showcase the prowess of the Australian potato sector on the world stage. It seeks to elevate the potato beyond its traditional image, positioning it as a compelling, nutritional, and health-conscious food choice both domestically and internationally.

Under the overarching theme of "Old World Meets New," the Congress encapsulates the rich historical legacy of potatoes while embracing cutting-edge innovation and technology in their production. This theme acknowledges the journey of the potato from its ancient roots as a food staple to its modern-day application in diverse culinary landscapes. Moreover, it highlights substantial investments in research and development aimed at enhancing potato cultivation techniques, improving yield, and mitigating environmental impact.

At the heart of the Congress lies a commitment to addressing pressing global challenges facing the potato industry. These challenges range from sustainability and climate change to cultural shifts and population dynamics. By convening stakeholders from across the globe, the Congress fosters dialogue and collaboration to develop holistic solutions that ensure the long-term viability of potato cultivation while safeguarding the environment and promoting social equity.

Central to the Congress's agenda is the promotion of sustainable agricultural practices that prioritize environmental stewardship and community resilience. In an era marked by climate uncertainty and resource constraints, such practices are essential for maintaining food security and livelihoods. By sharing knowledge and best practices, the Congress empowers stakeholders to implement sustainable strategies that benefit both present and future generations.

Moreover, the Congress serves as a catalyst for innovation and entrepreneurship within the potato industry. By showcasing the latest advancements in breeding, cultivation techniques, and value-added products, it inspires participants to explore new avenues for growth and diversification. This spirit of innovation is essential for ensuring the continued relevance and competitiveness of the potato industry in a rapidly changing global market.

Beyond its role as a forum for technical exchange, the Congress plays a crucial role in shaping global trade dynamics. In an era marked by geopolitical tensions and economic uncertainty, the need for transparent, predictable, and rules-based multilateral trade is more pressing than ever. By emphasizing the importance of such trade principles, the Congress seeks to create an enabling environment for potato producers and exporters worldwide.

The 12th World Potato Congress in Adelaide promises to be a transformative event with far-reaching implications for the global potato industry. By bringing together stakeholders from diverse backgrounds and regions, the Congress fosters collaboration, innovation, and dialogue to address shared challenges and seize emerging opportunities.

As we look towards a future shaped by climate change, technological advancement, and evolving consumer preferences, the potato remains a steadfast ally in the quest for a sustainable and food-secure world.

BASF'S NEW FUNGICIDE REVYSTAR® POWERED BY REVYSOL® ACTIVE APPROVED FOR USE ON AUSTRALIAN CANOLA, WHEAT, BARLEY AND OAT CROPS

- **The Australian Pesticides and Veterinary Medicines Authority (APVMA) approves Revystar, BASF's latest fungicide in Australia**
- **Revystar contains two best-in-class fungicides with different yet complementary modes of action to strengthen disease control**
- **Revystar sets a higher standard of reliability for control of key diseases**

Revystar, an innovative, co-formulated fungicide with two modes of action, has now been registered for use by the Australian Pesticides and Veterinary Medicines Authority (APVMA). This new registration gives Australian broadacre farmers a powerful new tool for in-crop prevention and management of damaging diseases such a sclerotinia and upper-canopy blackleg. Set to become the new industry benchmark for disease control, Revystar allows growers to confidently and flexibly pursue optimal yields every season.

Revystar is powered by Revysol® Active (chemical name: mefentrifluconazole), a groundbreaking Group 3 fungicide and Xemium® (chemical name: fluxapyroxad), a next-generation Group 7 active. Due to its strong performance, Revystar will play a crucial role in future resistance management, offering Australian growers a highly effective tool to help them better protect their crops, manage resistance, and increase yield in a sustainable way.

"The launch of Revystar is great news, particularly for canola growers," said David Elmouttie, Head of Broadacre, Agricultural Solutions at BASF. "It will enhance the protection of valuable crops against sclerotinia and upper canopy blackleg, two costly diseases that can be found in canola. By preventing yield losses and reduced grain quality, it will deliver an excellent return on a comparatively small investment" he added.

Revystar is registered to control: sclerotinia, and both seedling, and upper canopy infection (UCI) blackleg in canola, 6 diseases in barley, including both forms of net blotch; 3 diseases in oats and oaten hay; and 5 diseases in wheat, including both Septoria tritici blotch and Septoria nodorum blotch, as well as yellow leaf spot.

CROP DISEASE GUIDES FOR 2024 NOW AVAILABLE ONLINE

FARMERS CAN NOW DOWNLOAD THE 2024 EDITIONS OF THE CEREAL AND PULSE DISEASE GUIDES TO HELP MAKE INFORMED DECISIONS AROUND DISEASE MANAGEMENT.

Agriculture Victoria's plant pathology research leader Dr Joshua Fanning said the release of the updated disease guides complements advice from Agriculture Victoria on disease management activities.

'The 2024 Cereal Disease Guide and 2024 Pulse Disease Guide rank susceptibility of new and commonly grown grains such as wheat, barley, oats, lentils, faba bean and chickpea.

'Growers should consult the current guides for the latest ratings and definitions to plan disease management activities to prevent yield losses this season.'

'Disease ratings are the first and most important step in managing disease so it's important to understand the latest resistance ratings of varieties.

'In susceptible varieties disease can develop quickly and require greater management. Particularly diseases like stripe rust and Septoria in wheat, net blotches in barley and botrytis in pulses which have been of concern over the last few years.' Dr Fanning said.

Dr Hari Dadu, Agriculture Victoria cereal pathologist, said a particular concern in cereals in 2024 is the emergence of fungicide resistance to Fluxapyroxad (Systiva®, Group 7) in barley net form net blotch.

'In addition to this new resistance in Victoria we have resistance to multiple fungicide groups, including some triazole (DMI, Group 3) and strobilurin (QoI, Group 11) fungicides in wheat powdery mildew, and some triazole fungicides in barley net form net blotch.'

'To reduce the chances of fungicide resistance continuing to develop, integrated disease management is required, including growing resistant varieties, avoiding growing the same crop in succession, spraying fungicides only when required and rotating fungicide groups,' Dr Dadu said.

The 2024 Cereal Disease Guide and 2024 Pulse Disease Guides are available on the Agriculture Victoria website and from AppleBooks:

- https://go.vic.gov.au/3lYyj7J
- https://go.vic.gov.au/3Z8nRPy

The guides are produced with support from Grains Research and Development Corporation (GRDC) and provide updated disease ratings and advice on reducing disease risk for the 2024 season.

2023 in review

The 2023 season had variable severity for pulse diseases across Victoria. Early Ascochyta blight was observed in lentils which required fungicides to prevent yield losses. Severe disease occurred where lentils were grown in close rotations. Proactive disease management and below average spring rainfall meant that disease was of isolated concern across most of Victoria. Low levels of disease were still present in many paddocks, which will contribute to the carryover of disease into the 2024 season.

2024 pulse disease management

There is a risk of disease carryover into the 2024 season from infected seed and stubble of crops that had disease during 2023. To minimise the risk of disease during 2024, a proactive integrated disease management strategy will be required. This should include:

- avoiding susceptible varieties where possible
- avoiding planting pulse crops into or adjacent to paddocks where there was disease during 2023,
- sowing healthy vigorous seed,
- using fungicidal seed dressings where applicable,
- implementing a fungicide management plan.

Summer rainfall and the growth of weeds will increase the risk of soil-borne diseases including root lesion nematodes and Pythium. A PREDICTA®B test will identify paddocks at risk from some important soil-borne diseases of pulses.

There have been no major disease rating changes for most pulses for 2024.

Beans

Chocolate spot was observed at very low disease severity in Victoria during 2023. It is important to avoid susceptible varieties where Chocolate spot is common or a high risk. Minimising disease early in the season will reduce the inoculum load later in the season. Reliance on fungicides is not recommended and cannot provide adequate control in a susceptible variety in a high-risk season and/or environment.

Chickpeas

Disease was not of major importance during 2023 in chickpeas due to proactive management. Currently, there is limited varietal resistance to Ascochyta blight but breeding lines with improved resistance are expected in coming years. A moderately susceptible (MS) variety in an average season should require minimal fungicide applications in low rainfall zones. In the medium to high rainfall zones, it is likely multiple fungicide applications will be required to prevent Ascochyta blight.

Lentils

Ascochyta blight was severe early in the season causing seedling death or stem breakages, and fungicides were required to minimise yield losses. This occurred in paddocks where lentils were grown on a tight rotation, therefore, avoiding tight rotations will minimise disease risk. Sclerotinia white mould (SWM) was not observed during 2023, with conditions not conducive to the disease. However, it is important to monitor paddocks with a history of SWM as the sclerotia (fruiting bodies/survival structures) can survive many seasons. Botrytis grey mould (BGM) was observed at very low levels towards the end of the season, due to dry and mild Spring conditions.

Vetch

BGM and Ascochyta blight are the main causes of yield loss in vetch. BGM in Vetch is caused by the same pathogens that cause BGM in lentil and Chocolate spot in faba bean. Therefore, avoid growing vetch, lentil or faba bean in close rotations or in adjacent paddocks where disease was observed in 2023. The disease management strategy should be matched to the crop's end use (hay, fodder, grain, and manure).

Field peas

Bacterial blight is the most significant threat to field pea production. There are no in-crop control options, so where possible avoid susceptible varieties, paddocks prone to frost, residual herbicides, or planting into pea stubble.

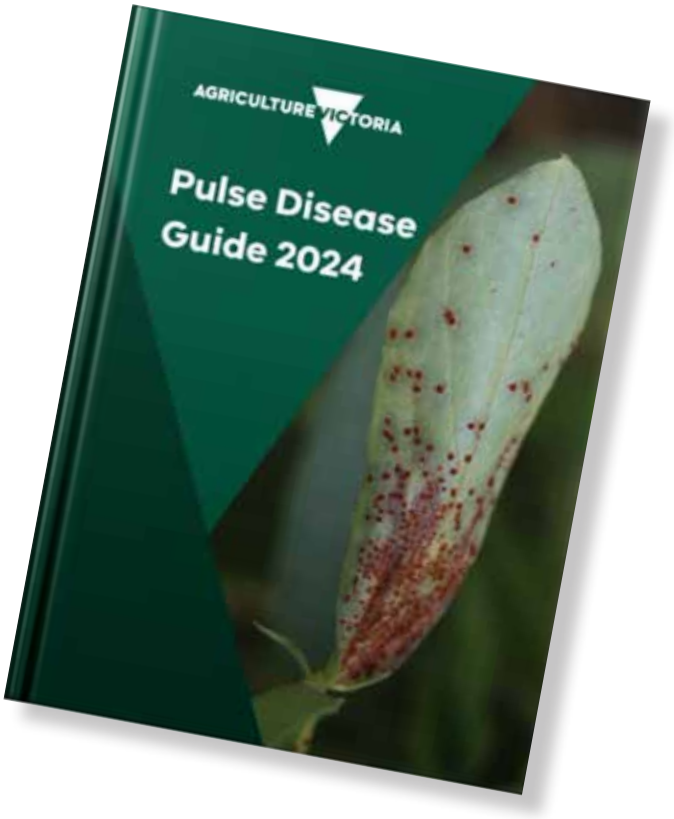
Lupins

Minimal disease was observed in lupins in 2023. Avoid growing lupins in rotation with other pulses and canola to avoid SWM. Monitor crops for disease to ensure disease severity remains low.

Seed quality

The quality of seed and the potential for diseases infecting seed is often neglected. Disease (e.g., BGM and SWM) carryover may be through infected seed or sclerotia contamination in seed lots. Seed infection can not only carry the disease between seasons but reduce plant establishment. Testing seed for germination, vigour, and seed-borne diseases before sowing will ensure good plant establishment. Testing can be completed by specialist laboratories (see back page). Seed treatments are effective at suppressing many fungal diseases; however, seed treatments don't combine well with rhizobium used for inoculation. Read labels for compatibilities.

If you see something different, or high levels of disease in any crop, please send a sample to Agriculture Victoria. If you suspect an exotic pest or disease contact CropSafe or the Emergency Plant Pest Hotline.



CROPLANDS AND ROBOTICS PLUS PARTNER TO INTRODUCE PROSPR TO THE AUSTRALASIAN HORTICULTURE MARKET

ROBOTICS PLUS' PROSPR, A MULTI-USE AUTONOMOUS VEHICLE FOR SUSTAINABLE VINEYARD AND ORCHARD PRODUCTION, IS NOW EXCLUSIVELY AVAILABLE FROM CROPLANDS IN AUSTRALIA AND NEW ZEALAND.

Croplands, Nufarm's emerging solutions spray equipment platform, and Robotics Plus, a New Zealand-based agritech company, announced that they are joining forces to bring Prospr to the Australian and New Zealand horticulture market.

Croplands is now the exclusive Australasian distributor of Prospr, a robust autonomous, multi-use hybrid vehicle platform for horticulture crops designed by Robotics Plus. Prospr significantly increases efficiency across a variety of crop tasks and alleviates labour challenges, with capabilities including automated intelligent spraying.

The distribution agreement complements the existing technology partnership between the companies. Robotics Plus specialises in the design and build of robotics, AI, and autonomous machines, and Croplands has over 50 years of experience in world-leading spraying solutions.

Sean Mulvaney, General Manager, Croplands, says, "We are proud to partner with Robotics Plus on the design and manufacture of world-leading Quantum sprayer modules to integrate onto Prospr, the autonomous platform developed in New Zealand for horticulture markets. Our focus on bringing emerging solutions to the market continues with the opportunity to distribute Prospr and a range of sprayer attachments across Australia and New Zealand."

Steve Saunders, Co-founder, and Chief Executive, Robotics Plus, says, "We are all about partners with purpose to adapt and shift to solve problems. Agriculture is time-critical, and with Croplands, we are combining deep domain expertise to benefit growers. We have developed an automated, effective spraying and attachment solution with the smarts to not just do the job but to keep doing it better. Prospr customers in Australasia will now benefit from Croplands' large distributor network, spraying expertise and customer support."

Robust and flexible to maximise utility

Prospr is a robust autonomous vehicle with all-day running that adapts to growers' jobs while reducing emissions, inputs, and reliance on increasingly hard-to-find machine operators. Prospr's unique modular architecture accommodates multiple interchangeable tools being developed, including newly released tower sprayers for grapes, apples, or tree crops. The right tool for

the job is attached to the vehicle depending on the day's work, allowing different tools for various crop types and applications year-round to maximise return on investment. Multiple Prospr machines can collaborate in a fleet to get the job done. The autonomous vehicle uses a combination of perception systems to sense the environment, putting valuable data and insights into the hands of growers.

Fuel Efficiency

Prospr has an all-electric drive system for superior torque and control. Its onboard power generation, with a Tier 4 diesel generator, allows the vehicle to operate for extended periods without charging or refuelling. Regenerative braking and high-capacity batteries extend range, while its intelligent all-wheel-drive system with independent wheel motors gives superior manoeuvrability, grip, and control.

Modular and adaptable

Prospr has a small footprint and unique steering configuration, incorporating electric steering and independent motors.
The vehicle turns on its rear axle with a minimum headland requirement of 7.1m for row-to-row turning. Minimum row spacing is 1.85m, giving growers options to deploy automation in a greater variety of applications in various crop types. This means the ground is covered faster, maximising productivity and spray time compared to machines that turn on every second row or greater. The vehicle's lightweight design, combined with its unique tyre and wheel configuration, reduces ground compaction. Robotics Plus' ongoing partnership with Yamaha Motor Co, a global technology leader, allows the company to take advantage of their extensive knowledge in machine vision, artificial intelligence, and productising vehicles for scale.

Q Series Sprayers

Q Series Sprayers, developed by Robotics Plus in conjunction with Croplands, allow growers to deploy a range of sprayer configurations, adapting to various crop types and growing systems. The Q4 / Q6 sprayers have two or three fans per side designed for either vine or tree crops. The Q8 sprayer comprises eight fans, four per side, and is best suited to tree crops. Spray rates and air speed are dynamic and controlled per fan to maximise spray efficacy through electric drive and

Robotics Plus Co-founders, Steve Saunders and Dr Alistair Scarfe

control systems. The sprayers are built using Croplands Quantum fans that produce targeted, controlled and turbulent air for better coverage from the superior droplet formation and spray deposition.

Safety and Management

To implement Prospr, a mesh network is installed to give a more consistent connection and interaction with the machine, improving operational efficiencies and user safety. Operators can manage and streamline the day's work with a new organisational tool with an easy-to-use interface. Coordination is enabled between team members with multi-language support across various desktop and mobile devices. Jobs can be logged in advance and viewed in real-time. Completed or in-progress jobs are mapped and recorded digitally. Multiple machines can be managed simultaneously by one or two operators from a single remote control via a fixed or mobile console.

For more information on Prospr or to order from Croplands in Australia and New Zealand, see

https://croplands.com/au/product/robotics-plus-automated-sprayer/

Q SERIES SPRAYERS – Q4 and Q6 sprayers are made up of two or three Quantum™ fans on either side. Best suited to grape apple or tree crops

Q SERIES SPRAYERS – Q8 sprayers are made up of eight Quantum™ fans, four on each side. Best suited to apple crops.

AUSSIE FRUIT AND VEGETABLES ON DISPLAY FOR INTERNATIONAL BUYERS

World-class Australian produce and leading growing businesses will be on display to an international audience this week, as fruit and vegetable buyers from key export markets across the Asia Pacific region and Middle East land in Australia to build business connections with local horticulture growers.

Almost 40 buyers representing 12 export markets will arrive in Melbourne tomorrow (28 May) to begin the week-long Reverse Trade Mission delivered by AUSVEG, and funded by Hort Innovation using the vegetable, onion and melon research and development levies and contributions from the Australian Government.

“Australian growers produce some of the best vegetables and fruit in the world, and during this Reverse Trade Mission we’ll be introducing that produce – and the people who grow it – to importers from right around Asia, the Pacific and the Middle East,” said AUSVEG CEO Michael Coote.

“The personal and business connections and mutual learning local suppliers and international buyers get from trade missions like this are a key part of our ongoing efforts to provide Australian growers with opportunities to develop international business opportunities.”

The visiting importers hail from Malaysia, the UAE, Singapore, Hong Kong, Japan, Indonesia, the Pacific Islands, the Philippines, Saudi Arabia, South Korea, Taiwan and Thailand.

During the Reverse Trade Mission, international buyers will visit vegetable growers in Victoria’s Werribee, Bacchus March and Gippsland regions, before travelling to Tasmania to spend a day with growers around Devonport.

On returning to Victoria, delegates will visit growers at Somerville, the cutting edge Steritech food safety treatment facility in Cranbourne, the South Melbourne Market and a number of retail outlets.

The Reverse Trade Mission will culminate on Monday 3 June with an Australian fresh produce display linked to Hort Connections – the southern hemisphere’s largest horticulture industry conference, running in Melbourne from 3-5 June.

Australia exported $2.79 billion worth of horticultural products in 2022/23, which accounted for 12 percent of total Australian horticultural production. Fresh fruit made up nearly half of this, nuts 34 percent, and fresh vegetables 9 percent, with flowers, nursery and processed produce making up the remainder.

In 2023, Australian fresh vegetable exports were worth $247 million at 193,984 tonnes. The ASEAN markets are by far the largest destination for Australian fresh vegetable exports, accounting for 37 percent by value.

The Reverse Trade Mission is delivered by AUSVEG as part of the Multi-Industry Export Program, funded by Hort Innovation using the vegetable, onion and melon research and development levies and contributions from the Australian Government. Victorian components of the Reverse Trade Mission have been organised in collaboration with Global Victoria and the Victorian Government, and Tasmanian components have been organised in collaboration with the Tasmanian Government’s Department of State Growth.

About AUSVEG

AUSVEG is the peak industry body for the Australian vegetable, potato & onion sectors, representing over 3,600 growing businesses that employ tens of thousands of workers and produce over 3.5 million tonnes of produce, with a farmgate value of over $5.8 billion.

SENATE INQUIRY CONFIRMS UNCONSCIONABLE TREATMENT OF GROWERS BY BIG SUPERMARKETS AND BUNNINGS

The NFF Horticulture Council has today welcomed the report by the Senate Select Committee on Supermarket Prices, which reveals the true cost of supermarket power and exploitative behaviour being borne by both Australian households and the national horticulture industry.

Chair of the Council Jolyon Burnett said that while the evidence of price gouging at the checkout has not surprised anyone, there has been shock at the evidence of widespread appalling treatment of fresh produce suppliers.

"What started as an important investigation into supermarket pricing practices on struggling households has also provided widespread examples and growing appreciation of the impacts of supermarket profiteering on the sustainability of Australian fresh produce and nursery businesses and supply chains," said Mr Burnett.

"The Select Committee has today reported on troubling testimony from growers, of predatory pricing practices that exploit the perishable nature of fresh produce, the imposition on growers of costs and risks outside their control, and of an almost universal fear of commercial retribution should any objections be raised.

"Not only are growers getting a raw deal with every trade, they're also left with little profit to reinvest in the productivity of their businesses. Our partners, including transport operators, are also getting squeezed leaving our food supply chain weak and susceptible to disruption.

"But this report is just part of a growing base of evidence that is painting supermarkets and Bunnings in the same light as the big four banks following the Royal Commission into that industry.

"Still unfolding is the Review of the Food and Grocery Code of Conduct led by Dr Craig Emerson, due to report by 30 June, and the ACCC Supermarkets Inquiry 2024-25, expected to table an interim report no later than 31 August with a final report due next February.

"We expect the ACCC reporting in particular to paint a far more vivid picture of unscrupulous supermarket practices given the addition powers of the ACCC to compel evidence and testimony.

The Council has welcomed recommendations by the Select Committee to dramatically tighten provisions within the Food and Grocery Code and attach significant penalties for any breaches.

"These recommendations accord with those already being flagged by Dr Emerson and will work to start levelling the playing field for growers," said Mr Burnett.

"But it will all be for nothing if the ACCC isn't appropriately empowered and resourced to act as a tough cop on the beat.

> **"Not only are growers getting a raw deal with every trade, they're also left with little profit to reinvest in the productivity of their businesses."**
>
> *Jolyon Burnett*
> *Chair of the NFF Horticulture Council*

"The incentives and drive everyday within supermarkets and Bunnings to deliver ever greater profits to shareholders at the expense of consumers and growers has to be met, not just by big penalties for breaching the Food and Grocery Code and other Competition Law, but by the very real prospect of getting caught.

"So, along with many customers and supermarket suppliers, the Council is calling on the Federal government in its Budget next week to deliver a substantial, ongoing investment in the ACCC to deliver on its new monitoring and compliance expectations.

About the Horticulture Council

The Council is the recognised peak body for forming policy and advocating on behalf of the national horticulture industry. Established in 2017, it now comprises 21 national commodity and state-based horticulture bodies.

It is a member of the National Farmers' Federation, free to establish and advance its own policy positions and responses issues impacting the horticulture industry.

For more information about the Council scan here.

UNLOCKING GROWTH: AUSSIE HORTICULTURE EYES INDIAN MARKET

AUSTRALIAN GROWERS ARE SET TO GAIN INSIGHTS INTO THE JOURNEY OF THEIR PRODUCE TO INDIA, WITH THE AIM TO MAINTAIN QUALITY AND BOOST TRADE IN THE HIGH-VALUE MARKET.

Commissioned by Hort Innovation and delivered by KPMG Australia, researchers will map the supply chain of horticultural products exported to India, identify the main opportunities and challenges, and recommend strategies to enhance the position of Australian products in the market.

The research is funded through a Federal Government Agricultural Trade and Market Access Cooperation (ATMAC) grant awarded to Hort Innovation, with the aim of getting more Australian produce to consumers around the world.

Minister for Agriculture, Fisheries and Forestry, Murray Watt said 2024 would deliver new opportunities for the nation's horticulture industry.

"Australia grows world-class produce, and we want to get it on more dinner plates right across the globe," Minister Watt said.

"Last year I led a delegation to India with 12 senior members of Australian agribusiness to promote our high-quality produce and push for greater trade ties between the two countries. It is great to see these ties reflected in the growth of trade between Australia and India.

"With positive outcomes already emerging through the Australia-India Economic Cooperation and Trade Agreement, India provides immense opportunity for Aussie growers and producers, with a young, growing population who value Australian produce."

Hort Innovation chief executive Brett Fifield said India has never been more of a focus for produce exports.

"Growth in incomes, population, and urbanisation in India are projected to drive a substantial hike in premium agrifood consumption in the future," Mr Fifield said.

"By 2050, significant increases are expected in import demand from India for fruit, vegetables and nuts, so now is the time for the Australian horticulture sector to better understand the Indian supply chain.

"One of Hort Innovation's core imperatives is to accelerate local and global demand, and this project will set industry up for future success by equipping them with the intel they need to play in the Indian market."

The Avolution chief executive Antony Allen said the avocado industry is primed to do business with India.

KEY FACTS AND FIGURES:

Last year, Australia exported over 30,000 tonnes of produce to India, which was an increase from nearly 15,000 tonnes in 2022.

Currently, Australia has market access into India for the following products:

NUTS

Macadamia

Almond

Pistachio

VEGETABLES

Chives

Leeks

Onions

Shallots

FRUIT

Apple

Apricots

Avocados

Blueberry

Cherry

Citrus

Dates

Peaches

Pear

Nectarine

Plums

Tablegrape

While India is the second largest producer of fruit and vegetables in the world, it is also an expanding market for imported products. With growing focus on nutrition and health, Indian consumers are eating fresh fruit and vegetables more regularly. Australian exporters can benefit from our:

- Image in India as clean and safe food producers
- Complementary agriculture season
- Existing trade reputation for fresh produce
- Relatively close location allowing for faster shipping and fresher produce.

"With our early exports to India, we are already learning so much about this market and our customers. This study offers deeper insights that will help grow our partnership with India further," Mr Allen said.

"The avocado industry is gearing up to make our mark on the Indian market after last year's federal government announcement that Australian Hass avocados can now be exported to that market. We have got levy-funded promotions featuring former Australian cricketer Brett Lee scheduled for May to deliver positive messages about Aussie avos, sharing their virtues in terms of taste, nutrition and versatility."

"The time is ripe for our exporting industries to capitalise on trade opportunities with India, and this report will provide us with a roadmap on where to focus our efforts and drive value for our sector."

Source: Hort Innovation *https://www.horticulture.com.au/hort-innovation/news-events/media-releases/2024*

CANNABIZ AWARDS: TURNING 1 INTO 10

2023's Start-up of the Year Award Winner, Biortica Agrimed has this year been selected as a finalist in 9 award categories.

"Wow!", said Biortica's CEO Tom Varga, "I'm speechless. Just, just ... Wow!!""I really don't know what to say. We just have the greatest Team in the medicinal cannabis industry, and they all deserve to get an award."

"Even just being accepted as a finalist is recognition in itself." Displaying meteoric growth, Biortica Agrimed has expanded rapidly to become Australia's fastest growing and largest grower of B2B medicinal cannabis. It is a Cannabiz nominated finalist in the following categories:

- **Company of the Year**
- **Best Place to Work**
- **Cultivator of the Year**
- **Business Leader of the Year**
- **Best Industry Newcomer**
- **Best Use of Technology**
- **Industry Advancement - Industry Innovation**
- **Industry Collaboration**

"I'm pleased that several of the nominations are for industry contributions ... technology, innovation, collaboration, and industry advancement. It's about building a new industry for Australia. We're doing our bit, and plan to be doing a lot more," said Tom.

Biortica Agrimed Ltd

Award winning, Biortica Agrimed Ltd is Australia's largest fully vertically integrated commercial grower of medicinal plants. Our B2B operations are seamlessly integrated from plant genetics through to supply of medicinal plants in commercial quantities. We employ glasshouse-based horticulture, to both, protect our valuable medicinal crops, and equally to minimise our environmental impact, thereby protecting the planet. Our goal is to significantly improve human health outcomes by supplying high quality agricultural medicinal plants, at scale, to uniform high quality standards year-round.

http://www.biortica.com/

FARMERS WELCOME STAGED APPROACH TO ENVIRONMENT OVERHAUL

Farmers say they'll wait to see the legislation underpinning the Environment Protection Agency and Environment Information Australia before forming a view on the second tranche of environmental law reforms announced by Environment Minister Tanya Plibersek today.

The National Farmers' Federation has however welcomed the Minister's decision to stage the reforms, allowing more time for scrutiny of broader legislative changes.

NFF President David Jochinke said the move was appropriate given what was at stake.

"Our members have said for years that the current Act is broken. It's hard to engage with producers who want to do the right thing, and in some instances it's preventing best practice management of the landscape.

"Unpicking this tangled mess of overlapping state and federal rules and making it work better for everyone takes time, so we're pleased to see the Minister deciding not to rush this through."

Mr Jochinke explained that what farmers are calling for is a more effective partnership with Federal regulators.

"What we don't want to see is these new Federal bodies charging off into the bush waving a big stick.

"The consistent message from farmers to the government in this process is that they don't understand the complex Federal system, and how it works alongside various state environment laws.

"What we need to see – including from these new bodies – is a much more positive and proactive engagement with farmers, aimed at helping them comply rather than catching them out.

"As custodians of over half Australia's landmass, if this new system doesn't recognise the good work farmers are doing in terms of managing the landscape while also producing food and fibre for the community then it just doesn't work.

"It needs to recognise that agriculture is an existing land-use and the intersection with matters of national environmental significance is complex and dynamic, the law needs to be viewed through this lens.

"We look forward to working constructively with Minister Plibersek and her Department to ensure that we reach a positive outcome for farmers and the environment," Mr Jochinke concluded.

ABARES REPORT

SNAPSHOT OF AUSTRALIAN AGRICULTURE 2024

This Insights report describes the current state of Australian agriculture, with the aim of providing key information and statistics in one place. It covers eight key aspects of Australian agriculture: its role in the broader economy, trends in production, farm incomes, industry structure and productivity, climate change impacts and risk management, agricultural employment, sustainability and trade.

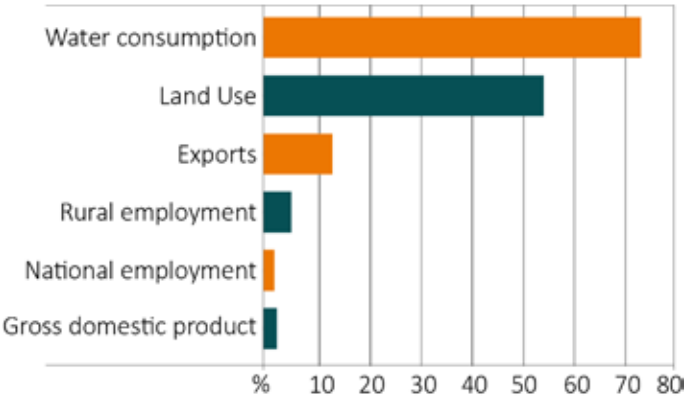
Agriculture's place in Australia

Australian agriculture accounts for:

- 55% of Australian land use (426 million hectares, excluding timber production, in December 2023);
- 74% of water consumption (9,981 gigalitres used by agriculture in 2021–22)*;
- 13.6% of goods and services exports in 2022–23;
- 2.7% of value added (GDP) and 2.2% of employment in 2022–23 (Figure 1).

The mix of Australian agricultural activity is determined by climate, water availability, soil type and proximity to markets. Livestock grazing is widespread, occurring in most areas of Australia, while cropping and horticulture are generally concentrated in areas relatively close to the coast (Figure 2).

FIGURE 1) SELECTED CONTRIBUTIONS OF AGRICULTURE



Sources: ABS Water Account (cat. 4610); Catchment scale land use of Australia – update December 2020, ABARES; ABS Balance of Payments (cat. 5302); ABS Labour Survey (cat. 6291); ABS National Accounts (cat. 5206)

Note: ABARES has changed methods to calculate water consumption rather than water extractions of agriculture, forestry and fisheries. Water extractions are taken directly from a water source by a producer (e.g. irrigators diverting surface water from rivers or groundwater from aquifers). Water consumption captures water extractions as well as water use from all other sources (e.g. water service providers such as Murray Irrigation and other irrigation infrastructure operators).

*Includes agriculture, fisheries and forestry.

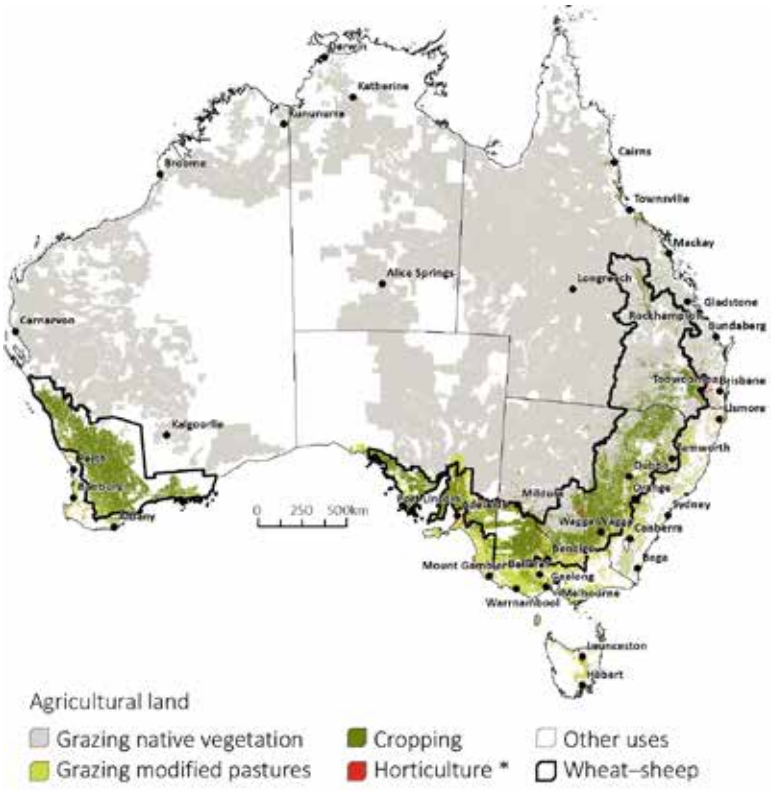
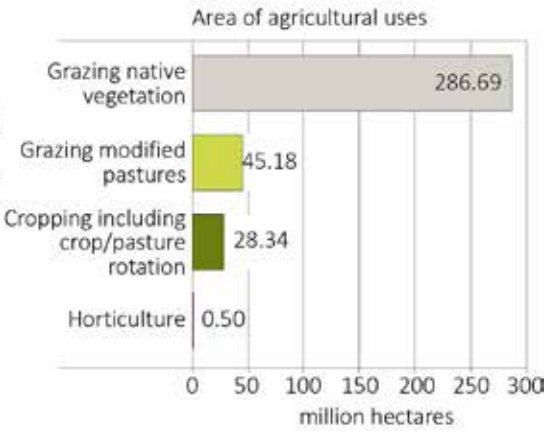


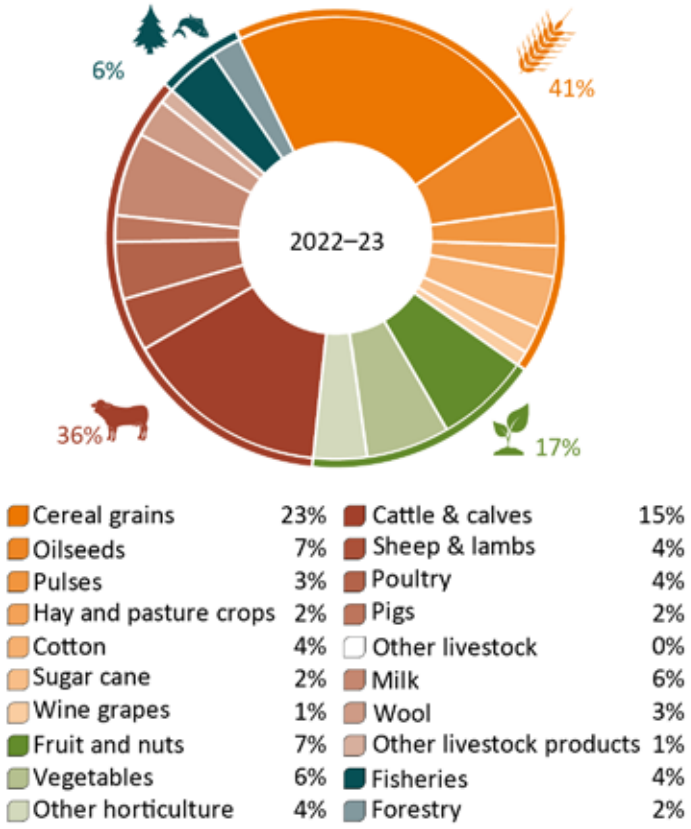
FIGURE 2) AGRICULTURAL PRODUCTION ZONES



Note: * Exaggerated to improve visibility.

Sources: Wheat-sheep zone – Australian Agricultural and Grazing Industries Survey, 2016, ABARES; Catchment scale land use of Australia – update December 2023, ABARES; ABS Agricultural Commodities, Australia, 2020–21 (cat 7121)

FIGURE 3) AGRICULTURE, FISHERIES AND FORESTRY VALUE OF PRODUCTION, BY COMMODITY, 2022–23



Note: Contributions of commodities to the agriculture, fisheries and forestry value of production do not sum to 100 due to rounding. Other grains and oilseeds group contributes 0.2% to the value of production. Values are measured at the farm gate (i.e. prior to processing).

Source: ABARES

*(See Box 1.2 of the Agricultural Commodities Report for further information)

Agriculture accounts for over half of Australia's land use so the sustainable management of this land is an important issue for both farm businesses and the general public. There are many sustainable land practices that have become standard for Australian farmers (Coelli 2021). For example:

- many broadacre cropping farms retain stubble (85% of farms), minimise tillage (68% of farms) and optimise the use of (and reduce reliance on) pesticides or fertiliser (65% of farms)
- many livestock farms are using a variety of grazing management systems such as cell, trip or rotational grazing (61% of farms) and setting a long-term groundcover requirement (61% of farms).

Agricultural production is growing

Australia has a diverse agricultural, fisheries and forestry sector, producing a range of crop and livestock products (Figure 3).

The breaking of a 3-year east-coast drought in 2020 has been followed by successive years of record-breaking production. Many agricultural regions transitioned from very poor to very good conditions within the span of a single season. This has been combined with very high commodity prices for almost all of Australia's major agricultural products.

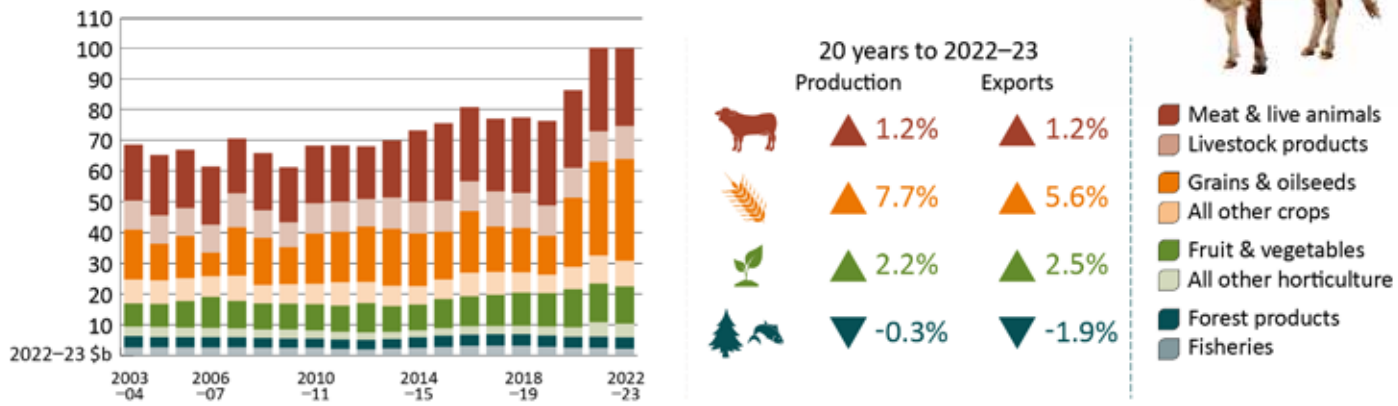
The gross value of agricultural, fisheries and forestry production has increased by 51% in the past 20 years in real terms (adjusted for consumer price inflation), from approximately $62.2 billion in 2003–04 to $94.3 billion in 2022–23. When including fisheries and forestry, the total value of agricultural, fisheries and forestry production has increased by 46% in real terms in the same 20 year period from approximately $68.5 billion in 2003–04 to $100.1 billion in 2022–23 (Figure 4)*.

Drivers of growth in the value of output over the past 20 years vary by sector.

In cropping, producers have improved productivity by adopting new technologies and management practices leading to strong volume growth.

In livestock, higher prices have been the main driver of growth, reflecting growing demand for protein in emerging countries and some temporary factors, such as drought in the United States and disease outbreaks such as African Swine Fever in meat importing countries.

FIGURE 4) AGRICULTURAL, FISHERIES AND FORESTRY PRODUCTION, 2003–04 TO 2022–23



Note: Values are measured at the farm gate (i.e. prior to processing). Percentage changes represent the average annual growth rate between 2003–04 and 2022–23.

Sources: ABARES; ABS International Trade in Goods and Services (cat. 5368); ABS Value of Agricultural Commodities Produced, Australia (cat. 7503)

AUSTRALIA'S FRESH PRODUCE MARKETS RETURNS AS HORT CONNECTIONS TRADE SHOW SPONSOR

Hort Connections is proud to announce the return of Australia's Fresh Produce Markets, a collaboration between Fresh Markets Australia (FMA) and the Central Markets Association of Australia (CMAA), as a Major Partner and the exclusive sponsor of the Hort Connections 2024 Trade Show.

Australia's Fresh Produce Markets (AFPM) is a long-time supporter of Hort Connections, and is this year joined by Affiliate Partner - Toyota Material Handling Australia.

Hort Connections 2024 will be held at the Melbourne Convention and Exhibition Centre from 3-5 June, and the event will attract 3,500 horticulture industry professionals to experience the latest offerings from global exhibitors, and hear from expert speakers about fruit, vegetable and flower industry trends and research.

"We are very pleased to have Australia's Fresh Produce Markets returning to support Hort Connections and see them increase their support by coming on board as a Major Partners of the Event. AFPM has been a critical component to the success of Hort Connections and we are thrilled to have them once again as the exclusive Trade Show sponsor, including affiliate partner Toyota Material Handling Australia," said AUSVEG National Manager – Events and Partnerships Nathan McIntyre.

"The support of FMA and CMAA has been an important element of Hort Connections over many years now. The event brings together stakeholders from the full breadth of the Australian horticulture supply chain, and the wholesale markets are a large and integral part of that."

"Their support has allowed us to grow the size and scope of the event, and this year Hort Connections boasts the largest ever trade show footprint."

Fresh Markets Australia Chair Shane Schnitzler said Hort Connections was a vital opportunity for the industry to meet with friends and colleagues to share ideas, do business and make connections.

"Hort Connections is a central fixture on the horticulture industry calendar for good reason, and we are proud to continue supporting the industry through the being a Major Partner of the event and our sponsorship of the Hort Connections Trade Show," said Mr Schnitzler.

"With cost pressures bearing down on every business in the supply chain this year, we encourage everyone to attend Hort Connections to discover new technologies or practices that could help your operation, and to find new business opportunities."

AFPM will be hosting a conference session during the trade show which will include price transparency initiatives and their increasing importance to the Australian horticulture industry.

Trade show delegates will also be able to attend a pre-event tour of the Melbourne Wholesale Fruit & Vegetable Markets. Located on a 67-hectare site in Epping in Melbourne's north, Melbourne Market is used as a base for approximately 2,750 businesses to buy and sell fresh fruit, vegetables and cut flowers.

The tour is a great opportunity to see behind the scenes in one of Australia's largest wholesale markets, a location normally closed to the public. For more information about Hort Connections, including key convention partners, and to register for the event, please visit hortconnections.com.au.

About Hort Connections

Hort Connections is the largest horticulture conference and trade show in the southern hemisphere. The conference is co-produced by AUSVEG and International Fresh Produce Association A-NZ (IFPA A-NZ).

Hort Connections 2024 will be hosted between 3-5 June at the Melbourne Convention & Exhibition Centre (MCEC). Hort Connections has grown to a 3,000-delegate event and welcomes more than two times the number of growers than it did at the time of conception in 2017.

Speakers and exhibitors will showcase the latest research, technologies, and innovations to offer new perspectives on the future of Australasia's horticulture industry.

About AUSVEG

AUSVEG is the peak industry body for the Australian vegetable, potato & onion sectors, representing over 3,600 growing businesses that employ tens of thousands of workers and produce over 3.5 million tonnes of produce, with a farmgate value of over $5.8 billion.

SUMITOMO SPONSOR FUTURE ORCHARDS® 2024 INTERNATIONAL GROWER TOUR OF NEW ZEALAND

Apple and Pear Australia Limited (APAL) is the peak industry body for Australian apple and pear growers. For the first time since 2019, APAL hosted the return of their Future Orchards® international grower tour in 2024.

The tour travelled to New Zealand and took place from 15–19 January 2024, covering both South and North islands with AgFirst consultants leading orchard walks in their home regions.

Growers toured both the Tasman (Nelson) and Hawke's Bay regions visiting a number of leading growers to discuss their season to date, block performance and growing systems, while Sumitomo Australia employees Jack Bartels and Phil Glover had the opportunity to take the group to visit Sumitomo's trials of new apple thinning technology under development and talk to the group about how this product is expected to change the way growers use chemical thinners.

AUSSIE FARMERS TRANSFORMING DAMS INTO STUNNING RECREATIONAL BILLABONGS WITH PASES AQUA INNOVATION

Australian farmers are transforming their dams into beautiful, breathtaking billabongs with the help of PASES Aqua, an innovative company specialising in natural swimming pools, lake management and pool to pond conversions.

Dr. Dulana Herath, the founder of PASES Aqua, believes that transforming dams into billabongs is a perfect example of how we can repurpose agricultural infrastructure to benefit both the biodiversity, environment and the community. Natural swimming dams have multiple recreational uses including swimming, kayaking and fishing.

The conversion process undertaken by Aussie farmers, with the guidance of PASES Aqua, involves meticulous design and the integration of natural and artificial filtration systems to ensure the health and clarity of the water.

PASES Aqua's projects are distinguished by their innovative approach to water management, emphasising the importance of biodiversity, sustainability and minimal environmental impact.

These billabongs require minimal maintenance, making them an attractive option for farmers seeking to enhance their land's value and utility.

"Our mission at PASES Aqua is to blend aesthetic beauty with ecological function. The transformation of dams into billabongs is a perfect example of how we can repurpose agricultural infrastructure to benefit both the biodiversity, environment and the community. These natural aquatic ecosystems are designed to be self-sustaining, supporting diverse flora and fauna while providing a peaceful retreat for people. They also have multiple recreational uses including swimming, kayaking and fishing" said Dr Dulana.

By leveraging natural processes, these billabongs require minimal maintenance, making them an attractive option for farmers seeking to enhance their land's value and utility.

For more infomation contact; Dr. Dulana Herath - PASES Aqua admin@pases.com.au or visit the website ***https://www.pasesaqua.com.au/natural-swimming-pools-dams/natural-swimming-dams/***

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