



CropLinks

THE LATEST PLANT SCIENCE INDUSTRY NEWS

From national talking point to national priority

Disruptions shift the dial on agriculture and food security

Disruption to global trade over the last two years has highlighted the importance of resilient supply chains to a safe and stable food supply, taking the issue from a national talking point to a national priority. As uncertainty intensifies in the wake of a new global conflict, market access, supply chain reliability and the rising cost of living will be a key focus in the lead up to a federal election.

Despite facing the single largest disruption to global supply chains since World War II, Australia's agricultural sector and the many input industries that enable it, delivered for the nation.

The disruption has tested the resilience of agriculture and highlighted the need for further de-risking, diversifying and resilience-building in farming supply chains.

Contrary to the paddock to plate narrative, access to safe, fresh and affordable food starts with strong foundations in science-driven innovation. Investment positive environments, science-driven innovation and new technologies provide farmers with the capacity to continually adapt, improve and deliver.

Sound public policy that supports the many agriculture input industries, such as the plant science sector, and efficient regulatory systems are key to the productivity, profitability and sustainability of Australian agriculture.

The dedication, hard work, skill and experience of our farmers must be supplemented with the right tools to respond accordingly. The many agriculture input industries, such as the plant science sector, will continue to provide that so long as efficient regulatory systems and sound public policy enable them to do so.

Frameworks that enable mitigation of risk and diversification of supply chains domestically and in concert with trusted international partners remain a critical component to address structural supply chain challenges for Australian farming and supporting industries.

Government and industry need to be focussed on a vision and a framework upon which Australia's farming sector and agricultural industries can deliver long term for the needs of all Australians.

Plant science contributes to the economy and your supermarket trolley. Here's how

73% of crops produced in Australia is enabled by pesticides.

\$1 billion - Australian manufacturing value.

12% average household income is spent on food.

\$20.6 billion – Australian agricultural output attributable to plant science.

Without plant science – vegetables, fruit and bread would cost around **50%** more.



Inside this issue

3 En-gendering a path to sustainability

4 From lab to paddock to plate

7 A genes difference in sorghum digestibility

REPRESENTING THE BEST OF THE PLANT SCIENCE INDUSTRY



THE LATEST PLANT SCIENCE INDUSTRY NEWS



Matthew Cossey
Chief Executive Officer, CropLife Australia

CropLife acknowledges the original farmers and custodians of the land.

From the CEO

With all the uncertainties and challenges of the past two years, never has good public policy and efficient regulatory systems for Australia's agriculture sector been so relevant or important for the nation. With a federal election looming it is only right that agriculture features as a priority.

Less than half a per cent of Australia's population produces the food, animal feed and textile fibres for the rest of the population. The reality remains that ultimately, we rely on a relatively small number of people to feed us.

Input industries, such as the plant science sector, enable farmers to grow high-quality, high-yielding crops more sustainably. Pesticides, be they organic, synthetic or biologically based, directly enable \$20 billion of Australia's crop production. At the same time, the effectiveness of current products and the development of new and modern technologies means farmers are now applying on average 95 per cent less pesticide per hectare to achieve the same level of pest control.

Furthermore, development of new crop varieties through biotechnology innovation will only become more crucial for farmers as they take on even more challenging circumstances over the coming decades, while still needing to become even more sustainable and improve productivity.

In Australia, like the rest of the developed world, food has never been safer and never has there been such variety of produce available to consumers despite supply chain disruptions. Australia's agricultural sector will continue to grow with confidence in delivering for Australian consumers, as long as there is access to technologies that successfully manage the ever-evolving challenges that farmers face. That cannot be taken for granted.

As all political parties prepare their election platforms the message from the plant science industry is clear; listen. Listen to those on the ground and work with them in the interest of more sustainable, productive and profitable agriculture from which the entire nation will benefit. Fact and evidence-based public policy is crucial to the success of the farming sector and meeting the needs of all Australians.



En-gendering a path to sustainability

The United Nations has identified gender equality and science as vital to achieving the 2030 Agenda for Sustainable Development in time. But an under-representation of women in the field could be holding us back from reaching global targets.

A significant gender gap has persisted throughout the years at all levels of science, technology, engineering and mathematics (STEM) disciplines all over the world. In Australia around a third of STEM students or employees in agriculture and environmental science are female.

But it's not just about giving women jobs. The way we respond to the impacts of climate change and population growth, comes down to putting the right people in the right jobs.

We know that science and technology will be a core driver of Australia's response to productivity and sustainability challenges in agriculture. New ways of thinking will pave the way to innovative solutions and broader perspectives amongst policy makers.

In this context, gender equality and equal opportunities to participate in science and agriculture generates new ideas for better resource management and food security in Australia and globally.

By acknowledging the contributions of women in this country, from science and research, manufacturing to policy and on-farm, we set an example for future female leaders and diversity in the space.

New generations of scientists, farmers and environmentalists will shape the way agriculture intersects with not only climate change but also social rights and equality to realise the benefits for humanity.



“To me, policy provided a mechanism to implement positive change, evidence-informed policy was not so universal, and I wanted to change that.”

Dr Jana Phan,
Director – Stewardship
and Sustainability Policy



“At just six years old my grandfather's stories about life on a small French farm prompted me to decide that one day, I would help farmers grow better crops.”

Dr Anne-Sophie Dielen,
Director – Crop
Biotechnology Policy

Crop Protection



Crop
PROTECTION

From lab to paddock to plate

Australian agriculture has a national goal to reach \$100 billion by 2030 through increased productivity, market access and diversification.

It's an ambitious goal in the face of climate change impacts, resource scarcity and invasive pests and weeds. Australian farming will need new innovations to succeed in this ambitious quest, especially from the plant science sector. Australia's registration and regulatory systems need to be efficient, science based and independent if the plant science industry's innovations are able to be accessed and assist Australia's farmers.

The organic, synthetic and biological pesticide products and new chemical innovations farmers need to drive productivity, face a longer and proportionately more costly path to market compared to Australia's major international agricultural competitors such as Canada, the US and South American countries.

In 2021 a review of the pesticides and veterinary medicines regulatory system in Australia (The Matthews Review) identified many procedural inefficiencies in regulation and registration costs. Unfortunately, rather than address the primary need for better access to new crop protection products by farmers, it proposed duplicated and costly layers of bureaucracy where credible and effective (albeit inefficient) systems already exist.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) currently regulates and evaluates chemicals for risk, based on unique Australian crops, pests and environmental conditions using a science based, independent framework.

If the major recommendations from the Matthews Review were implemented, an entirely unnecessary chemical re-review system based on the European Union's (EU) would be established. The EU re-evaluation system is based on arbitrary time frames, not on science or data. If anything, this would only prevent farmers from having access to products that have been safely and responsibly used for years and bury Australia's regulatory system in unnecessary red tape.

Australians need world class agricultural practices and innovative crop protection products to ensure productivity, sustainability and profitability of farming now and into the future. Therefore, the answer is not a new regulatory system. The current one is not broken. What we need is well considered, targeted efficiency improvements in the regulatory system and fewer hurdles for investment in the Australian market.

What we need is well considered, targeted efficiency improvements in the regulatory system and fewer hurdles for investment in the Australian market.

See what it takes to get a new pesticide to market



Screening (4-5 years)

- Developers screen thousands of chemicals to find one that safely addresses a specific pest problem. Less than one in every 140,000 makes it into a pesticide.



Research (3-4 years)

- Developers test products in greenhouses to simulate real-world situations and evaluate effectiveness and potential negative effects.
- Products that make it past this phase are assessed closely to determine potential for adverse health effects in human, animals or the environment. The Australian Pesticides and Veterinary Medicines Authority (APVMA) mandates more than 200 individual tests to ensure its safety.



Evaluation (1.5-3 years)

- Once developers have completed the required research and tests on a pesticide, they submit the data to the APVMA for independent assessment according to the Agricultural and Veterinary Chemicals Code.
- The APVMA only registers a product if there is sufficient scientific data to show the product does not pose an unacceptable risk to human health or the environment and that it serves its useful purpose.



Re-evaluation and special review

- If at any time new information or scientific data indicate a pesticide could pose an unacceptable risk, the information is evaluated and appropriate action taken.
- Many things can trigger a reconsideration like new manufacturer data, new public scientific data or a cancelled registration by a similar regulator.

In all, it can take longer than a decade and more than \$350 million (AUD) for a new pesticide to get to market.



APVMA performance returns a timely reminder

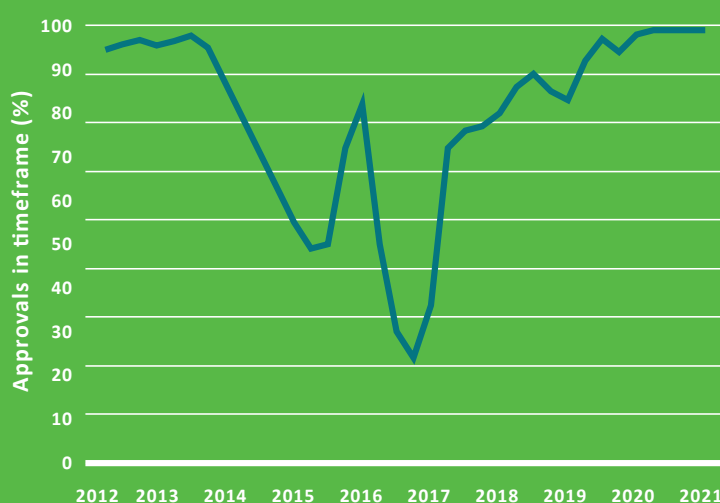
The last 10 years have been tough on the APVMA, a sentiment echoed by its performance record. However, its return to minimum performance standards offers a crucial opportunity for the agricultural sector to go further.

It's been a record breaking few years for Australian farmers, buoyed by optimal growing conditions and market prices. Timely farmer access to new pesticides and technology has also played an important role in the nation's economic outlook. Now as the APVMA returns to approvals of pesticide registration within statutory timeframes and with the benefit of hindsight, it's time for a step change.

Targeted and considered improvements to Australia's agvet regulatory system, now, will ensure the delivery of timely innovations to farmers through an efficient regulator that responds to scientific principles and data independently of politically driven decisions.

It's essential that any APVMA reforms take lessons from the past if it is to maintain its global credentials and serve the Australian farming sector by enabling access to the right agricultural chemicals at the right time.

Processing times finally return to minimum statutory requirements



Crop Biotechnology



Crop
BIOTECHNOLOGY

Future-proofing biotechnology innovation

With biotechnology making huge leaps in the areas of agricultural and medical research, the regulatory system must keep pace. The modernisation of Australia's National Gene Technology Scheme will be essential to the development of new technologies, well beyond plant science.

Australia has long been at the forefront of the regulation and adoption of biotechnology innovation. Gene editing has developed new and improved crop varieties, helping farmers respond to ever-changing climate conditions and consumer demand. But the potential benefit of biotechnology extends well beyond agriculture.

There have been many major advances in biotechnology and medicine even before COVID-19 appeared. But the pandemic has put the sector 'centre stage' and revolutionised the development of new vaccines which has quite literally saved lives.


As science and technology evolves, so too must the legislation that enables it.

CropLife Australia has worked hard with governments to propose practical and feasible regulatory options supported by academia, the public research sector and industry including plant science, human health and animal research.

What the sector needs and is looking for are simple, logical and feasible improvements that would have a tremendously positive impact on Australian agriculture and medical research and align Australia with key international competitors such as Canada, the US and South America.

A considered, agile, future-proofed system will allow innovation to flourish and the benefits flow through to the Australian economy. To further delay modernisation of the national framework would inhibit innovation, leaving Australia behind for decades to come and drive developers to stronger markets.

The opportunities to improve the lives of all Australians through biotechnology are endless. It is up to policymakers to give innovators the regulatory landscape they need to achieve a better, brighter, more sustainable future.



A considered, agile, future-proofed system will allow innovation to flourish and the benefits flow through to the Australian economy.



Dr Joe Smith, Chair of the Agricultural Biotechnology Council of Australia (ABCA)

Renowned biotech regulator to Chair ABCA

Internationally recognised leader in biotechnology regulation Dr Joe Smith has been appointed as the new Chair of the Agricultural Biotechnology Council of Australia (ABCA) at a pivotal time for the Australian agriculture and biotechnology sector.

Over the course of an extensive and distinguished career at the top of key Australian regulatory authorities, Dr Smith has been an active voice in the debate surrounding agricultural biotechnology.

Dr Smith formerly served as the national Gene Technology Regulator, Chief Executive Officer of the Australian Pesticides and Veterinary Medicines Authority and Director of the Therapeutic Goods Administration Laboratories.

On a global scale Dr Smith has contributed to the dialogue about cutting-edge biotechnology and biosafety research, risk analysis, policy, regulation and communication through global forums and as President of the International Society for Biosafety Research.

The appointment is timely and speaks to the importance of ABCA in improving accessibility to new agricultural biotechnology innovations as sustainability and productivity become increasingly crucial to the future of Australian agriculture.

Dr Smith brings high-level regulatory scientific expertise which will further support ABCA's core role of providing credible, balanced and science-based information about the current and potential benefits of agricultural biotechnology for the nation's farming sector.

A genes difference in sorghum digestibility

The ancient grain sorghum is Australia's third largest crop and a staple food for animals and more than 500 million people worldwide. However, the proteins in sorghum are not easily digested by humans or animals, making it less nutritionally and economically valuable than wheat or maize. Now biotechnology is helping to realise its full nutrition potential.

Researchers from the University of Queensland have used gene-editing to increase the protein content and digestibility of new sorghum lines. The last review of the Gene Technology Regulations has enabled the new sorghum lines to be sown in the same way as plants produced via conventional breeding. This discovery has important potential for the poultry, pig and beef feedlot industries with more protein efficient feed, thereby delivering benefits to the Australian consumer.



Sorghum is the 3rd largest crop in Australia

Now biotechnology is helping to realise its full nutrition potential.

Industry Stewardship



Industry
STEWARDSHIP

StewardshipFirst™ supporting Australian farmers to be the world's best

Industry sustainability frameworks are commonplace these days. Unfortunately, they often greenwash more than they provide a genuine path forward to sustainable food systems. The plant science industry recognises its responsibility and has long practiced whole-of-life cycle product stewardship. Over the next few editions, we're going to share just what it takes to make truly world leading stewardship through a whole-of-life cycle approach.

CropLife and its members make sure processes and practices are in place to ensure that each step of development, production and use of products is responsible and ethical. At its core, StewardshipFirst is a suite of industry-led stewardship initiatives, designed to protect the environment and support users like farmers, environmental land managers and home gardeners.

DID YOU KNOW

Product and technological advancement is an ongoing and reiterative process.

The StewardshipFirst suite is developed with scientists and technical experts and are continuously reviewed to help producers apply best practice management in line with evolving evidence.

StewardshipFirst™

Given the unusually wet start to the Australian growing season, farmers face increased threats of pests, weeds and disease. It's critical to understand how to use pesticides during these times effectively, economically and responsibly.

Follow the label

It may seem obvious, but product labels provide clear user directions for good reason. Industry invests billions of dollars annually in research and development to make sure its products are used safely and effectively. Proper product handling, dosage and application maximises a product's effectiveness and minimises the risk of exposing people, animals, other crops and native environment to the chemical unintentionally.

Best practice is the best way

Following best practice guidelines reduces pest resistance to crucial chemicals. CropLife Australia's Resistance Management Strategies provide guidance to planning fungicide, herbicide and insecticide use to safeguard the longevity of product effectiveness and crop health. These strategies are informed by the best evidence each year to give farmers confidence that they are effectively managing pests safely and sustainably.

Manage spray drift

Careful thought and planning also minimises the risk of off-target chemical movement during product application. SprayBEST and MyAgCHEMUSE are application guides that provide up to date advice and tools to help chemical users implement best practice methods to manage spray drift and its impact on neighbouring crops, beneficial insects and the environment. This also ensures that product is applied where needed and not wasted which provides greater economic returns.

Using the most up-to-date resources in the StewardshipFirst suite makes sure farmers make the most of their land, their chemicals and their bottom dollar. Find out more about what stewardship looks like for the plant science sector in the next edition of CropLinks.

To read more about the complete StewardshipFirst suite, visit [StewardshipFirst.org.au](https://www.stewardshipfirst.org.au)



Opportunity in the obsolete

The CropLife international network is leading the safe and responsible management of used pesticide containers. Since 2005, container recycling and management programs have been established in 60 countries. The network has diverted 1,052,500 tonnes of plastic from landfill.

The nationally and globally recognised container management program in Australia is *drumMUSTER*, led by CropLife Australia's wholly-owned subsidiary Agsafe. It started in 1998 with one drop-off location and now *drumMUSTER* has over 800 collection sites nationwide. Collected containers are processed in Australia and recycled into products which include wheelie bins, road signs, fence posts and bollards.

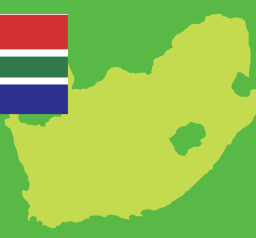


1,052,500
tonnes of plastic
diverted from
landfill



Australia

The program *drumMUSTER* has collected and disposed of more than 39 million plastic containers weighing 43,043 tonnes. **100% of the plastic collected has been recycled.**



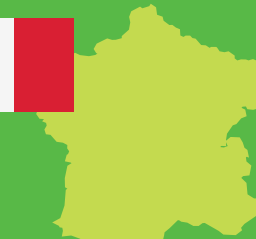
South Africa

In 2020 the container management program lead by CropLife South Africa collected 4,450 tonnes of plastic, which is 76% of all the plastic containers placed on the market. **100% of the plastic collected was recycled.**



Canada

In 2020 the container management program *CLEANFARMS INC.* collected more than 5.5 million plastic containers. **Over 95% of the plastic collected was recycled.**



France

In 2020 the French program *ADIVALOR* collected 85,000 tonnes of plastic used in agriculture. **Up to 90% of the plastic collected was recycled.**



Brazil

The container management program *CAMP LIMPIO* has collected 544,078 tonnes of empty packages since 2002. In 2020 44,153 tonnes were collected and over 98% of the plastic collected was recycled.

CropLife members' news and events



Farmers and advisers will gain access to easy-to-use on-farm sensory information that will help them make the best agronomic decisions to gain as much productivity from their land while managing it sustainably for future generations thanks to a partnership project between Pairtree and Syngenta. With the support of \$170,000 funding from the Australian Government's Entrepreneurs' Programme, Pairtree and Syngenta will co-fund the completion of three commercial proof-of-concept trials to develop a data integration service.

syngenta.com.au



Nufarm's Australian Through & Through campaign shows how Nufarm continues to invest in Australian agriculture. Its R&D, leading regulatory advocacy and manufacturing sites continue to contribute economically and socially to Australia and regional communities. Through jobs and focusing on solutions for Australian problems Nufarm is able to better respond to seasonal surges through planning and moving away from just in time demand and supply.

nufarm.com.au



Bayer has announced it will be launching its industry leading digital farming platform FieldView in Australia. The platform will enable Australian farmers to work smarter, by combining their expertise and knowledge with modern, digitally-enabled tools. FieldView helps growers gain a deeper understanding of their operations, allowing them to collect, visualise and analyse data they are generating on their farm to make more informed decisions in real-time. Growers will be able to use resources more precisely and effectively, conserving water, energy, fertiliser and crop protection inputs.

bayer.com.au



Sumitomo recently presented new running shoes to the 10 winners of last year's Sumitomo's End of Year WA Ag Health Initiative. For the past three years the initiative has been run to promote and reward people in the WA Ag industry for undertaking health related activities. Those eligible need to be working in the Agriculture sector in Western Australia, be that distribution, research, agronomy or farming, and explain what they have done to improve or maintain their health during the year. Well done to the winners on prioritising their health!

sumitomo-chem.com.au



Soil holds the secrets to keeping roots and crops healthy. To help ensure soil supports a plentiful harvest year after year, Corteva Agriscience has recently launched a campaign highlighting the importance of preserving soil health every season, in every crop cycle. So, what makes a soil healthy and what can you do about it?

corteva.com.au



Communities across the country have received funding to help boost their bushfire preparedness thanks to their successful applications as part of the Nutrien Ag Solutions Community Grants Program. One such recipient, Katanning Regional Business Association, wanted to ensure their community is physically and mentally prepared for the coming summers. The group used their grant funding to hold a workshop to educate and upskill women in the community.

nutrienagsolutions.com.au



Elders Chief Executive, Mark Allison, says, "While the pandemic has presented a multitude of challenges for our industry, it has also hot-housed digital adoption and whet an appetite for investing in innovation and AgTech." Elders, which was founded in Adelaide in 1839, sees this as an opportunity to adopt, harness and continue to cultivate a culture of growth and innovation.

elders.com.au



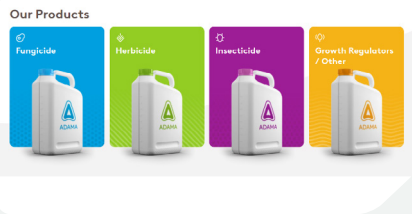
Men's Sheds around Australia have welcomed a helping hand from UPL Australia. UPL's grant program assisted Men's Sheds in regional areas to improve member facilities and amenities, increase memberships and engage with community. "We had 59 Men's Shed applications for nearly \$54,000," said Ian Cass, UPL Australia. "From rainwater tanks, tools and equipment, to outfitting a disabled toilet facility, we're pleased to see funds go towards creating a welcoming space for connecting with others, being productive and contributing to community."

upl-ltd.com



Eurofins Agrosience is on the move to the new Eurofins multi-disciplinary testing campus located at Girraween in Western Sydney. The purpose designed building will house Eurofins Environment, Pharmaceutical, Food Testing and Agrosience laboratories all under one roof. With state-of-the-art facilities and new testing equipment, the new laboratories will improve testing capacity and turnaround time. The building design also enables reduction in the environmental impact of Eurofins' operations and will contribute to Eurofins' target of zero net carbon emissions by 2025.

eurofins.com.au



ADAMA Australia has launched its new website designed to make it easier for farmers and agronomists to find what they need on any device. Tech notes, labels & SDS are all on hand to help and easy to find. Have a look at the new site at adama.com/Australia

adama.com/australia



Prime Minister Scott Morrison has visited an FMC manufacturing facility on the NSW Central Coast this month. The purpose of the tour was to discuss FMC's commitment to agriculture through innovation delivered with local manufacturing and job creation. FMC is providing a 12-month traineeship program to 11 school-leavers in the areas of manufacturing, logistics, procurement, administration and customer service to foster greater upskilling.

fmccrop.com.au



The German-Australian Chamber of Industry and Commerce visited BASF's research farm in Tamworth, NSW this month. As part of their innovation road trip they are utilising the BASF e-car to visit eight sites across VIC and NSW. Researchers at the farm shared some of the work they do to bring products to the Australian market by trialling solutions in typical Australian conditions.

basf.com.au

CropLife Australia



Representing the best of the plant science industry



**CropLife Australia
is the national peak
industry organisation
representing the
plant science sector
in Australia.**

CropLife's members are the world-leading innovators, developers, manufacturers and formulators of crop protection and crop biotechnology products.

The plant science industry, which enables more than \$20 billion a year of Australian agricultural production, provides products to protect crops against pests, weeds and diseases, as well as developing crop biotechnologies key to the nations agricultural productivity, profitability and sustainability. CropLife is part of the plant science industry's 91 country international federation.



To find out more visit: croplife.org.au



02 6273 2733



@CropLifeOz



info@croplife.org.au

