CropLinks
THE LATEST PLANT SCIENCE INDUSTRY NEWS
SPRING EDITION 2018

Glyphosate—misunderstanding and misinformation

The recent Californian jury decision on glyphosate has led to alarmist and significantly misinformed commentary on the safety of the herbicide.

It's completely reasonable for people to question the safety of their food and the production methods used to grow it. Equally important is that consumers inform themselves from credible, reliable sources.

The clear and overwhelming scientific evidence is that glyphosate-based products are safe. Comprehensive and detailed analysis and assessment by independent regulators and overwhelming scientific evidence means the community can have confidence that glyphosate-based products are safe. More than 800 scientific studies and reviews, including numerous independent regulatory safety assessments, support the fact that these products do not cause cancer.

In Australia and across the world, agricultural chemicals are subjected to robust, rigorous and independent regulatory systems and assessments. Australia's own independent regulator, the APVMA, examined glyphosate as recently as 2016 and found no grounds for its approved uses to be reconsidered. Every independent, science-based regulatory agency globally has comprehensively evaluated glyphosate and found it safe to use in accordance with label directions.

Herbicides, including glyphosate, are essential tools for Australian farmers to farm productively in an environment that is under constant pressure from weeds. It is crucial that we give primacy to the credible, highly-qualified and globally-respected medical and toxicological scientists with decades of experience and knowledge on this topic.

Get the facts: **www.croplife.org.au**

INSIDE THIS ISSUE

Matthew Cossey
Chief Executive Officer, CropLife Australia

From the CEO

Spring has finally arrived, and while many farmers continue to battle tough drought conditions other growers are busy protecting their precious crops from unwanted pests, weeds and disease with the use of crop protection products. It is also the time flowering orchards begin attracting honey bees that must be protected to ensure they can perform their vital role as pollinators.

In Australia, we have the healthiest managed honey bee colonies in the world. The health of Australia's managed honey bees is largely due to Australia being free of the invasive varroa destructor mite, which has devastated bee colonies internationally.

Through stewardship programs like BeeConnected, farmers and beekeepers are working together to ensure that crops are protected using crop protection products, while ensuring these essential spray activities do not adversely affect Australia's thriving pollinators.

Despite the facts revealing time and time again that crop protection products are safe, effective and essential to Australian farmers, baseless activist campaigns continue to attempt to sway political decisions based on misinformation and ignorance around modern farming. It's crucial for Australian farmers and the broader community that agricultural chemical regulatory decisions are made on evidence and fact by an independent regulator, free from political, activist or commercial influence. This is the system that Australia is fortunate to have and it should be protected in the national interest.

The fact remains that the use of pesticides, whether organic or synthetic compounds, is crucial in all forms of farming to counter the constant global threat to food, feed and fibre production by insects, fungal diseases and weeds.

Increasing activistism is pursuing a narrow political agenda, founded on emotional or tribal mentalities, in an attempt to overrun independent, scientific, evidence-based decisions.

Crop protection products are essential to the production of safe, nutritious, affordable and pest-free food, feed and fibre. Without crop protection products Australia's grocery trolley would look remarkably empty.

Despite recent rains, a large part of the nation remains in severe drought. CropLife Australia, on behalf of our members, has donated ***$10,000*** *to the* ***2018 Drought Relief Fund*** *and we encourage all others to do what they can to support our farmers at https://donations.rawcs.com.au.*

Grain Producers Australia outlines the cost of delays in approval of crop protection products to agricultural productivity

It's been a challenging couple of years for the Australian Pesticides and Veterinary Medicines Authority (APVMA), the independent scientific regulator for pesticides and veterinary medicines. The APVMA hit an all-time low in their timeframe performance for the registration of crop protection products in 2017. The regulator achieved just 24 per cent of work within statutory timeframes in the June quarter putting significant strain on industry but has been working hard to recover since then which has seen performance begin to return to levels before the announcement of its relocation to Armidale.

An assessment undertaken by Grain Producers Australia (GPA) estimated that Australian grain farmers faced combined losses of between $200 million and $500 million from a delay of three fungicides and herbicides urgently needed to manage chemical resistance. This poor APVMA performance denied Australian grains farmers access to critical new crop protection products for at least one growing season.

If similar delays continue for the next two years for urgently needed products currently in the registration pipeline, GPA predict a minimum impact in excess of $1 billion through lost productivity and accelerated pesticide resistance evolution. GPA expects these losses would compound even further if the pesticide resistance evolution that these new products were designed to combat tracked faster than expected.

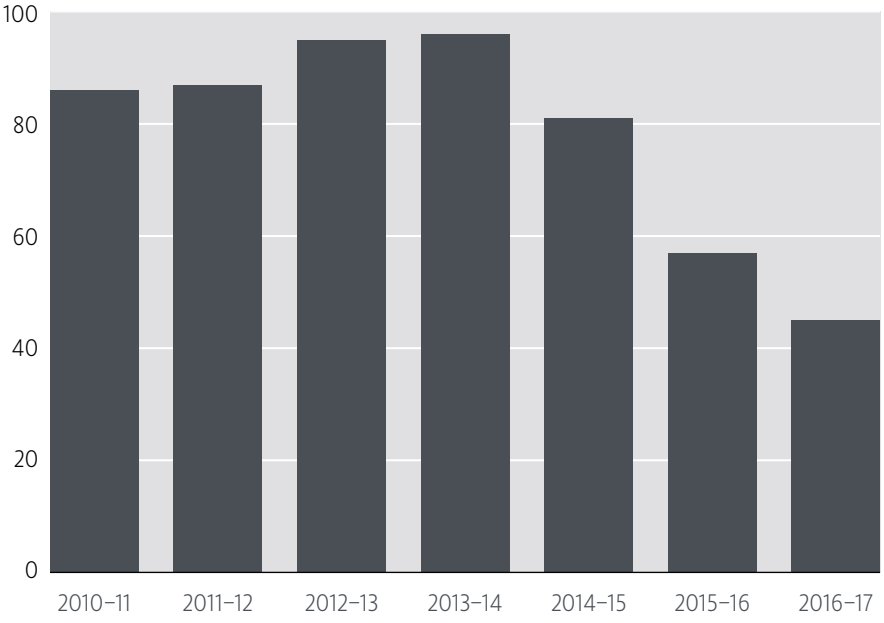
Fortunately, the APVMA's timeframe performance for crop protection products is on the rise overall. However, the timeframe performance for critical new and innovative product applications that will significantly drive Australian agricultural productivity, remains well below statutory expectations. The APVMA's continued inability to finalise these more complex agricultural chemical applications within timeframe denies Australian farmers access to new and innovative products that the plant science industry provides — further limiting their ability to improve productivity and compete internationally.

The assessment and registration of crop protection products is the substantive component of the APVMA's work and timeliness is crucial to ensuring Australian farmers have access to important agricultural tools.

Sources:

Grain Producers Australia Response to the Exposure Draft of the Agricultural and Veterinary Chemicals Legislation Amendment (Operational Efficiency) Bill 2017 and *Australian Pesticides and Medicines Authority Quarterly performance statistics.*

PESTICIDE APPLICATIONS FINALISED WITHIN TIMEFRAME (%)



Crop Protection

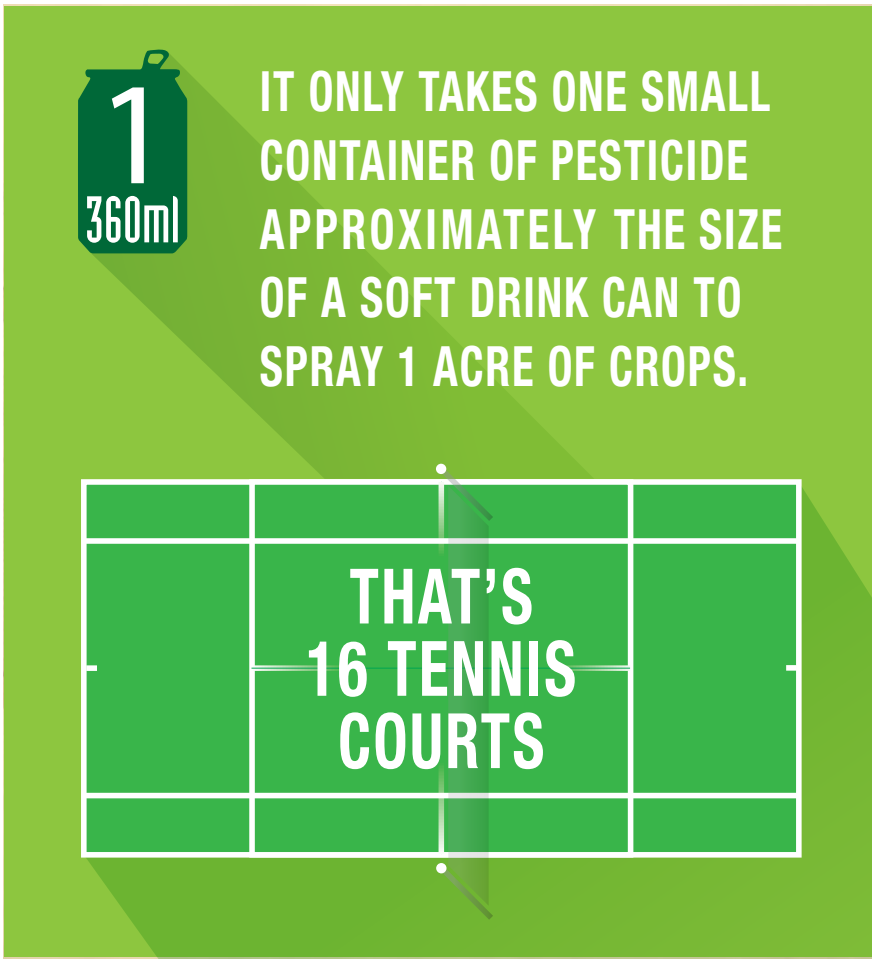
The truth about pesticides and produce

Spring has arrived and with it comes another growing season. Eating a diet rich in fruits and vegetables can help lower calorie intake, reduce risks for heart disease, obesity and Type 2 diabetes, and protect against certain cancers.

False and irresponsible media stories about 'scary' pesticide residues may convince some consumers that it is unsafe to eat certain fruits and vegetables because of incorrect assertions that they are 'drowned in chemicals'.

Just how much pesticide is used varies based on both the crop and the purpose, and spraying isn't dousing or drowning like some people believe. In fact, what many people don't know is when they see a farmer spraying their crops, the vast majority of what is being sprayed is actually water.

Australia's well-regarded and scientifically robust regulator, the APVMA, has set safe pesticide residue limits that incorporate a safety factor of many magnitudes. The challenge lies in accurately communicating risk, and by extension safety, to consumers.



DID YOU KNOW?
When you see a farmer spraying their crops, the vast majority of what is being sprayed is actually water.

MYTH v SCIENCE

"Exposure to endocrine active chemicals will result in adverse health effects"

...

The truth about endocrine active chemicals

Some chemicals (natural and synthetic) are 'endocrine active' — which means they can interact with the endocrine system. However, you should know that this interaction does not necessarily result in adverse health effects. Humans can be exposed to endocrine active chemicals at levels, durations, and timing well within the range scientists have determined to be safe. The vast majority of the endocrine active substances that scientists have studied to date have not been demonstrated to cause adverse health effects at typical exposures.

Endocrine active chemicals include natural substances in coffee and soy, and healthy oils in salad dressings and other foods.

How a chemical interacts with the endocrine system depends on a variety of factors, including the:

- Type and duration of exposure to the chemical
- Frequency of exposure
- Potency of the chemical substance
- Ways in which the body absorbs and eliminates the substance

Honey bees and agriculture: finding common ground

With the global population likely to near 10 billion by 2050, we will need to produce more food in the next 50 years than we have since the beginning of humanity.

To feed the growing global population, sustainable and productive agriculture needs the latest crop production technologies *and* pollinators as farmers battle tough climatic conditions while preserving natural resources.

Addressing the 3rd Australian Bee Congress, CropLife Chief Executive Officer, Matthew Cossey, emphasised the critical role pollination plays in farming and forecast that its importance will only increase. He cautioned that without access to crop protection products, as much as half of the world's food crops could be lost to destructive pests, invasive weeds and fungal diseases.

"It is crucial that the honey bee industry, the plant science industry and the broader farming sector approach this challenge in a cooperative and coordinated partnership, founded in the long-standing agricultural principle of co-existence," Mr Cossey said.

In Australia 73 per cent of the value of crop production is directly attributable to the use of crop protection products. Without these vital farming tools, Australian farmers couldn't grow commercial quantities of crops including strawberries, onions, grapes, cabbage, olives and tomatoes.[1]

The plant science industry is dedicated to developing safe, effective crop protection products, methods of application and best-practice guidance and tools, to improve agricultural productivity and safety for bees and beneficial pollinating insects.

"While farmers need access to safe, effective pesticides to continue to feed and clothe the growing global population, they are also reliant on a healthy and growing pollinator population. Responsible pesticide use is, and should be, just as important to farmers as it is to beekeepers," Mr Cossey concluded.

1 Deloitte Access Economics 2018, *Economic activity attributable to crop protection.*

The long road to market for GM

Did you know that compared to most products, new GM seed varieties take much longer to bring to market?

It takes around 13 years and costs US$136 million to bring a new GM crop to market — most of which goes towards gathering the data required for global regulatory approvals. This is longer than it takes to get a new medicine from the laboratory to the pharmacy shelf, and longer than it takes from conceptualisation to market release of some new aircrafts.

Here's a handy infographic that shows a time to market product comparison.

What GM crops are commercially grown in Australia?

GM cotton has been commercially grown in Australia since 1996 and GM canola since 2008.

GM carnations are commercially approved with many other GM crops being field trialled across the country.

YEARS TO MARKET

GM SEED VARIETY — **13 years**

AVERAGE NUMBER OF YEARS TO GET A NEW GM VARIETY FROM DISCOVERY TO A GROWER'S FIELD

PHARMACEUTICAL MEDICINE — **12 years**

AVERAGE NUMBER OF YEARS TO GET A NEW MEDICINE FROM LABORATORY TO PHARMACY

BOEING 787 DREAMLINER AIRCRAFT — **8.5 years**

NUMBER OF YEARS FROM CONCEPTUALISATION TO MARKET RELEASE

AUTOMOBILES — **3 years**

NUMBER OF YEARS FROM CONCEPTUALISATION TO MARKET RELEASE

HEINZ NEW KETCHUP PACKETS — **3 years**

NUMBER OF YEARS TO DEVELOP AND COME TO MARKET

XBOX 360 — **2.9 years**

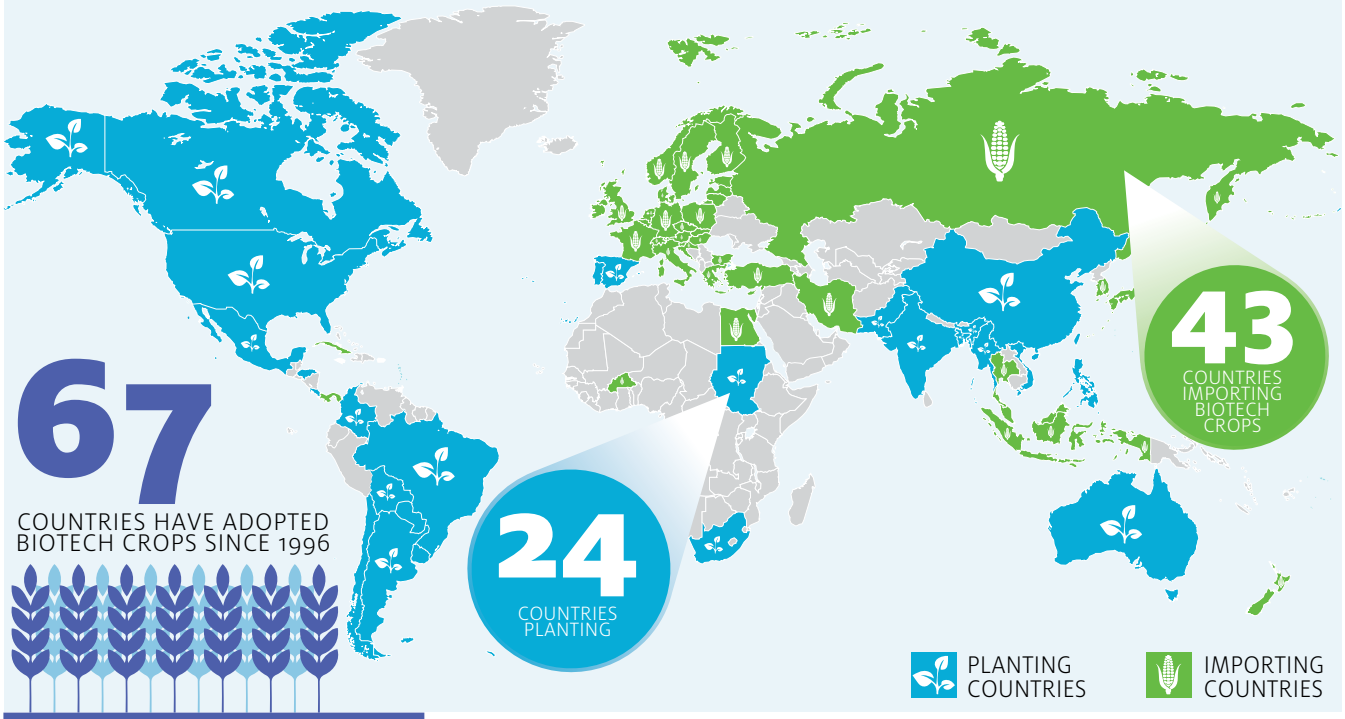
NUMBER OF YEARS FROM CONCEPTUALISATION TO MARKET RELEASE

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Based on an infographic prepared for US Farmers & Ranchers Alliance.

17
MILLION FARMERS

189.8
MILLION HECTARES BIOTECH CROPS IN 2017



Modern farming innovation crucial for Australia

The latest independent reports published by the International Service for the Acquisition of Agri-Biotech Applications (ISAAA) and UK-based PG Economics have once again highlighted the need to ensure non science based and unnecessary costly regulation doesn't hold Australia back from reaping the benefits of agricultural innovation.

When farmers are given access and opportunity to grow GM crops, they can produce more on less land, increase crop yields, contribute to international competitiveness, and reduce agriculture's environmental impact.

Evidence has shown that given the choice, farmers increasingly choose to grow GM crops despite the remnants of extreme and vocal anti-science activist campaigns.

In 2017, there were 491,528 hectares of GM canola grown in Australia, a 10 per cent increase from 2016. In the same period, 432,000 hectares were planted with GM cotton, an increase of 6.7 per cent.

With GM cotton accounting for almost all Australian cotton production, cotton farmers had a net farm income benefit of more than $327.80 (US$239) per hectare directly attributable to the technology in 2016. Cumulatively since 1996 the gains have been $1.47 billion (US$1.06 billion).

The average Australian farmer growing GM canola in 2016 had an average net increase in gross margins of $61.71 (US$45) per hectare and a cumulative gain of $123.27 million (US$89.9 million) since commercial cultivation was approved. The numbers speak for themselves.

Sources:
ISAAA Brief 53, *Global Status of Commercialized Biotech/GM Crops 2017* and PG Economics UK report, *GM crops: global socio-economic and environmental impacts 1996–2016.*

CropLife Australia
@CropLifeOz

#dyk: Australian farmers continue to embrace crop biotechnology with a further 8% increase in GM crop plantings in 2017.

Wine growers benefiting from CropLife's *Resistance Management Strategies*

Herbicides, fungicides, and insecticides are critical to maintaining and improving Australia's agricultural productivity and farmer profitability. However, the development of resistance to these crop protection products continues to increase in Australian agriculture. To assist in managing this resistance, CropLife has released its updated *Resistance Management Strategies* available at www.croplife.org.au. To mark the release, CropLife spoke to senior viticulturist, Ian Macrae, about the link between crop protection and his company's success in the wine industry.

Ian is a senior viticulturist for CCW Co-operative Limited. With 530 wine grape grower members in South Australia's Riverland region, CCW covers around 7,530 hectares of wine grapes, producing on average 200,000 tonnes.

"Pesticide resistance is a major problem for all agricultural industries, not the least of which is grape growing," Ian said.

According to Ian, while the Riverland has a warm and relatively dry climate, and pest and disease pressure is relatively low, collective members knew there was potential for resistance for a number of valuable chemicals used — primarily fungicides and herbicides.

"Pesticide resistance is primarily managed by following the guidelines provided by CropLife which are published in the *Accolade Wines Spray Policy and Spray Diary*. All of our growers are advised to follow these strategies and their adherence to the strategy is monitored through analysis of their spray diaries."

> **"The CropLife Resistance Management Strategies give us the information we need to guide our growers in best-practice resistance management. If CropLife did not supply us with this information, where would we get it?"**

2019 increase in *drum*MUSTER levy

Agsafe's ***drum****MUSTER* is a world-leading container recycling program. Since the program's inception in 1999, more than 32 million clean, eligible non-returnable used metal and plastic agricultural and veterinary chemical containers have been recycled across Australia.

Funded by a $0.04Lt/kg per drum levy, ***drum****MUSTER* provides recycling and environmentally friendly disposal of empty chemical containers across rural Australia. The program's success is testament to the farming sector, represented by the National Farmers Federation (NFF), and Australia's plant science industry, represented by CropLife Australia.

For more than 20 years, the levy funding the program has been capped thanks to the dedication of CropLife's stewardship organisation Agsafe and the NFF–CropLife funded joint venture — AgStewardship.

For the program to continue to service the Australian farming sector, it is critical that the funding levy increase by $0.02 Lt/kg.

The real value of the $0.04 Lt/kg has been degraded each year since inception.

drum*MUSTER*

The increase to $0.06 Lt/kg will allow the ***drum****MUSTER* program to:

- target the collection of approximately 2,400,000 containers per annum
- expand accessible sites Australia-wide
- enhance security at waste transfer stations and other collection sites
- continue to engage with community groups to facilitate 'pop-up' collections — 142 groups have collected 4 million drums and raised more than $1,000,000 for rural-based charities since inception
- increase ChemClear collections
- continue to ensure new manufacturers join the program.

New website presents pesticide facts

Did you know?

About 925 million people worldwide — one in seven of us — are going hungry. We need to reduce wastage and increase food productivity. Pesticides help farmers do that.

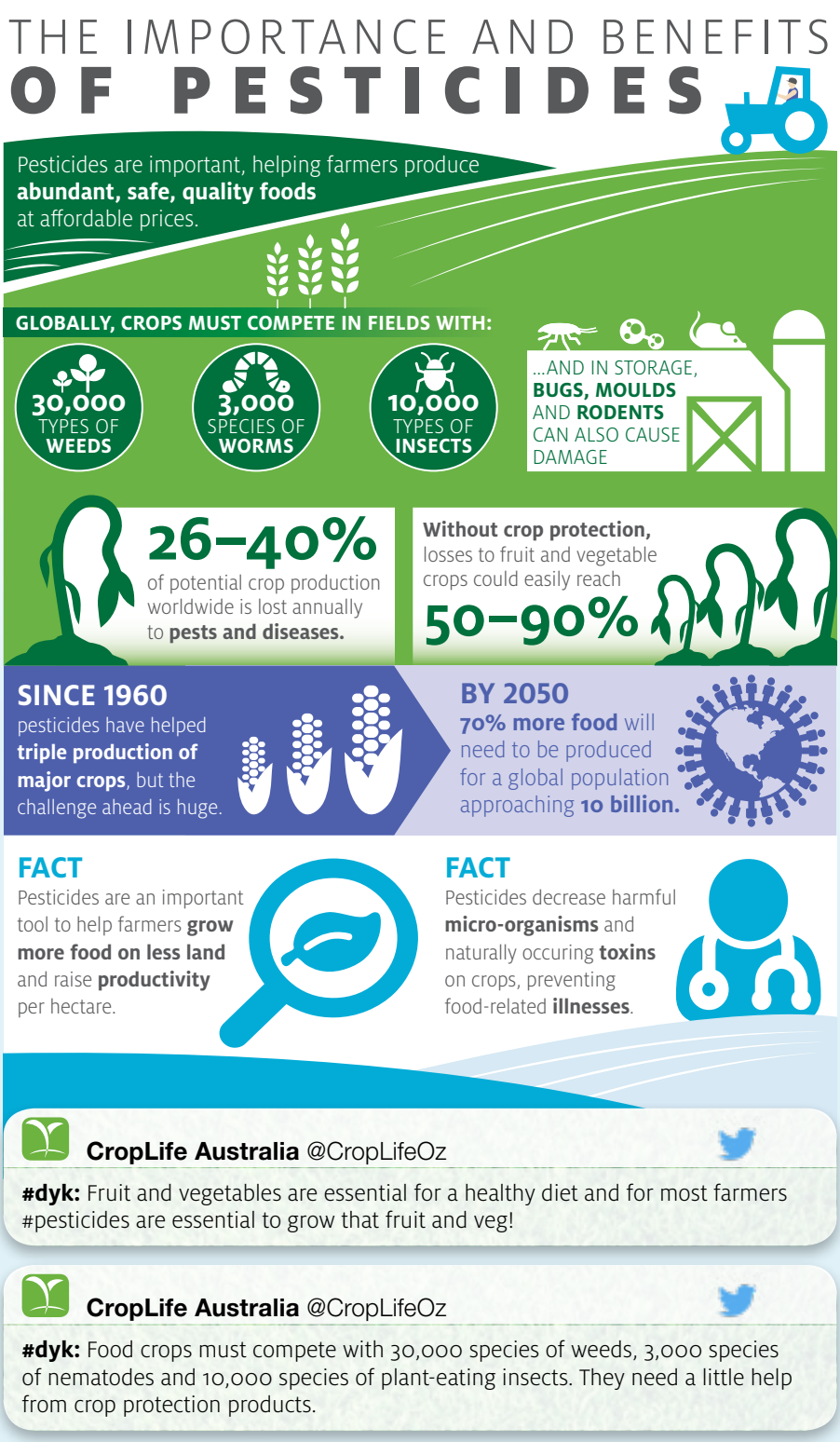
Pesticides (herbicides, insecticides and fungicides) are necessary tools assisting farmers grow more food on less land. They help by protecting crops from pest, diseases and weeds, as well as raising productivity per hectare.

Between 26 and 40 per cent of the world's potential crop production is lost annually because of weeds, pests and diseases. Without crop protection, these losses could easily double.

A new website launched by CropLife International has been dedicated to all things pesticide. **PesticideFacts.org** informs, explains and answers questions about pesticides and health.

The website discusses the necessity of pesticides in a global context, their testing and regulation, applicator and consumer safety, pesticide residues, and specific medical conditions most commonly associated with pesticides. Monthly perspectives by a range of experts are featured along with multimedia resources.

Visit **PesticideFacts.org** to learn the facts behind crop protection products.



IT'S ALL ABOUT THE SOIL

Soil is teeming with life. Full of nutrients and packed with goodness, it is essential for growing the crops that feed the world.

Fertile and healthy soil is essential for agriculture and a sustainable food supply. Biotech crops and complementary herbicides reduce the need to plough — or till — and help take care of the world's arable farm land.

Ten per cent of the world's carbon dioxide is stored in soil and tilling releases that into the atmosphere. The amount of CO_2 saved in one year by using herbicide-tolerant biotech crops — that help facilitate no-till — is equal to removing every single car from the streets of London for five years.

FIVE FASCINATING FACTS ABOUT SOIL

1. Soil is an important carbon sink storing 10 per cent of the world's carbon dioxide — more than all terrestrial vegetation and the atmosphere combined.
2. No-till agriculture keeps carbon in the soil and because it requires fewer field passes, it uses less fuel than tillage.
3. It can take more than 500 years to form two centimetres of topsoil — the outermost layer of soil which has a high concentration of nutrients and is crucial for crop growth. Avoiding soil disruption helps keep this top layer healthy and productive.
4. Soil is home to billions of living microorganisms which recycle organic material to maintain soil fertility and support plant growth. One cup of soil may hold seven billion bacteria — the equivalent of the world's population!
5. Globally, up to 50,000 square kilometres of topsoil — an area around the size of Costa Rica — is lost every year mainly due to wind and water erosion. By using herbicide-tolerant crops, farmers don't need to till the soil to remove weeds, so soil retains its structure and erosion is reduced.

News and Events

Arysta LifeScience has completed the acquisition of Etec Crop Solutions in New Zealand. Rico Christensen, President of Arysta LifeScience North America, Australia and New Zealand said, "Etec's focus on high-value crops and innovation fits well with the Arysta LifeScience strategy. We are excited to join forces with Etec in order to benefit from their product positioning expertise, strong presence and important relationships in the growing New Zealand market."

ADAMA Australia's Young Achiever Awards Program is in full swing, with both the ADAMA Young Agronomist of the Year and ADAMA Chris Lehmann Trust Young Cotton Achiever Award winners announced back in August 2018. The program nurtures and supports the talents of young stars within Australian agriculture, recognising their contributions and successes throughout their careers so far.

Against a backdrop of increasing disconnection between young people and farming, and a world population forecast to soar to 10 billion by 2050, visionary thinking, a long-term approach and creativity are urgently needed to develop solutions that will safeguard food supply for future generations. Applications are open for the fourth Youth AgVocate Summit taking place in Brazil, November 2019. One hundred like-minded agricultural visionaries aged 18–25 from around the world will create and implement tangible sustainable solutions to global food security framed by the United Nation's Sustainable Development Goals.

Kristina Hermanson, FMC Australasia Country Manager

Kristina Hermanson has been appointed Country Manager for FMC Australasia. With proud roots in a small dairy farm in Wisconsin, Kristina has more than 20 years of international leadership experience in general management/ commercial, business development, strategy, transformation and post-merger integration roles.

Sipcam Australia has completed the purchase of the assets of Agricrop Pty. Ltd. Over the last 16 years, Agricrop has grown to be a highly-regarded supplier of differentiated crop productivity products in high-value crops throughout Australia. Managing Director of Sipcam Australia, Damien Ryan said, "The Agricrop range includes novel chemistry, innovative bio-stimulants, unique crop productivity compounds and amino acid technology products. It is this focus on innovation and delivery of tools that growers need to increase crop productivity in high-value crops that made Agricrop so complimentary to Sipcam's strategy."

Nufarm has partnered with Farmers Edge, a global leader in decision agriculture, to provide Australian growers access to innovative digital agronomic tools that leverage technology to maximise grower returns.

Nufarm ANZ Regional General Manager Peter O'Keeffe said, "Farmers Edge solutions are already enabling growers to increase their yields, grow their profits, all while helping them to sleep at night. With this partnership we look forward to seeing even more Australian growers benefiting from this technology".

CropLife Australia

*Representing **the best** of the plant science industry*

CropLife Australia is the national peak organisation representing **the best** of Australia's plant science and crop protection product companies.

CropLife ensures world's best stewardship through its code of conduct. We have set a benchmark for industry stewardship through our initiatives in the StewardshipFirst™ program such as ***drum**MUSTER*, ChemClear, Agsafe Accrediation and Training and the Pollinator Protection Initiative.

That is why you can have full confidence when dealing with a CropLife member company.

CropLife represents Australia's **leading** innovators, developers, manufacturers, formulators and registrants of crop protection and agricultural biotechnology products.

CropLife Australia is part of the CropLife International Federation, representing the plant science sector in 91 countries around the world.

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