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AGCARM

Level 7, Equinox House
111 The Terrace
PO Box 5069, Wellington 6140
New Zealand

P +64 4 499 4225

E enquiry@agcarm.co.nz

www.agcarm.co.nz

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THE AGCARM NEWSLETTER

Working with new government on agricultural policy

By Agcarm Chief Executive, Mark Ross

As the voice of crop science and animal health, we congratulate New Zealand's new coalition Government. With food safety, environmental stewardship, regulatory engagement, biosecurity and innovation as our key areas of focus, we are looking forward to working with new Ministers as they implement policies.

Ignoring much of the hype, it is hoped that the new Government will build on the prior government's rural initiatives.

The recently appointed Ministers for Agriculture, Damien O'Connor, and the Environment, David Parker, are very experienced politicians. There is no doubt that they will make some policy changes, but placing further financial burdens onto farmers and growers just doesn't make sense.

Having the experience of former Ministers, Hon. Nathan Guy and

Hon. David Bennett, on the Primary Production Select Committee will help keep the Government honest when it comes to agricultural policy.

At no time has it been more important that the rural sector and environmentalists come together to develop future goals that work for all of New Zealand. We need to be united in areas like environmental stewardship so that neither our economy nor natural assets are further damaged.

Our industry has a key role to play in promoting the responsible use of agrichemicals and animal medicines, right through the product life-cycle, from research through to disposal. We are taking a proactive stance around education, providing safe food and ensuring a sustainable agricultural sector.

Protecting our natural environment and \$38 billion agricultural industry from pests and diseases and ensuring high-quality and safe food is produced is what we

do. With a willingness to provide the government with support, Agcarm's role has become even more important to our country.



MARK ROSS

Very few organisations have a history this long

Speaking at the Agcarm Annual Conference in July, the then President Mark Christie reflected on the organisation's 70-year history.

Building a sound industry that is closely connected with, and has a full understanding of, the primary industries of this country has been Agcarm's focus for 70 years, explains Christie.

The intent remains - to ensure that members are well-represented and that science-based evidence is used to support decisions.



IMMEDIATE PAST-PRESIDENT, MARK CHRISTIE

But the speed of communication and increasing globalisation is accelerating change - which has increased markedly over the past two decades.

Agcarm devoted significant resources to major legislative changes over this time, says Christie. "We haven't always won all the battles, but Agcarm has always advocated for good science, as well as the need for innovation and stewardship."

The organisation is growing too - through its industry representation and membership, "despite massive ongoing industry changes, including consolidation, over the past decade," he says.

Legislative changes and regulator performance have always been top of the issues list. But, in the last decade, this has changed to stewardship - something he believes will be the focus for the future.

Our continued drive to reduce our environmental footprint, increase sustainability, improve crop yields and quality in reducing areas of productive land is "a tough ask", says Christie.

Managing resistance, Growsafe training and Agrecovery container

recovery programmes are strongly supported and championed by Agcarm.

Christie asks for a combined effort to managing antimicrobial resistance (AMR) and climate change. "It's no use pointing the finger and saying that this is a farming issue, or a human health issue, or that a certain continent is to blame. Managing these issues lies with every single one of us."

"Agcarm has evolved significantly over the last 70 years to overcome the challenges our members have faced. I am very confident it will continue to do so."

He commends animal health manufacturers for the work they do managing AMR - including researching new antimicrobials and alternative medicines; developing vaccines for disease prevention; and preparing guidance for use. He also acknowledges Agcarm's contribution to New Zealand's AMR plan, submitted to the World Health Organisation's world assembly on May 22.

Agcarm also plays its part in helping farmers manage parasitic worms - through Wormwise - to avoid drench resistance.

Technology is disrupting agriculture too and "that technology will leap-frog - at a quantum speed faster than what it is today", he says. "We know that train is coming through the tunnel" - we need to identify how fast it's approaching and act appropriately.

Christie is confident that the crop and animal health industries have the innovative technology, the knowledge and the passion to adapt, evolve and continue to lead positive change. They will also ensure that New Zealand remains clean and green and our primary industries highly productive.

"Agcarm has evolved significantly over the last 70 years to overcome the challenges our members have faced. I am very confident it will continue to do so."

"We can only achieve this if we continue to work together, to network, to educate, to advocate - in other words - to communicate and inform."

"So I ask you to stay with us on this journey. Buckle up and enjoy the ride." ■

Agricultural organisations join to promote bee safety

AGCARM

NZAAA
New Zealand Association of Agriculture

Rural Contractors
NEW ZEALAND

BEE RESPONSIBLE

Aerial and ground spray applicators can help protect bees:

- 1 Avoid spraying in windy conditions to prevent drift. Take into account wind direction and atmospheric stability.
- 2 Implement an integrated pest management plan to apply pesticides only when necessary.
- 3 Coordinate with local beekeepers before spraying so nearby hives can be moved or otherwise protected.
- 4 Follow the instructions on the label to ensure you use only the recommended dose.
- 5 Use drift-reduction application equipment that is well maintained and calibrated.
- 6 Avoid spraying pesticides when bees are foraging.
- 7 Avoid contamination from spray liquids when mixing and properly dispose of waste and other used materials.
- 8 Use genuine products and alert authorities of counterfeit or illegal pesticides as they have unknown impacts on wildlife.

www.agcarm.co.nz

By following some simple rules, aerial and ground sprayers can protect bees from unintended exposure - that was the messaging for the Bee Responsible campaign released by three agricultural associations.

A campaign to keep bees safe by using agrichemicals responsibly was released by Agcarm, NZ Aviation in Agriculture, and Rural Contractors New Zealand this Spring.

Bees are extremely good pollinators of crops, so contribute substantially to New Zealand's multi-billion dollar agricultural economy.

Agcarm chief executive Mark Ross says "agrichemicals are vital for ensuring the security of our food supply and, when used responsibly, pose no threat to our bee population. But, he says, "we must remain vigilant and address any

potential risks to our bees."

The campaign was promoted in September to coincide with Bee Aware Month as well as the peak sale of agrichemicals. "Although the message is always relevant," says Ross.

"It's important for manufacturers' of agrichemicals to have clear label statements regarding safety precautions for their products including describing how to protect our pollinators - like our members do," adds Ross.

Rural Contractors New Zealand chief executive Roger Parton emphasizes the importance of adequate training for people applying agrichemicals.

"Correct application is as important as using the correct agrichemical," says Parton. He adds that engaging registered chemical applicators for spraying also ensures the safety of bees and people. ■

Animal Health: A Global Perspective

By Carel du Marchie Sarvaas, Executive Director, HealthforAnimals.



Last year was a milestone for the animal health sector as the market reached USD\$30 billion in valuation. This marks a doubling of the market over the past ten years and is the result of strong, tireless work by animal health companies and associations like Agcarm.

However, the next decade will transform animal health as the world evolves. As Executive Director of HealthforAnimals, the global animal medicines association, I see three key trends driving this change.

Population growth

Over the next decade, the global middle class will grow from two billion to nearly five billion. An explosive, unprecedented rise considering the entire world population was a mere five billion in 1990.

And how will the average middle-class entrant celebrate their newfound status? By enjoying freshly-cooked chicken with a newly adopted pet at their feet. This means they are relying on us.

They're relying on the animal health sector to help farmers raise healthy, quality animals in ways that respect their welfare. They rely on us to help ensure their pets can live long, healthy lives.

Animals will be at the core of global growth in coming decades. Medicines companies are investing billions in new R&D each year to ensure we can provide the tools needed to protect them.

Antimicrobial Resistance

Antibiotic resistance [is a threat](#) that can cost lives. But in the battle to protect our global health, people have an ally in close quarters that should not be underestimated: the animals at our sides.

Across animal health, the fight to antibiotic resistance is concentrated on two fronts: better management of existing antibiotics and development of alternatives. Modern technologies like custom,

herd-specific vaccines and animal-only antibiotics are improving our ability to better preserve existing medicines.

But, too often, animals are the scapegoat when it comes to drug resistance. [Research](#) has found that addressing antibiotic resistance in animals alone does little to tackle the problem in people. Animal health must be an equal partner in this fight.

Regulatory convergence

Over one billion people rely on animal agriculture to feed and provide for themselves. Protecting their animals preserves their livelihoods, but delivering medicines to smaller markets is becoming increasingly challenging.

Navigating complex regulatory systems in emerging markets can, at times, be an insurmountable task. Medicines with proven track records hit an impasse and progress grinds to a halt.

Increased regulatory convergence offers a solution. When countries combine the expertise and knowledge of an entire region, the result can be a streamlined system that ensures farmers in fast-growing markets have the same tools as those from Europe, America and elsewhere.

Implementation of regulatory convergence in areas like South Asia and East Africa could transform the animal health markets and change the global balance of animal agriculture.

The decade ahead

These trends provide new opportunities for the animal health sector to grow our businesses while providing tangible, shared value with people around the globe. We look forward to working on them alongside associations like Agcarm, whose track record of success in New Zealand is a positive example for organisations worldwide.

Carol du Marchie Sarvaas

is Executive Director of HealthforAnimals, the global animal medicines association. HealthforAnimals represents the top nine global companies (Bayer, Boehringer Ingelheim, Ceva, Elanco, Merck/MSD, Phibro, Vétoquinol, Virbac, Zoetis) and 29 national associations.

Carel joined HealthforAnimals after holding the position of Director at EuropaBio, the Biotechnology Association. Prior to EuropaBio, Carel worked at international consultancies and think tanks in Brussels and Washington DC. He is a Dutch national, married, has four children and holds degrees from the University of Leiden and the Johns Hopkins University. ■



Mark Christie, Hon David Bennett and Mark Ross



Celebrating our 70th conference at Te Papa Museum in Wellington



Excellent networking opportunities for members



70th annual conference
July 27, 2017

70 YEARS



Rosie Bosworth, Derek Bartlett, and Nikki Johnson



Dinner at the venue



Quizmaster, John Yates of Syngenta



Lonza National Manager Jason Gosney Manager Agcarm Golf Challenge

70th Annual Conference

A diverse range of people spoke at the notable event - from the Honourable David Bennett to Ag renegade and futurist, Rosie Bosworth - whose talk on the ag-tech explosion hit attendees with a steamroller. The speed of change, barriers such as food and fraud, and the use of plant science - including many misconceptions - were addressed. Attendees also heard about the cultural aspects of bringing products and technology into the market, and the need for investment and a collaborative and global approach.



Rosie Bosworth

Ag Renegade and Futurist, Rosie Bosworth, shook up attendees with claims that New Zealand's primary industries, and backbone of our economy, is set for extinction. Our country's main export earner, she says, will be overridden by an overhaul in how food is produced.

Protein without the animals; fruit and vegetables without fields; and food without the farmer was at the heart of Bosworth's talk. Three technologies are behind this food revolution she says: cellular agriculture; controlled environment farming; and microbiome seeds.

Cellular agriculture is the culturing of animal cells or plant DNA and using them to grow protein in labs or large fermentation facilities. Anything that the agricultural industry is used to producing - beef, poultry, leather, wine, dairy, eggs and seafood.

One of the most common ways

this is entering the market is through laboratory beef - done by harvesting cultured bovine DNA cells Bosworth told attendees. Plant-based or yeast cells or enzymes can also be used.

Bosworth touts the benefits of lab meat as being 15 times faster to produce; using less land and water; reducing greenhouse gas emissions by up to 10 times; staying fresher for longer; and reducing the risk of contamination.

Despite an initial investment, lab meats are much cheaper to produce. Costs are dropping quickly, she adds. Memphis Meats, producer of the first cultured meatball, has reduced costs to US\$3.80 per pound, with plans to reduce this to a few cents within five years. It will be reaching specialty restaurants in three years and mainstream grocery retailers in five.

"If you think recreating animal cells in the lab is creepy," she argues "millennials are wanting this".

Millennials are also harnessing acellular agriculture - producing plant-based meat, gelatine and heme using plant cells.

It doesn't end with cultured meat. Perfect Day is culturing milk in the lab using milk proteins, sugar and yeast in fermenting tanks, which takes 77 to 91 percent less land, 98 percent less water and 65 percent less energy. Eggs, chickens, fish,

wine, silk and coffee can all be grown in the lab as well.

Impossible foods, she says; "is the 'darling' of plant-based burgers", which it creates using potato wheat and pea protein and by developing heme - the molecule in meat giving it a salty and bloody taste and feel. This is done by extracting the same molecules from soy and using it to culture yeast. It uses 95 percent less land, 74 percent less water and 87 percent fewer greenhouse gases.

These burgers are sold to high end and fast food restaurants. It's "still small scale, but Impossible Foods has ambitious goals," Bosworth says. Its chief executive Patrick Brown wants to produce more than half of the world's food supply we're getting from animals.

Bosworth says that "the plant-based industry is booming at the moment", with prices dropping 3,000 times in less than four years, adding that "by 2054 they will comprise a third of the market".

"That's a pretty conservative estimate."

The indoor farming revolution is also transforming the way fruits and vegetables are grown. "Anything that doesn't require huge roots can now be grown indoors now," Bosworth says. Leafy greens, tomatoes, berries and bell peppers can be grown in high rise or vertical farms.



That doesn't use farmers - instead she calls them "techie with green thumbs".

Farms are automated for optimum growth. Humidity, temperature, CO2 and PH levels are all controlled through hundreds of thousands of sensors that can enhance the nutrient density and appearance of the produce using custom UV light spectrums and growth algorithms.

It may look like an expensive capital outlay, but "it's a pretty attractive business model," she says. She claims there is faster growth from seed to harvest, at 16 days versus 30, and because it's staked and high. It grows 130 times more produce than the average American field farm.

She argues it is effective and means that "grocers know what they're going to get, at what time and at what price".

Bosworth says that the controlled environment is 4,000 times more productive than outdoor farming, with a yield of US\$22 million versus US\$12.40 per acre per year. "You're not contending with the seasons, bugs, or growing and bringing it in from the outdoors," she says, adding that the estimated market potential is US\$5.8 billion by 2022.

It grows by itself and tracks growing. This, she says brings the notion of growing to a new

level, as it allows the sharing of information on how to grow most effectively cutting out the middleman.

Companies are also harnessing microbiome technology, which she says improves plant traits, health, productivity and yield, uses less water and requires no synthetic pesticides.

There's a microbiome funding frenzy, she says. "But it doesn't stop there, there's an ag-tech explosion in general."

2015 was the biggest year ever for ag-tech investment - US\$4.6 billion. That last year slowed to just over US\$3-odd billion.

The biotech sector is one of the biggest in the market, growing 150 percent year-on-year, with huge investment.

Synthetic biology is booming, taking US\$1 billion dollars. Cotton trials in the US show a 10 percent increase in plant health and yields, a combined value of US\$600 billion per annum globally. Wheat, soy and corn are also in the pipeline.

The world's largest pure ag-tech investment to date is US\$100 million.

Next is redesigning the recipes for pesticides - bio-pesticides and bio-fungicides. It uses living plant and soil microbes to replace synthetic pesticides. Bosworth claims the comparable potency is 20 times more effective than organic solutions.



Tā Mark Solomon

Tā Mark Solomon was instrumental in setting up the 2005 Iwi Chairs Forum.

The forum derives from a process Solomon started in 2003, over Māori rights to the foreshore and seabed. The process demonstrated that the Treaty could be extinguished by the stroke of a pen, by a majority in Government, Solomon said.

All tribes want the same things, he says. "We're all trying to build a cultural base, we're trying to look at social issues as they affect our people and we're all trying to protect the natural environment within our respective areas."

Māori want "a genuine input into governance, management and monitoring of all waterways in this country". He adds that "we want equitable access to water so we can bring our lands into the economy of this nation". This became the purpose of the Iwi Leaders Group, started in 2007, to work alongside the Crown on fresh water.

"We've negotiated with government that the clean-up of rivers will be intergenerational. We have an obligation to protect, to look after - guardianship. We don't get that by

polluting."

He says that tribes are 170 years behind due to being stripped of their asset base. Through settlements, they are getting it back, but not at their financial worth.

The Government offered Ngāi Tahu \$170 million for their land, equating to a financial loss between \$12-\$20 billion.

"Effectively settlements of New Zealand are based on 1.5 percent of the asset loss of the tribes," says Solomon. His argument for accepting it was to build an asset base, "we've grown our



Kirk Hope

New Zealand works on the base of our agricultural strengths, taking advantage of our excellent education system, to add science to farming, says Business NZ chief executive, Kirk Hope. Innovation, he says, is critical for new business, gaining customers and exports which keep our economy afloat.

"We're living through a time of incredible change," Hope says. "Disruptions are occurring for just about every industry on the planet -

largely due to technology." He adds that "new synthetic and genetic technologies bring enormous change to farming, crop management and food production".

Hope says that innovation is imperative for most companies today. "It's not an exaggeration to say innovate or die. If you fail to innovate, you lose market share."

New Zealand's manufacturing sector continues to innovate and grow, but there are challenges, like corporate tax and over-regulation. Hope argues for an environment conducive to manufacturing. This means keeping taxes, red tape and bureaucracy under control. Incentivising research and development and a good education system are also needed.

Tax treatment of innovation is a core issue for companies. "It's important that the business environment contains a mechanism to facilitate critical R&D investment." Having a business tax rate that is higher than other countries makes it harder to attract foreign investment.

To respond to accelerating change in today's business environment, Hope recommends scanning the competitive environment and moving quickly. This conference is a useful part of market intelligence and gaining insight from other industry players, he says. "I commend you on your part to play in bringing innovation to the New Zealand economy, and Agcarm for the great work you do on behalf of your sector. I wish you well as you continue at the cutting edge of innovation."

Agcarm Annual Conference (cont'd)



Hon. David Bennett

Minister for Food Safety, Hon David Bennett, acknowledges Agcarm's longevity and contribution to innovation in agriculture, bee health, recycling and antimicrobial resistance in his address to the Agcarm conference.

Farmers and food producers depend on agricultural compounds and veterinary medicines (ACVM) to improve the quantity and quality of produce; keep people, animals and crops healthy; and reduce the spread of diseases, weeds, parasites and other pests. "Their use is essential to address animal welfare and to produce safe and suitable food we can sell with confidence in New Zealand and overseas," says Bennett.

Bennett acknowledges Agcarm's longevity - having existed for 70 years - as "a vitally important component to our agricultural industry, which at \$37 billion export value, is the engine room of New Zealand's economy."

"You are all a part of ensuring we are at the forefront of world-wide innovation."

"Your work in rural recovery and recycling of chemicals and in bee health is paying dividends. We look forward to working together further on managing antimicrobial resistance."

He praises Agcarm for launching a campaign to increase awareness of the importance of keeping bees safe by using agrichemicals responsibly.

Brand owners that distribute agrichemical, animal health and dairy hygiene products into the New Zealand market are acknowledged for taking responsibility for disposing of these products and their packaging through the Agrecovery programme.

He thanks Agcarm for contributing to the management of antimicrobial resistance, including supporting New Zealand's antimicrobial resistance action plan, tabled this year with the World Health Organisation.

The Government regularly tests food and confirms that good agricultural practices are being followed in the use of ACVM products. This, he says, "is the result of the agriculture chemical industry, government and farmers doing their bit".

Agcarm members are urged to help review the ACVM registration processes to simplify them, improve timeframes and risk management practices.



Jessica Walker

Manager of the New Zealand Companion Animal Council, Jessica Walker, provided some indicative trends on New Zealand's 4.6 million pets.

With 64 percent of households owning at least one pet, New Zealand has the second highest number of pet owners in the world. People living in Christchurch or in rural areas had the highest rates. The lowest were among those identifying as Asian or not employed.

We spend an estimated \$1.8 billion on our pets - almost all of this on cats and dogs, with approximately \$670 per cat; and \$1200 per dog, per year. Vet visits average 1.3 times per year for cats and 1.7 times for dogs. ■

Population Figures: Cats

1.134 million owned cats (285,00 fewer than in 2011)

44% of households own at least one cat

mixed breed (88%)
purebred (8%)
registered pedigrees (4%)

Population Figures: Dogs

683,000 owned dogs

28% of households home an average of 1.4 dogs

mixed breed (39%)
purebred (36%)
registered pedigrees (18%)

Preventing a 'tsunami of worms'

Sheep farmers risk losing up to 4.2 kilos of carcass weight if parasitic worms aren't properly managed using a fully effective drench, rural retailers were told at a recent Wormwise workshop in Wellington.



These comments outline why drench resistance is of economic importance to New Zealand sheep farmers. A trial run in 2011 showed lambs treated with a fully effective drench are nine kilograms heavier, have a 360 gram heavier fleece and a 4.2 kg carcass weight increase after five months compared to those drenched with an ineffective drench - due to parasites having resistance to it. That's a \$28 difference in revenue says Wormwise trainers and vets Simon Marshall and Dave Robertson.

The workshop, held in September, was designed to educate rural retailers on how to help farmers sustainably manage parasitic worms and avoid drench resistance.

Farmers may be unaware of parasite issues on their farms if they have subclinical losses. This is because drench resistance isn't obvious until the efficacy of the drench is quite low. There will be production losses in stock well before clinical symptoms

of parasitism are obvious. So testing to identify what the drench resistance status of parasites on farms is critical.

The day started with a revision of the life cycle of internal parasites in stock. This set the foundation for understanding how to break that life cycle or help predict when parasite challenge will be high or low. It's important to remember that it takes 21 days for ingested larvae to develop into adults and start breeding. This helps determine drenching intervals as we let egg production occur for seven days before drenching - hence a 28-day drenching interval.

To continue or complete the lifecycle, you need moisture and warm temperatures. The quantity of parasite larvae on pasture varies according to the time of year. The main peak of parasite challenge is in autumn. A preventative drenching programme for lambs, from weaning onwards, is used to try and reduce this autumn larval peak. The drenching interval

could possibly be stretched when it is hot and dry or cold and frosty. This should only be done with strict monitoring in place. Stretching drenching intervals with neglect sees "the wheels fall off". Three weeks after rain, farmers can be faced with a "tsunami of larvae" the trainers said. A different outcome will occur on a farm in the Hawke's Bay versus one in Taihape. So individual plans should be tailored to each farm.

National reduction test surveys provide lots of data on sheep, but there is a "black hole for cattle," says Robertson. "We don't have reliable reduction testing being done and faecal egg count monitoring is hard to interpret." Providing low larval challenge is a big part of a successful parasite management programme. One option is to shift the sheep to where cattle have been and vice versa. Some farmers have lots of issues with drench resistance and parasite challenge. They may have to change aspects of their farming system.

The use of refugia in drenching programmes and in low parasite challenge systems is even more important, so care is needed on advising one and not the other.

Trying to increase farmers' awareness of Wormwise and its principles is vital as we are starting to see cases of certain parasites surviving triple combination drenches on New Zealand farms. Once this happens, our options become limited, so taking action to prevent this is of paramount importance.

Wormwise has breathed new life into sustainability becoming more important than maximum use on the farm.

In 2005 Beef and Lamb conducted a nationwide survey which demonstrated that 80 percent of New Zealand farms had some level of resistance.

There was so much misinformation about resistance, and parasitologists couldn't agree on how to manage it - so they were locked in a room until they all agreed on some principles that could be used to manage resistance. This is where the principles of parasite management came from. These drive everything Wormwise does.



WORMWISE TRAINERS SIMON MARSHALL AND DAVE ROBERTSON AT THE WORKSHOP

INDUSTRY AND GOVERNMENT JOIN TO MANAGE ANTIMICROBIAL RESISTANCE

NEW ZEALAND VETERINARIANS, REGULATORS, AS WELL AS SELLERS AND USERS OF ANTIMICROBIALS WILL NEED TO HEED A NEW DIRECTIVE ON THE USE OF THESE VITAL MEDICINES.

The Ministry for Primary Industries (MPI) with Agcarm, the Veterinary Council, veterinarians and industry groups have joined heads to produce guidance on the prudent use of antimicrobials in New Zealand's plants and animals. It outlines expectations for government, industry and end-users on appropriate access and use of the medicines.

This guidance, to be released shortly, is part of an overarching directive by government and stakeholders to manage antimicrobial resistance.



It includes information on:

IMPORTING, MANUFACTURING OR SELLING

Before antimicrobials can be imported, manufactured or sold, they need to be registered. The registrant must supply information so that MPI can assess the product's risks and benefits.

People who sell antimicrobials must store them correctly and only supply them to the appropriate people. A veterinary consultation, in accordance with the requirements of MPI and Veterinary Council NZ, is required before antimicrobials are supplied.

ADVERTISING

Antimicrobials should only be advertised to people who have the knowledge and expertise to make an informed choice on the best antimicrobial to use in any particular situation, i.e. a vet or GP.

USE

People using antimicrobials must follow the instructions provided and comply with industry best practise.

Antimicrobials are important tools in the management of plants, animal health and animal welfare. Inappropriate use may lead to microbes becoming resistant.

While alternative methods like vaccination are encouraged to manage and control disease and infections, antimicrobials do need to be used when necessary.

MPI produced an Antimicrobial Resistance Direction Statement. MPI and the Ministry of Health jointly developed a New Zealand National Action Plan that was presented to the World Health Assembly in May 2017.



Agcarm promotes the principles of prudent use to ensure that antimicrobials remain valuable tools to treat plant and animal infection and disease.

Managing hazardous substances for farmers



Worksafe NZ explains how changes in hazardous substances legislation will affect farmers.

On December 1, the Health and Safety at Work (Hazardous Substances) Regulations 2017 come into force. The aim is to reduce the immediate and long-term harm from work-related use of hazardous substances.

Farmers make up a large number of the 150,000 New Zealand businesses that work with hazardous substances. These are products or chemicals with explosive, flammable, oxidising, toxic, corrosive or ecotoxic (harmful to the environment) properties.

The rules for the work-related use of hazardous substances are moving from the Hazardous Substances and New Organisms (HSNO) Act to the Health and Safety at Work Act (HSWA).

Many of the existing requirements continue under the new regulations, so if farmers are complying now, there may not be much more to do. However, there are key changes that will help protect people from harm.

“The regulations bring an expectation on all those working with hazardous substances to know what those substances are, the risks they pose and how to manage those risks,” WorkSafe NZ chief inspector Darren Handforth says.

Risk management

The starting point for farmers is to identify and assess the risks. Make a list of hazardous substances on the farm, quantities and where they are stored. Then read the safety data sheets to understand the risks they pose, how to use and store them safely and what to do if there is a spill or you are exposed to them.

“From December 1 it will be mandatory to keep both an inventory of hazardous substances and their safety data sheets, so if you haven’t already got this in place, you should act now,” Handforth says.

The simplest way to prepare an inventory is to use WorkSafe’s Hazardous Substances Calculator. It provides guidance about what to do to be compliant - that is the controls you need to have in place to protect people from harm.

“This will help you look at what substances you have, whether you need such high quantities, or if you can substitute them with a safer product.”

Storage

A big area for improvement on farms is the storage of hazardous substances, Handforth says.



“WorkSafe inspectors still find stocks of hazardous substances dating back decades in farm sheds. This presents an unnecessary risk given the options for disposing of old agrichemicals.

The best method is through Agrecovery, who offer free or subsidised disposal of old agrichemicals as well as their containers. Farmers can book a chemical collection via the [Agrecovery website](#). There are also collection sites throughout the country, often conveniently located at rural retailer stores. See [chemical and container sites and events in your region](#).

“Keeping the amount of substances you store to a minimum can also save you money, as certain

quantities may trigger additional requirements such as a location compliance certificate for the tank in which they are stored.”

Keeping others safe

Farmers have a duty to protect workers and others from the dangers of hazardous substances. Workers need to be informed of the risks and have the training, supervision and equipment to do their work safely.

“For example, if you send someone out to spray diazinon, you need to make them aware of the health risks of exposure as well as providing the necessary personal protective equipment,” Handforth says.

Some substances must be secured and only handled by people with the appropriate training. Approved handlers become certified handlers under the new regulations. There will be fewer substances that require a certified handler, but a greater emphasis on making sure all workers handling hazardous substances can do so safely.

“And don’t forget, even the most safety-conscious farmer can have an accident. Make sure you have an emergency plan in place, including who to contact and who is responsible for what.”

What to do now

Review your hazardous substances management and make sure you are complying with your duty to protect people from harm in your workplace.

WorkSafe will provide guidance, information and tools to help farmers understand their obligations.

Information about the changes: [WorkSafe website](#) Regulations: [New Zealand Legislation website](#).

For practical help, see the [Hazardous Substances Toolbox](#). This will be updated shortly and includes the Hazardous Substances Calculator.

To keep updated, subscribe to the [Hazardous Substances e-newsletter](#). ■

Making it easier to clear more farm waste

Making it easier for farmers and growers to recycle is rural recycling programme Agrecovery's priority since taking over running the scheme four months ago.

Being long, narrow and spread-out, New Zealand faces challenges in the logistics of rural recycling. But an investment in technology allows Agrecovery to increase the number of agrichemical containers collected for recycling at any one time. Two mobile units, able to shred up to 200-litre drums, are being deployed to shred all containers collected nationwide.

Shredding reduces cost and saves space. Agrecovery general manager Simon Andrew says, "there's no need to transport containers intact, which means we're not carting air". The unit has a conveyor belt, making processing a lot faster.

Farmers in Opunake, Ngatea and Morrinsville are benefiting from newly-opened sites for recycling

containers. Collection events have also been held throughout the country and system improvements allow people to book collections online. "This saves administrative costs so that more funds can be diverted to disposal," says Andrew.

The programme aims to boost recycling efforts to clear 60 percent of plastic containers and drums by 2020. "This is a significant increase on the 40 percent we are clearing today," he says.

The Government is supporting Agrecovery to do this. The programme was accredited in September by the Ministry for the Environment to operate for another seven years.



■ The then Associate Environment Minister Scott Simpson with Simon Andrew in front of a new shredder unit at Agrecovery's accreditation ceremony in Auckland in September.

"This is a vote of confidence for our scheme which, since July 1, is being solely managed by the Agrecovery Foundation," says Andrew.

Agrecovery is seeking inspiration from global counterparts to help lift its rate. It is hosting Barry Friesen of Clean Farms Canada who, operating a similar programme, achieves a collection rate of close to 70 percent.

An inspiring message from across the ditch is using local community groups to inspect containers. "This helps increase participation as well as the number of triple-rinsed containers - essential to the success of the programme," says Andrew who recently visited Drummuster - Australia's equivalent recycling scheme.

New Zealand relies on people at Agrecovery sites to inspect containers - something Agrecovery's Operations Advisor Isabella Shonakan has been training them to do. "Correct rinsing minimises contamination from non-rinsed containers," says Shonakan.

Site managers have particularly enjoyed the morning teas provided! The majority of their work is voluntary, so it is great to be able to say thanks. ■



■ The then Associate Environment Minister Scott Simpson with Agrecovery Chair Adrienne Wilcox in front of shredder at Agrecovery's accreditation ceremony in Auckland.



■ Barry Friesen of Clean Farms Canada with Simon Andrew.

RECOGNISING TONDE'S OUTSTANDING CONTRIBUTION

Having spent much of his career examining the effects of chemicals in people and plants, after training as a toxicologist in the UK, the inaugural winner of Agcarm's Outstanding Contribution Award has used his knowledge to educate and inform.

Bayer Crop Science regulatory science manager Tonde Kaitano was endowed with the award at the Annual Conference in July due to his championing of industry good initiatives and positive approach to issues.

Kaitano is leading the wider industry on informing iwi of the elaborate process of getting products from lab to market - as presented to the native species workshop on August 30 - raising positive feedback from iwi and the Environmental Protection Authority (EPA).

Tonde leads an initiative to register a product in New Zealand to tackle the new biosecurity incursion, Myrtle rust.

The then Agcarm President Mark Christie says, "Tonde is proactive in crop protection committee meetings, working groups, submissions, and working through regulatory barriers. He is positive and professional when dealing with a variety of challenges."

Kaitano previously worked as a toxicologist for the EPA and at Food Standards Australia New Zealand in novel foods, food additives, processing aids and contaminants. In a previous life, he spent a decade working in occupational health and safety for the mining industry.

He also sits on the 2017 New Zealand Innovation Awards evaluation panel - recognising and celebrating innovative products, services, processes or businesses. ■



Mark Christie presents Tonde Kaitano with the 'outstanding contribution' award. ■

Summer Conference [13]

THURSDAY 22 FEBRUARY 2018
JET PARK HOTEL, 63 WESTNEY
ROAD, AUCKLAND AIRPORT

Speakers confirmed include Dr John Gallagher; Agresearch's Principal Scientist; and the chief executives of Animates, and Tourism New Zealand. Founder of Eat My Lunch, Lisa King will also address the conference.

More information is available on the [Agcarm website](#) or by contacting our conference organiser, [Lee Sheppard](#).

[Register for conference.](#) ■

Pasture Renewable Trust wound up

Having succeeded in encouraging farmers to renew more pasture, the Pasture Renewable Trust has been wound up.

Earlier this year, the management team decided that the trust had achieved its goal of raising awareness of the importance of pasture renewal. The message is also being conveyed by many other industry stakeholders.

The Pasture Renewable Trust was established in 2007 by a small group of agribusinesses who realised that collaborating to increase the level and rate of pasture renewal would benefit the whole sector, as well as the economy.

Many of the Trust sponsors were Agcarm members, who supported the drive for better pastures.

A global perspective on crop protection

By Will Surman, Communications Manager, CropLife International



WILL SURMAN

“Between 26 and 40 percent of the world’s potential crop production is lost annually because of weeds, pests and diseases, and these losses could double without the use of crop protection practices.”

This powerful statement comes from a report by the Food and Agricultural Organization of the

United Nations (FAO) and the Organisation for Economic Co-operation and Development (OECD). It is a compelling case for the development and use of crop protection practices, including pesticides.

But developing products for farmers is not cheap or easy. On average, it takes 11 years of research and development to bring a single product to market, at a cost of \$286 million – up 55 percent since 2000. In 2016, the number of new active ingredients added to the market was at its fourth lowest since 1950 – under five.

Companies also face the challenge of overcoming unpredictable regulation. For example, the EU regulatory approach is often founded on political rather than scientific considerations while the U.S. tends to have a more risk-based and science-led approach. With such regulatory uncertainty and diversity across regions, the confidence for companies to invest in new innovations can be undermined.

On top of this, crop protection products constantly face public scrutiny over their safety and sustainability in food production, often led by activist campaigns, rather than real scientific concerns. Without societal acceptance, agriculture could be deprived of

vital products for food security.

Crop protection is constantly evolving though, with testing and screening at its highest ever level to ensure product safety. In 1995, the number of new molecules subjected to biological research for registration was 52,000, compared to 160,000 today – meaning screening can better determine human and eco toxicity.

Spending on testing to ensure products do not harm the environment has also increased since 2000, up 118 percent to average \$71 million a product. This means that products are now far more targeted, rather than broad spectrum – something that progress in precision farming has optimised.

And there are some exciting areas of development as companies look to increase the range of tools available to farmers. Spending has increased on biological products, there are exciting new products that use RNAi technology and companies are increasingly looking to develop products that help plants deal with stress of heat or drought conditions.

Overall the crop protection market remains solid, though times are not easy. Historically, the crop protection market has tracked global grain prices and in 2016,

global product sales eased by 2.5 percent, compared to 2015, to just under \$50 billion, as commodity prices also fell due to high crop stocks.

The forecast is positive, with real growth of the crop protection market from 2015 to 2020 estimated at 2.7 percent per annum, as the industry continues to deliver the tools farmers need to deal with the pests in a sustainable way.

Will Surman is a Director of Communications, Crop Protection, at CropLife International, a trade body which champions the role of plant science innovations to drive sustainable agriculture around the world. Will has worked as a political adviser in the European Parliament, as a freelance journalist in Argentina, senior reporter for the Farmers Guardian and Communications and Parliamentary Adviser for the UK National Farmers Union in Brussels.

Agcarm boosts agriculture and veterinary students

Agricultural student Hannah Gibb and veterinary science student Paul Blondell have each been awarded a \$2,500 scholarship from Agcarm to help with their studies.



Born and bred on a sheep and beef farm in Feilding, Massey University student Hannah Gibb says she's always been dead keen on agriculture and farming.

The 20-year-old is now in her third year of the agricultural science degree at Massey University and manages to combine studying with working on the family farm in Awahuri. She's had a fast and furious education in time management and being organised. "There have been a lot of late nights, feeding out in the dark," she says.

The red meat sector and sustainability in farming are what motivate her. Gibb says that the decisions and actions made by our farmers affect production and influences our international reputation.

"Personally, I see it as critical to ensure New Zealand can continue to supply wholesome, nutritious and affordable products while reducing our environmental impacts and improving sustainability."



She intends to spend her winnings on the cost of continuing her studies.

Agcarm chief executive Mark Ross says the association is pleased to help such a hard-working, enthusiastic and motivated student to reach her goals.

"We were impressed with her work ethic and commitment to farming and agriculture," says Ross.

Paul Blondell, 20, a third year veterinary science student at Massey University, also plans to use the money to help fund his studies – replacing his laptop and travelling to placements at vet clinics around the country.

Blondell looks forward to finishing his studies so he can "get out there and make a difference". Being a vet is more than just curing animals, he says, it's about being an advocate for animal welfare as it "bridges the gap between humans and their animals".



When Paul is not studying he can be found mountain biking, tramping, running or playing sports such as volleyball, basketball; or in his indoor pursuits of guitar, cooking and sketching. He also finds the time to mentor a 10-year-old boy as he volunteers for Big Brother Big Sister Manawatu – an organisation that pairs a 'big brother or sister' to support vulnerable children and young adults. As a role model, he's engaged children in baking and playing sports. Brimming with good-will, he's also volunteered at the Dunedin 2012 Special Olympics, helped produce a film to raise funds for the SPCA and Otago Hospice as well as collecting for Red Cross and Search and Rescue. Yet he remains down-to-earth calling himself "just a regular guy".

Agcarm chief executive Mark Ross said the association is pleased to contribute towards the future of such a hard-working, mature student who is so committed to animal health, and who is willing to give up his time for others.

"We were extremely impressed with the dedication, Paul showed for animal welfare and his contributions to the community," Ross said.

AGCARM OFFERS TWO SCHOLARSHIPS A YEAR TO SUPPORT EDUCATION AND TO RAISE AWARENESS ABOUT CAREERS IN AGCARM-RELATED INDUSTRIES.

The scholarships are an example of industry initiatives led by Agcarm to provide safe and sustainable animal health and crop protection

technology for the future of New Zealand, and educating the community about the industry's contribution.

Transforming the way Kiwis do business

The New Zealand Business Number (NZBN) is a globally unique number used to identify your business. The Agricultural Compounds and Veterinary Medicines Group now require it for new applications.



Over time, the NZBN will create a transactional environment with greater certainty of identity, more reliable information and less duplication.

How does it work?

Your NZBN is linked to the core business information you most often share with other businesses and government agencies – like your trading name, phone number and email address.

Through the Register, your

customers, suppliers and government agencies can instantly see that your business is real and tangible – giving them peace of mind in dealing with you.

In turn, you can see the key information of businesses you work with, making it faster and easier to connect and transact with them.

You have control over the details that are held about your business on the NZBN Register.

All kinds of businesses can have an NZBN – including registered companies, sole traders,

partnerships, trusts, government agencies and more.

How could the NZBN benefit your business?

By streamlining business processes and making it faster to share information, the NZBN offers a range of benefits over time. Some initial benefits include:

- The NZBN Register offers more certainty about the businesses you work with – reducing risk and resulting in better decision-making.
- Financial transactions will be smoother, as more efficient ways to invoice customers, pay bills and apply for credit will be enabled.
- Using one unique identifier across your systems can help connect information, offering you more visibility over your business networks.
- You'll be able to cut down on data entry processes by using the NZBN to pre-fill online forms, so transactions like onboarding a new supplier will be faster and smarter.
- Your NZBN is globally unique, so when you use it, any business across the world can recognise you. That's powerful future-proofing for the next wave of innovation.

It's the future of business

Agcarm has its NZBN - 9429042576433 - and recommends members get theirs too.

Get your number or learn more

Visit nzbn.govt.nz or contact the NZBN team directly – email info@nzbn.govt.nz or call 0508 696 926.

Watch the video



Agcarm welcomes new board members

Agcarm welcomes new president

Promoting the responsible use of products, sustainable agriculture, environmental preservation, and sensible science-based regulation of crop protection and animal health products will continue to be Agcarm's focus under its new president, Dr Pauline Calvert.

Agcarm brings together a wide group of industries, she says. "Collectively we share the same passion and interest in the environment, the economy, product stewardship, and maximising the opportunities of our primary sector through innovation."

Calvert heads the production animal business for MSD Animal Health in New Zealand, having worked there for three years. She is also an active member of the Pharmacology Chapter of the Australian New Zealand College of Veterinary Scientists and an examiner for the Chapter.

Prior to this, Calvert spent nearly two decades as a field veterinarian in mixed animal practice, before venturing into the regulatory environment as veterinary adviser for the Ministry for Primary Industries.

Calvert takes over from Mark Christie, who was Agcarm's longest standing president. She says she has "big shoes to fill" as he achieved a lot in his five years in the role.

She was elected as president at the Agcarm Annual Conference in July.



PAULINE CALVERT

Blake Mackie

Strong corporate governance and collaboration skills, combined with a good understanding of New Zealand's agribusiness is what Syngenta Crop Protection's country manager, Blake Mackie, brings to the board table.

Mackie's career includes a broad range of agribusiness roles for distributors and manufacturers, including in sales, marketing, R&D and commercial management, both in New Zealand and overseas.

Over the past decade, he has worked in global marketing roles for Syngenta, both in Asia and at the head office in Switzerland.

Mackie was elected manufacturer member of Agcarm's board at the annual conference. ■



BLAKE MACKIE

Agcarm welcomes new members

FMC / Cheminova

Manufacturer

FMC has served agricultural, industrial and consumer markets globally for more than a century with innovative solutions, applications and products. Following the acquisition of a significant portion of DuPont's crop protection business, FMC Agricultural Solutions is now the fifth largest crop protection chemical company in the world by revenue, having acquired a selective insecticide portfolio consisting of Rynaxypyr®, Cyazypyr® and Indoxacarb, selective insecticides - complementing FMC's existing broad spectrum insecticide portfolio.

The acquired portfolio also includes DuPont's global cereal broadleaf herbicides, consisting of nine active ingredients and multiple formulated products. With recognised brands and DuPont's proprietary PrecisionPac® technology, this herbicide portfolio brings significant diversification to FMC's crop exposure in herbicides, as well as increasing the balance of pre-emergent and post-emergent applications in FMC's portfolio.

FMC country head for Australia and New Zealand, Peter Close, said of the recent partnership with Agcarm;



"Strong stewardship of our products is critical given the significant importance to the New Zealand economy of agricultural produce for both export and domestic consumption. Product safety and quality of produce cannot be compromised and is so important to the discerning consumer in markets that are becoming increasingly competitive."

"FMC are looking forward to a long and successful partnership with Agcarm as we work through them and with the key stakeholders in NZ to ensure our products are used correctly according to the label, work effectively and are safe to the environment." ■



PETER CLOSE

RAINBOW

Corporate associate

Rainbow produces, distributes and markets agrichemicals. It has four factories that synthesize and formulate herbicides, insecticides and fungicides.

Rainbow was founded in 2000 in Jinan, China, where its headquarters are. It now has a global presence in more than 40 countries. ■



Individual associates

Murray Beare

Murray Beare runs Educhem, a company providing training to farmers, growers and users in the safe, responsible and effective use of agrichemicals. Educhem aims to prevent adverse effects from agrichemical use.

Stephen Parker

Stephen Parker is a patent attorney, for Australia and New Zealand, operating in the biotech/new product space.

Jason Tiller

After studying digital media at AUT, Jason worked on e-commerce startups of varying size and success. Moving into a sales and advisory role in Fairfax Agrimedia, he worked alongside many agribusinesses which gave him insight into the challenges these companies and the wider ag industry face.

Specialising in the digital space, he sees a real need for a well-planned and executed strategy to help promote the sector and the businesses and people within it. Now based at Tracta, he is extending his knowledge of the primary sector.

Joining Agcarm enables him to do a deep dive into two of the biggest market segments, learning as much as he can. ■



JASON TILLER

TRACTA

Champions
of Agribusiness

What is Agcarm?

Agcarm is the industry association which represents crop protection, animal health, and rural supplier businesses. Agcarm members distribute and sell the majority of veterinary medicines and crop protection products in New Zealand. Agcarm members promote responsible use of products right through the product life cycle, from research to disposal. Agcarm is also a positive voice for its members and lobbies for progressive and sensible policy.

For information on joining Agcarm, go to www.agcarm.co.nz

Our mission is to protect and enhance the health of crops and animals through innovation, development and responsible use of products.

We work with governments and stakeholders from around the globe to shape policy and meet the shared goals of health and safety to protect the environment and the food chain.

Our ability to source information from experts around the world gives legislators access to the best advice.

Agcarm's priorities:

Safe Food / Provision of Innovative Compounds / Resistance Management / Healthy Animals and Crops / Product Stewardship / Bee Health / Sustainability.



**The voice of crop protection
and animal health.**

