

WHAT'S BUZZING?

News from the World of Pest Management



IN THIS ISSUE

President's Pen	1
From the Editor	3
H&S Around Home Cats	4
A Cockroach is a Cockroach	6
Stored Product Pests	9
NEWS BITES	
Climate Change and Pests	12
NEW ZEALAND NEWS	
IoT and Pest Control	14
Fiji Business Award	17
Signage for VTA's	18
Hi-Tech Pest Identification	21
Protecting the Blue Duck	23
TECHNICAL HINTS	
Know Your Cockroaches	25



PMANZ
PO Box 133215
Eastridge
Auckland
1146 New Zealand
Free phone: 0800 476 269
(0800 4PMANZ)
Email: info@pmanz.nz
Website: www.pmanz.nz



PRESIDENT
Sandra Charlton
Sandra@pestawaynz.com

EXECUTIVE SECRETARY
Denise Faulkner
info@pmanz.nz

PRESIDENT'S PEN – SANDRA CHARLTON

Hello Members,

2018 has been a jammed packed year with the launch of the new Hazardous Substances Regulations and new qualifications requirements. The constitution was updated and finalised, and a big thank you must go to Denise, Jo and council members, who put in a tremendous amount of good work. Thank You!

At our well attended AGM in August, PMANZ restructured and introduced another certification to qualify for PMANZ membership. We discussed this in the last newsletter.

We now have a UPM Qualification done by correspondence, and the Australian Three units standards done in a classroom environment. EPA have approved both as an acceptable qualification in the Pest Management Industry.

This year we applied to EPA to have the flammable classification taken off Methyl Bromide, but unfortunately this has been rejected, but at least we tried.

Peter travelled the country during June, doing his bit for training and upskilling of members, for which we had amazing feedback, so thank you.

Our membership increased by 31 members this year and have more trainee and newly qualified members in the pipeline.

As many of you may know we have a few challenges ahead of us regarding EPA investigating the use of synthetic pyrethroids. We will be working closely with EPA on this, making sure that more of our tools of the trade are not taken away from us for the wrong reasons.

And finally please see the changes we are required to follow when using Vertebrate Toxic Agents VTAs (bait stations) outside of workplaces. PMANZ did a lot of work to get WorkSafe to understand the UPM side of the industry, and we got some big concessions, but unfortunately we still need to comply to the regulation. See details on page 18.

Until next year, I wish you all a very Merry Christmas and prosperous New Year

Sandra Charlton



The process of translating an idea or invention into goods or services that creates value or for which customers will pay.



Innovation

in Pest Management



PMANZ 2019 Biennial Conference and AGM



Where: Waipuna Hotel and Conference Centre, Auckland

When: 22nd – 23rd August 2019

Be there...

COME HEAR FROM

Robert (Bobby) Corrigan, PhD, Urban Rodentologist, RMC Pest Management Consulting

Bobby has been active in the science of urban pest management for over 25 years. He serves a consultant who specializes in rodent pest management programs on a national and international scale and also as a part time research scientist with The City of New York's Department of Health.

Cor Vink PhD, MSc, Curator Natural History, Canterbury University.

Cor's main research interest is the systematics and taxonomy of New Zealand spiders, but he also worked on spider ecology, biosecurity and biological control. Cor is an Adjunct Senior Lecturer in the Ecology Department at Lincoln University.

Helen Blackie, PhD, MSc, Boffa Miskell, Biosecurity Consultant, Principal Auckland

Prior to joining Boffa Miskell in 2014, Helen was Associate Director at the Centre for Wildlife Management and Conservation (Lincoln University), where she led a nationwide team of experts in engineering, creative design, animal behaviour, toxicology and ecology.

David Lilly, PhD, MEnt, Principal Entomologist, Ecolab Global Pest Elimination – RD&E

David is responsible for developing and supporting innovative pest management solutions for the larger Pest Elimination division. I have 15 years' experience in urban pest management, including both the auditing and/or development of tailored pest management solutions, and providing qualified technical support to high-needs customers.

Registrations Open 1st March 2019



FROM THE EDITOR



Whatever your Christmas mouse brings you this year, I hope its been worth the wait, as we have not been given many great presents from government this year.

In fact they are downright 'lousy gifts' to say the least. Read more about what's in store for you under the Hazardous Substances regulation VTA clause as regards rodent baiting around publicly accessible areas like hospitals, commercial business and hospitality industry. Our own Environmental Protection Authority (EPA) is also reassessing products containing synthetic pyrethroids as part of their revamped reassessments programme announced in mid-October. We watch with interest and will support industry where we can.

Frank Visser, from Key Industries added to the story about Cats and permethrin (synthetic pyrethroids) in the October issue. Read the updated Health and Safety Cautioning from PMANZ about this preventable issue.

We are starting to get some exciting stories happening in our quest to rid New Zealand of rodents by 2050—see the story of the collaboration between Vodaphone and MinkPolice in NZ News. Very exciting.

For those of you that attended the Garrards Trots evening late October, many would have witnessed our new 'Assistant Jockeys' - Shane Byrne-King (Ecolab), Maihi Cooper (Rentokil), Roger Bunn (Pest-Free Solutions), Darren Labrum (Wellington Pest Management) and Simon Atherton (Flick). Congratulations on your new-found skill, gents, and for Shane who together with his jockey won the race!

We have just had confirmation from Dr David Lilly of Ecolab Pest Elimination of his attendance at our 2019 conference to talk about small flies and food standards. David worked with Dr Stephen Doggett whilst studying for his doctorate in Entomology, and will bring a wealth of practical field knowledge to us during his talks. Not one to be missed.

Have a very merry Christmas, and brilliant New Year - until February.

Stay well,
Warm regards

Peter



*Send all comments or suggestions to
Peter Barry on peter@pestconsultancy.co.nz*

Fair Use Reporting

Articles provided in "What's Buzzing" are drawn from a number of sources. The source of the material is quoted, either by author, publication and/or organization, in line with the practice of 'Fair Use' reporting of news or information to PMANZ members for their ongoing education. The information contained in this newsletter is for member information only, and does not necessarily reflect the official views or opinions of the PMANZ Council and/or its members.

Health and Safety in the Home around Cats



In the last newsletter you may recall we spoke about a number of reports over the last year of cats dying from unknown causes but, coincidentally shortly after pest control treatments have been carried out for spiders and/or ants.

The owners have alleged that the technicians treatment caused the death of their beloved pet. In all cases Synthetic Pyrethroids were used, begging the questions did the cats come into contact with the wet spray or dust ?

The one report PMANZ received from a veterinarian indicated, "She presented with generalised body tremors, sneezing and paw flicking. One of the possible causes for this presentation is pyrethroid toxicity. There was a history of the house recently being sprayed with a pyrethrum based ant spray".

Regrettably, we will never know for sure as laboratory detection of pyrethroids (blood test) is not readily available and haematology, biochemistry and other findings might be normal.

Therefore, PMANZ think its important, to be careful when treating homes where cats are present, and follow some suggested protocols before spraying with SP's inside or around a home— check the following:

- 1) Ask the owner if they have cats and to bring them inside, and close the windows to the rooms where they are and not let them out until the insecticide is dry.
- 2) Get your customer to speak with their neighbours to let them know when and where you'll be spraying the so they can keep their cats indoors as well.
- 3) If spraying indoors for fleas, the cat should be removed off-site to a cattery until treatment is complete and surfaces and carpets are dry.
- 4) Lift all food and drink bowls off the floor or cover with suitable non porous material
- 5) Keep cats away from wet spray until dry. This may take longer in wet weather.
- 6) Use the four hour stand-down rule for flea and other spray treatments, but insist that the owner make sure carpeting is dry before allowing cats onto them.
- 7) Once the insecticide is dry, it's safe for kitties to come out again.
- 8) Use alternative insecticides when treating homes where cats are present.

Follow the link to a full Health and Safety Alert.

https://www.pmanz.nz/uploads/1/0/9/5/109592507/health_and_safety_-

[cats_and_pyrethrins_and_synthetic_pyrethroids_v2_november_2018.pdf](https://www.pmanz.nz/uploads/1/0/9/5/109592507/health_and_safety_-cats_and_pyrethrins_and_synthetic_pyrethroids_v2_november_2018.pdf)



Rain on mosquitoes' parade



**Aqua
K-Othrine®**

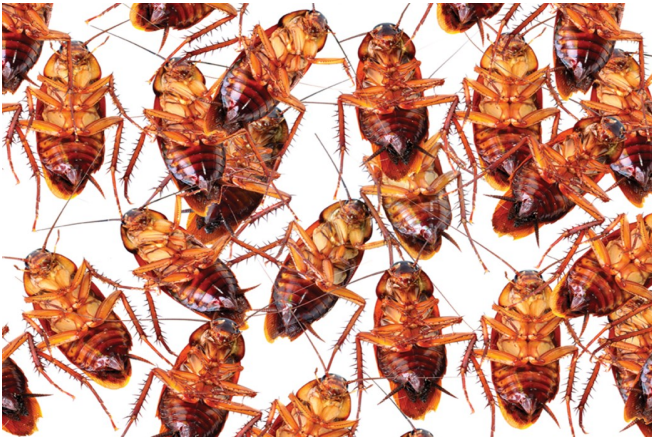


Aqua-K-Othrine is an internationally proven and recognised adulticide space-spray featuring the unique anti-evaporant system called FFAST™.

Aqua-K-Othrine is designed for dilution with water and can be applied through thermal fogging, ULV or misting equipment. The use of Aqua-K-Othrine reduces reliance on hydrocarbon solvents and the application of pollutants into the environment compared to traditional oil-diluted sprays.

Technical Enquiries: 1800 804 479
www.environmentalscience.bayer.com.au

A Cockroach Is a Cockroach Is a Cockroach ... No?



With the prevalence of rodents and stored product pests in food processing facilities, other pests often take a secondary focus.

But with the rate at which populations can explode and the contamination they can carry, that's not such a good idea where cockroaches are concerned.

In fact, according to Pest Control Technology (PCT) magazine's 2016 State of the Cockroach Market report sponsored by Syngenta, only 8% of the surveyed pest managers have seen cockroach-related service calls decrease.

And in the 2017 report, 32% of them said cockroach control services have become a "more significant" part of their business in the past five years.

It also is important to note that the most prevalent of cockroaches was reported to be the German species — with 97% of respondents citing it as problematic.

Any cockroach that gets into a food facility is of concern because all species have been implicated with some human pathogen, such as *E. coli*, *Clostridium* spp., *Bacillus* spp., *Enterobacter* aerogens, *Salmonella* spp., as well as various fungi, molds, and viruses.

Article continues on next page



▶ PROFESSIONAL PEST MANAGEMENT

COMPLETE COCKROACH CONTROL

ADVION Cockroach Gel is a highly palatable, broadspectrum gel bait that provides cockroach control like no other.

ADVION Cockroach Gel is:

- Excellent against German Cockroaches
- HACCP certified for commercial applications
- Suitable for a range of surfaces and situations

For heavy infestations use ARILON Insecticide in conjunction with ADVION Cockroach Gel.

FOR LIFE UNINTERRUPTED™



For more information please contact Syngenta on 0800 333 336 or your local Garrards or Key Industries distributor.

ADVION Cockroach Gel is approved pursuant to the HSNO Act 1996, Approval Code HSR001752. ARILON Insecticide is approved pursuant to the HSNO Act 1996, Approval Code HSR100291. Syngenta Crop Protection Limited, Tower 2, Level 7, 110 Symonds St, Auckland. ©Registered trademark of a Syngenta Group Company. ™Trademark of a Syngenta Group Company. ©2018 Syngenta. AD 18-035

German cockroach

Even cockroaches that prefer the outdoors can live and breed indoors with sufficient food, water, and shelter — all of which are generally abundant in food processing facilities.



One of the greatest problems with cockroaches is that they often go unseen until a population is high. That is because cockroaches can be living in the walls by day and trekking through garbage and urinals to food-contact surfaces and packaging as they forage by night, but, they don't tend to be a high priority ... until they become a problem.

While that “problem” is often the contamination of food or a sighting by an inspector or auditor regardless of the cockroach species, the presence of a specific species could indicate a specific problem. For example, because the American cockroach is drawn to high-moisture areas, an infestation can signify that there is a moisture issue or plumbing leak.



American cockroach

Thus, the varying preferences and behaviours of each species means a single control plan won't necessarily work for all. In the case of water issues, the problem was only found through the use of a moisture meter, and walls had to be torn out to fix the issue.

COCKROACH CONTROL.

With EPA focused on where pesticides go after they are applied, even when applied in the right places, some of the practices we used to use are becoming restricted. For example, there are limitations on general spray and applications, and with the current focus of EPA on Synthetic Pyrethroids we may see more restrictions placed on us.

It's a really tough challenge, so you can be challenged with remediation that's very complex.

Today's products are good, but you cannot rely just on pesticides to solve the problem. The most important thing still today is the relationship between the service provider and the facility as partners.

It is a partnership in which each side has responsibilities in communication and action. The most important thing food plants can do is to listen and adhere to the pest manager's instructions to help avoid these pests and to reduce their numbers as soon as possible.

Additionally, most pest control companies provide pest-sighting logbooks, which should be put in multiple locations. That is critical for control because the technician is there for a limited time.

When a plant employee notes the day, time, and location where he or she saw a pest, the pest manager can inspect and monitor that area to discern the pest, the problem — and the solution. Keep the insect if possible, marking the container with the date and location found. That's great information for the technician.

TAKING ACTION.

Even beyond communication and reporting, action is needed by the food facility. Removal of conducive conditions is the key. If you don't have conducive conditions, you won't have the pest.

There are a multitude of tactics for controlling pest populations. Use a combination of monitoring, inspection, and application of proper products that pinpoint any pest issue. Furthermore, a sanitation program must be established. Without proper sanitation, efforts will be futile.

Cockroaches tend to be categorized as secondary, but there is incredible potential for serious issues. Even if a plant is well-maintained, cockroaches — particularly the notorious German — can be carried in with deliveries, employee belongings, vending-machine snacks, etc.

Again, however, there will be some differentiation by species. German cockroaches require a potential combination of baiting, insecticides, and cleaning of the facility in particular areas.

Article continues on next page

But the other cockroaches are more typically controlled with insecticide use, sticky traps, and reducing the infestation routes of entry into the structure as recommended by the technician. The control efforts may easily change based upon local conditions and plant sensitivities.

KEEPING COCKROACHES OUT.

The goal, is to eliminate the three requisites for life: food, water, and harbourage. Utilize all methods of control: cultural, mechanical, chemical, and biological (if warranted).

Build a protocol around integrated pest management. Treatment should include exclusion because cockroaches can migrate between rooms via plumbing and electrical connections.

Exclusion also is important because many food processing facilities have aging infrastructures. Plants that were new as little as 10 years ago can have issues that give pests an opportunity to become established.

Thus, you need to understand potential problem areas of your facility, and be proactive to prevent conducive conditions and entry points for pests.

Remember that "entry points" can be deliveries. Always

inspect incoming deliveries and delivery trucks, but also the racks on which the bread is carried into the store then placed back in the truck; the dollies on which the racks are wheeled; and any other equipment used.

Usually when talking about food processing, shipping and receiving is the bigger part of the business, so it can bring in cockroaches.

It is for this reason the first step for any of the cockroaches is monitoring. By placing and checking monitors, you can stay on top of issues and react before they get out of hand, regardless of the species or entry points.

It is important to understand the differences between these cockroaches for one simple reason: control. Know how to properly identify each species; know their life cycle, behaviour, and historical tendencies in order to control each.

This article has been edited

The author is Lisa Lupo Editor of QA magazine. She can be reached at llupo@gie.net.

<http://magazine.qualityassurancemag.com/article/february-2018/a--cockroach-is-a--cockroach-is-a--cockroach--no.aspx?isid=MzE4ODE2NQ>

KIWICARE® EXPERTS IN COMMERCIAL PEST CONTROL

NEW
PRODUCTS



DELTAMETHRIN 15SC CONCENTRATE

KEY FEATURES:

- UV stabiliser provides protection indoors for up to 6 months and outdoors for up to 4 months
- Minimal odour
- 1L makes up to 100L diluted spray mix*
- Application Rate: 50-100ml/100m²
- Available in 1L and 5L Concentrate

* 10 ml/L as pressure sprayer application.



PERMETHRIN + IGR CONCENTRATE

KEY FEATURES:

- Dual active formulation – no mixing chemicals
- Highly effective adulticide
- Long lasting IGR controls eggs, nymphs and larvae.
- 1L makes up to 100L diluted spray mix*
- Application Rate: 30-80ml/100m²
- Available in 1L and 5L Concentrate

PROUDLY
NZ
MADE

For more information or to order please contact
022 544 3461 or 03 389 0778 or sales@kiwicare.co.nz

Food Pest Management Code-of-Practice – Stored Products Pests



Stored Products Pests are a hazard to Food Businesses principally because:

- They can consume and or damage both raw materials and finished goods.
- There is direct contamination of commodities by their excrement, dead bodies, cast larval skins etc.
- They may themselves become embedded in foodstuffs causing rejection of adulterated product by consumers resulting, in many cases, quite significant social and legal costs.
- Food commodities infested with Stored Products Insects often exhibit rapid mould growth which can include fungi that produce mycotoxins which may be toxic on consumption.
- Some can be but are not necessarily a vector for food borne illness or other micro-organisms which cause spoilage.
- They may themselves become embedded in foodstuffs causing adulteration which is objectionable to the consumer; even an isolated problem can harm a brand.
- Their presence in food is contrary to food regulations.

A Pest Management Overview

In Australia and New Zealand, there are several important stored product pests in food businesses depending on the commodity. There are approximately 18 species of Stored Products Insects that are of major economic importance.

They include several species of moth and beetles in which the larval stage of the life cycle is the primary cause of concern. However all stages, eggs, larvae and pupae all contribute to the adulteration of food.

Stored products insects are often categorised as primary and secondary invaders. Primary invaders can penetrate and infest intact grains, seeds and nuts. Primary stored products insects cause damage to stored grains by directly feeding on the grain at some point in their lifecycle. They will attack

grains that are intact and stable and can develop and reproduce very quickly when the conditions are optimal. Many species of stored product beetles feed internally in grain kernels as larvae. Of the beetles (Coleoptera) grain beetles, grain and rice weevils, and lesser grain borer all develop initially inside the kernel. The Angoumois grain moth is the only lepidopteron internal feeder.

Secondary invaders utilise damaged or milled cereals (rolled, kibbled or flours) and dried fruits.

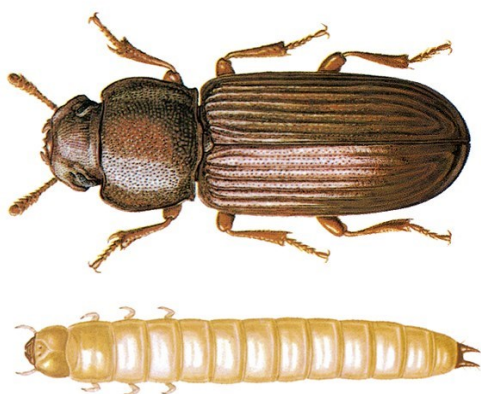
These include many species of beetles such as cabinet, carpet, cigarette, drugstore, flour, fungus, hide, larder, mealworm, spider and warehouse beetle, several species of moths including almond, clothes, house, Indian meal moth, Mediterranean flour moth and warehouse, species of booklice and cheese and grain mites.

The actions which need to be taken to manage Stored Products Pests differ depending on the origin or location of the pest, particularly on whether they are inside or imported from outside the food business. All participants in the supply chain must participate in protecting raw material or products from infestation by stored product pests.

Stored products pests are mainly insects that have adapted to exploiting certain foods in storage. There appears to be an increase in stored product pests in the supply chain. This is for a variety of reasons.

It is not acceptable to directly treat food products with pesticides. There is less fumigation treatment occurring of raw material being done as many of these pests are no longer a quarantine issue as they are already established and not eligible for official treatments and the inability for customer request (voluntary) treatments to be done with Methyl Bromide. This means more emphasis on receiving infestation free material and protecting it from such.

This requires a combination of preventative measures such as exclusion (e.g. robust packaging), sanitation (cleaning to deny pests access to a food source) and devices and treatments to safely intercept these pests.



Confused Flower Beetle

Detection can be difficult if only eggs or young larvae are present. Trapping devices can be installed in high

risk production and storage areas, and servicing is at an appropriate interval. The current species specific pheromone lures employed in the traps designate a replacement cycle of 3 monthly.

Note these are useful to intercept adult moths dispersing and potentially incurring fresh infestation but cannot be relied on as a sole control measure.

The source must always be dealt with by removal or where possible treatment. The larval stages are less mobile and require closer inspection and localised monitoring methods such as sticky board traps with appropriate lures or without (so called blunder traps).

Pesticides can only be used as environmental non product contact treatments. The material choice is further regulated by the risk of chemical contamination. Where product or product contact surfaces are present relatively low mammalian toxicity and non residual only materials can be used in compliance with legislative and industry specific guidelines. Insects may only be actively mobile before or after pupation.

Good housekeeping (deep cleaning) and vigilance of staff is important. The risk of infested raw material (source, type and history) must be heeded and managed. Because some of these pests can penetrate flexible packaging finished product must be protected or isolated from infestation potential during storage, retail and after sale in the customers care.

Article continues on next page

A large advertisement for PyGar Natural Insecticide. The background is a dark, dramatic scene of a boxer in a ring, wearing black gloves and boxing boots, with one glove prominently displaying the PyGar logo. The boxer is in a fighting stance, looking towards the right. In the bottom left corner, there is a white plastic bottle of PyGar Natural Insecticide. The text 'PyGar®' is written in large, bold, white letters at the top left, with 'NATURAL INSECTICIDE' in smaller text below it. To the right of the boxer, the text 'Synergised with PBO' is written in bold, followed by 'Insects stay knocked down' and 'Don't settle for anything else' in a slightly smaller font. In the bottom right corner, there is a logo for 'PelGar International' featuring a green globe with the brand name inside. The website 'www.pelgar.co.uk' is printed in the bottom left corner.

Integrated Stored Product Pest Management Partnership Summary

It is clear that there are a number of factors involving both pest management and client personnel that need to be included in any management plan. Where there is a high risk of infestation an inspection, trapping and monitoring regime is necessary. Where there is a low risk of stored product pests inspection only is required.

Preventative methods need to be implemented to discourage and exclude pests such as sanitation, elimination of pest habitat and denial of access to buildings and product.

- Inspection survey and risk assessment analysis and management plan.
- Pest detection (interception on incursion). Knowledge of pest biology.
- Pest presence/absence/distribution.
- Potential controls - Interception devices, suppression, elimination.
- Ongoing inspection, monitoring, recording, analysis and reporting.
- Approved mechanical, physical and biological methods.
- Permitted substances and treatments. (there shall never be direct or indirect contact between products and prohibited substances).
- Sufficiently robust packaging should be used to prevent invasion of penetrators.

To read more on the CoP for Pest Management in the Food Industry in Australia & New Zealand go to the [members area](#)

In the next Newsletter we will talk more about different Stored Product Pests and treatment options, including preventative measure, chemical control, fumigation, space (ULV) treatments, direct and residual treatments, crack and crevice, spot, heat treatments and pheromone traps.

RECOGNITION

Because food pests include a range of diverse arthropods it is not possible to give an all-encompassing description of their appearance. However, the adult insects are generally small (no longer than 20mm). The adult mites are about 0.5mm long.

Food pests exhibit two types of metamorphosis: "complete" (some insects) and "incomplete".

With complete metamorphosis the insect egg hatches into an immature stage (larva) which bears no resemblance to the adult. On reaching maturity the larva changes into an immobile pupa. In the pupal stage the body of the larva is completely remodelled into the adult form. The adult then emerges from the pupal case. Thus there are four stages to the life cycle: egg, larva, pupa and adult. Beetles and moths have a complete metamorphosis.

With incomplete metamorphosis the arthropod hatches directly into an immature stage (called a "larva" in non-insects; called a "nymph" in insects and in non-insects after the first moult). This has the general appearance of a very small adult. The life cycle has three stages: egg, larva/nymph and adult. Booklice and mites have an incomplete metamorphosis.

The small size of food pests is integral to their success. If they were larger they would not be able to move easily amongst the particulate, granular and flaked foodstuffs in which they are found. They would also require more food and therefore be easier to control by the cleaning up of food residues. Being small, they can enter through small defects in storage structures, and are likely to be overlooked until their numbers have built up significantly.

News Bite



Rentokil Steritech have identified climate change as a factor that is accelerating the damages caused by pests, which could result in a wider spread of infectious diseases, increased crop destruction, extensive electrical damage and food safety issues.

As most pests are more prevalent in warmer climates, the impact of an increasing temperature could be potentially devastating to public health and food production. The combination of increased CO₂ levels and global warming could mean that areas, which are currently uninhabitable for pests could soon become fertile breeding grounds. Not only do most pests breed better in warmer temperatures but some species tend to grow bigger and increase their resistance to insecticides. Furthermore, for most species an increasing temperature is likely to lead to a higher survival rate during winter months.

Vector-borne infectious diseases, such as malaria, dengue virus, Zika virus and Lyme disease affect nearly half of the world's population and can create international public health emergencies. The outbreak of Zika virus, which was spread mainly by mosquitoes during 2015-16, was widely linked to global warming by the scientific community, following a spell of unusually high temperatures.

The Asian Tiger Mosquito, a known vector of dengue virus, chikungunya virus and dirofilariasis, is a species native to Asia, however, due to increasing temperatures, the mosquito is now spreading rapidly across Europe and the US where it is now present in 32 states.

With the global temperature expected to increase by around 2°C (35.6°F) in the next few decades, Rentokil Steritech expects to see pests migrate to cooler climate environments. This could result in insects becoming a bigger threat to food safety and production, as they become more resistant to insecticides and experience additional generations.

The Coffee Berry Borer, which is now present in virtually every coffee-growing region in the world including Hawaii, is a key example of this effect in action. It is estimated that the beetle causes \$500 million in damages to coffee growers each year.

The agriculture and food production industries are not the only industries affected by the introduction of pests into new areas. Indeed, some pests cause major destruction to other perhaps more unexpected businesses. One of these examples is the Tawny Crazy Ant that is causing severe damage to electronics. Originally from South America, the Crazy Ant has started to invade the southern US as well as Colombia and the Caribbean Islands. The species injures livestock by biting them and causes extensive electrical damage by chewing through cables.

To combat a new set of challenges from pests, technical leaders at Rentokil Steritech recommend that businesses stay up to speed on invasive species, use products that have a longer residual life and consider increasing their frequency of pest control services.

Judy Black, Vice President of Technical Services, Rentokil Steritech, says:

"Invasive species have always been a problem, but they will likely spread further as the global temperature increases, causing the establishment of new, exotic species with no natural enemies.

Global warming will have a significant impact on the problems caused by insects especially, as higher temperatures can result in faster population growth and the quicker breakdown of conventional insecticide through volatilization."

To learn more about this burning issue, visit:

<https://www.rentokil-steritech.com/commercial-pest-control/climate-change/>

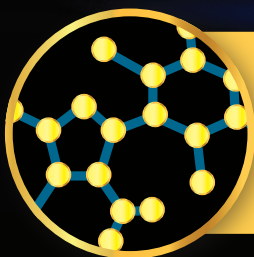
THE ULTIMATE INSECT SOLUTION

SUPPORTED BY ENSYSTEX - TRUSTED BY PROFESSIONALS



ULTRATHOR™

WATER-BASED INSECTICIDE



**Contains super low-repellent
Ensysrex fipronil, protected by
ten international patents.**



Toxicology studies
on file for your safety



**People, pet and
plant friendly**

ENSYSTEX.CO.NZ

ENSYSTEX™
THE INNOVATORS

0800 ENSYSTEX



Vodafone New Zealand launches new Internet of Things network to help Pest Control



Vodafone New Zealand today announced the launch of its latest Internet of Things (IoT) network technologies, Narrowband-IoT (NB-IoT) and Long Term Evolution for Machines (LTE-M). Both technologies are known as Low Power Wide Area Network (LPWAN), aptly named for their ability to deliver long battery life and extended land coverage. It is expected LPWAN technologies will drive the next wave of IoT innovations, particularly for battery-powered devices.

Vodafone Technology Director, Tony Baird, explains currently less than 1% of all the devices that could be

connected are connected, which is a situation LPWAN is set to change.

“NB-IoT and LTE-M will increase IoT connectivity for a wide range of devices that will be able to connect in a secure, scalable and affordable way. These technologies run across licensed spectrum and offer extended coverage across wide geographical areas with low bandwidth requirements. This means devices can send smaller amounts of data with less power consumed at an overall lower cost.”

NB-IoT’s key benefits are its exceptionally long battery life as well as signal strength, which enables you to push data further and can even penetrate through concrete, underwater, underground and deep into infrastructure. Vodafone’s NB-IoT network has already been deployed nationwide, and will enable solutions like river quality monitoring, remote-monitoring for electric fences, water tanks and soil moisture levels.

LTE-M delivers optimised battery life and fast throughput of data to enable real-time applications like vehicle tracking, asset monitoring and logistics, with future support for voice calls.

Vodafone IoT Country Manager, Scott Pollard, says Vodafone is the only nationwide provider offering both technologies and customers are taking notice.

“The LPWAN offers massive potential across so many industries and customers are taking advantage of the superior features to create IoT solutions, including pest control and school safety-sign monitoring.”

In stunning Punakaiki, home of the Pancake Rocks on New Zealand’s West Coast, local volunteer group, Predator Free Punakaiki is working to create a native bird sanctuary. In their quest to eradicate predators, they have turned to an innovative IoT pest control solution, MinkPolice, which already has a track record of success in Europe.



MINKPOLICE

Heiko Kaiser, Managing Director of MinkPolice explains, "Within each trap there is a SIM that connects via Vodafone's IoT network to the MinkPolice smartphone application. Volunteers receive a notification whenever a trap is activated which sends them to the exact location of that trap, to clear it, reset it, and trap more pests more often. Initially, the traps used Vodafone's 2G IoT network, but we're about to move to the NB-IoT network, which will enable the volunteers to set traps in more remote areas of the sanctuary knowing they'll still have reliable connectivity."

Grant Parrett of Predator Free Punakaiki adds, "The benefits for our volunteers have been fantastic. Rather than the volunteers committing to walking through arduous terrain to check on traps hoping to find one that's been triggered - a process that takes up to 4 weeks to cover the trap lines - they can target traps they know have been activated. Ultimately, we will be using Vodafone's NB-IoT technology to help save native species, support our hard-working volunteers and work towards achieving a Predator Free Punakaiki and beyond that, a Predator Free New Zealand by 2050."

Adds Pollard, "MinkPolice is a great example of leveraging global innovation into New Zealand using our network. The solution already exists in Europe and now our NB-IoT network can put that technology to use to help solve a problem we have here in New Zealand."

Motiv, an Auckland-based IoT solutions company, has designed customised hardware and a web-based scheduling and control system to manage and monitor the status of electronic school road signs across Auckland. Previously, schools were responsible for manually monitoring the signs, including switching them on and off. At the same time, Auckland Transport wanted visibility of their fleet condition so that they could explore

automated maintenance models that would increase service uptime.

Managing Director of Motiv Solutions, Ben Birch explains, "We've created an IoT solution that delivers Auckland Transport real-time performance of their smart school-sign fleet, meaning they

are alerted to any road-side collisions with the sign, thefts or vandalism and can keep track of solar performance. The application has been ported to operate on Vodafone's LTE-M network and has delivered exceptional performance throughout engineering testing of the first live towers.

Birch continues, "The LTE-M network offers a powerful combination of low power and high throughput meaning we have total control over how much power we use and how much data we want to collect. The solution offers peace of mind to schools who can now operate the signs stress-free knowing they have the support of Auckland Transport should the signs become damaged or stop operating properly."



Alternative pest control for bugs and insects

Cockroach Traps • Moth Traps



Odourless

Non-toxic

Effective

Suitable for use at home

Alternative pest control for rodents

Rat & Mouse Snap Traps • Non-toxic Lures • Trap Stations



DESIGNED-2-KILL

✉ info@designed2kill.info ☎ 0800 257 326 🌐 www.designed2kill.info

Phil Skipper, Vodafone Group's Head of IoT Business Development explains, "It's fantastic to be in New Zealand for the roll-out of LPWAN. Vodafone is a global leader in the IoT space and I'm very proud to see Vodafone New Zealand paving the way in IoT innovations. Vodafone has been rated as a global leader in IoT, and with 75 million IoT connections in over 30 countries, we'll continue to see IoT adoption grow around the world."

NOTES from Vodafone

Low Power Wide Area Network (LPWAN) is a category of wireless communication technologies designed to support Internet of Things (IoT) deployments

A number of different technologies have been developed to fulfil LPWAN requirements, and Vodafone are rolling out NB-IoT and LTE-M (CAT-M) because they both run across licensed spectrum, providing less interference

For more information and to find out where you have LPWAN coverage, visit their website [here](#), or please contact:

Tabitha Coleman, External Communications Specialist

021 063 9855 or tabitha.coleman@vodafone.com



BRC INSECT LIGHT TRAPS

3 YEAR New Zealand Warranty

GT20 & GT40 Glueboard

FLYinBOX Zapper

MGL40 Glueboard

- ▶ Long-life light bulb (8,000 hours)
- ▶ Highly effective & CE safety rated
- ▶ Modern domestic & commercial lights
- ▶ DIY or serviced options available

BRC
LIGHT TRAPS AVAILABLE FROM BRCNZ AND AUTHORISED PARTNERS.

To order a BRC Light Trap contact BRC NZ
Head Office: 50 State Highway 5, Rotorua 3073, NZ
Phone: (07) 213 1317
Email: info@brcnz.co.nz Website: www.brcnz.co.nz



Winner of the Fiji Business Excellence Award 2018 Prize Level



Back Row Left to Right: Mr. Mohammed Shiraz (Team Leader Hygiene Services), Ms. Kushnumma Begum (Key Accounts Manager), Mr. Rishi Ram Singh (Team Leader Pest Control).

Front Row Left to Right: Mr. Muni Ram (Branch Manager Western), Mr. David V. Chand (General Manager Fiji), Mr. Mohammed Tazim (Managing Director), Mr. Mohammed Zakariah (Executive Director), Ms. Safeeyah Begum (Company Director), Ms. Shazeeyah Umair Begum (Company Director)

PMANZ congratulates Fick Anticimex whom has been winning this award since 2013, when it was known as Amalgamated Pest Control.

This is a wonderful achievement, and one which you can be proud of.

We send our best wishes to the team in Fiji for the New Year!

Health and Safety at Work (Hazardous Substances) Regulations 2017 Clause 13.19—Signage for VTA's

PMANZ received an email on 26 October 2018 notifying everyone that WorkSafe has formally set various periods of time for which a PCBU with management or control of work involving a vertebrate toxic agents being applied or laid must ensure that compliant signage is displayed (in accordance with regulation 13.19 of the Health and Safety at Work (Hazardous Substances) Regulations 2017).

PMANZ queried this with Dr Christoph Hasenöhr, Advisor, Hazardous Substances, High Hazards, Energy and Public Safety. He responded by email as follows:

The requirement to display signage arises from regulation 13.19 if the requirements in subclause (1)(b) are met. This regulation stems from [clause 28 of the Hazardous Substances \(Classes 6, 8 and 9 Controls\) Regulations 2001](#).

The wording got changed slightly, as under the Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001 any class 6.1 substance that is applied outdoors would need to display signage, while under the [Health and Safety at Work \(Hazardous Substances\) Regulations 2017, clause 13.19](#) any class 6 vertebrate toxic agent that is laid outdoors in a workplace requires this signage.

The Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001 apply to any class 6.1 vertebrate toxic agent (this includes 6.1A substances but also 6.1E substances). [From the Hazardous Substances \(Vertebrate Toxic Agents\) Transfer Notice 2004](#) (pp 3504) various time periods have been set (e.g. brodifacoum – 12 months, bromadiolone – 12 months, etc.). As such, the transferred vertebrate toxic agents already required this. For any new vertebrate toxic agent that has been approved following the transfer notice (for example MZP) this has been set separately. I followed up on this and there seems that there is **no dispensation for the urban pest management sector and these signs would have needed to be in place already for the past years.**

So, this is news to all of us in the UPM industry and it would appear all suppliers, manufacturers and PMANZ

missed this clause in the review of the 2017 legislation. What does the legislation tell us:

13.19 Signage requirements for vertebrate toxic agents

(1) This regulation applies to—

(a) a class 6.1A, 6.1B, or 6.1C vertebrate toxic agent that is applied or laid anywhere outdoors by a person lawfully allowed to do so, as part of bait to inhibit reproduction, inhibit growth, or cause the death of terrestrial vertebrates; and

(b) any other class 6 vertebrate toxic agent that is applied or laid outdoors in a place (within a workplace) to which members of the public ordinarily have access, by a person lawfully allowed to do so, as part of bait to inhibit reproduction, inhibit growth, or cause the death of terrestrial vertebrates.

(2) A PCBU with management or control of work involving the substance must ensure that signs that comply with subclause (3) are erected at every normal point of entry to the place where the substance is to be applied or laid.

(3) The signs must—

(a) identify the job title of the person controlling the application or laying the substance, and provide sufficient information to enable that person to be contacted during normal business hours; and

(b) identify the substance and state that it is toxic to humans and ecotoxic to non-human vertebrates; and

(c) state the date on which the substance will first be applied or laid; and

(d) comply with the requirements for comprehensibility and clarity listed in regulation 2.5(2)(c)(i) to (iv), with the modification described in subclause (4).

(4) The modification is that regulation 2.5(2)(c)(iv) applies as if, in relation to the information required to be included on the signs by subclause (3)(a) and (c), the distance referred to in regulation 2.5(2)(c)(iv) were not less than 2 m.

(5) WorkSafe may specify—

(a) a period of time for which the signs are to remain in place:

(b) different time periods for signs for different substances.

(6) The PCBU must ensure that the signs remain until—

(a) a period of time specified by WorkSafe for the substance has elapsed; or

(b) the substance has been retrieved from the place concerned; or

(c) the substance is no longer toxic.

(7) Regulation 13.9 does not apply to a substance after it has been applied or laid in accordance with this regulation.

(8) A PCBU who contravenes this regulation commits an offence and is liable on conviction,—

(a) for an individual, to a fine not exceeding \$6,000:

(b) for any other person, to a fine not exceeding \$30,000.

Notwithstanding that we are at fault here, and should have been putting up signage a long time ago for VTA's, we did ask for clarity around **“a place (within a workplace) to which members of the public ordinarily have access”**.

PMANZ believed that signage on gated and fence premises was not required and we put in a submission that was with accepted by WorkSafe as follows:

“As previously mentioned, any operator would need to display signage in accordance with regulation 13.19 for workplaces where members of the public ordinarily have access.

For the purpose of regulation 13.19, secured sites (gated and fenced) are not considered workplaces where members of the public ordinarily have access, and as such these sites do not require signage while a pest eradication operation is in place. If there are any doubts, that a site can be considered secured or members of the public may have access to this site, a precautionary approach should be adopted and signage displayed.”

The operational signage would need to show the information prescribed in regulation 13.19(3). However, you can display additional information.

So what does that mean for you the PCBU and pest manager/technician ?

- 1) The legislation now instructs us to place suitable signage on our contractual rodent management sites where we have bait stations on the outside of a premises, such as on public facilities, schools and hospitality premises where members of the public ordinarily have access. This is all restaurants, cafes, catering establishments, conference centres, hospitals, doctors and dentist premises, public buildings such as universities, museums, art galleries etc
- 2) How you handle this with your clients is up to you, but you have two choices, either put up signage or remove the bait stations from the outside, or change them to traps. If you have baits in a kitchen you will need to place signage in the kitchen too, and if you have them outside the kitchen in a yard - there too
- 3) The display signs must state:

- the job title of the person in control of applying or laying the substance
- contact details for that person during normal business hours
- the substance name and a warning that it is toxic to humans and ecotoxic to vertebrates
- the date(s) the substance is going to be applied or laid.

It is also recommended that the following information is included on the sign:

- an identifying photo or description of the substance as it would be found in the environment
- emergency actions in the case of accidental ingestion.

The signs must meet the same comprehensibility and clarity requirements as the other types of signs, but the information on the person in control of applying or laying the substance and the dates(s) the substance is going to be applied or laid only need to be visible from 2 m.

See over page for sample signs that will comply.

Sample Signage for VTA's

These sample signs are Courtesy of Mike Collins, Operations Director Ajet Services, and were designed by Pest Management Consultancy Ltd

Wall Signage

DANGER POISON
Rodenticide Bait

BRODIFACOU M BAIT

Will be present on the ground/in bait stations From

- **TOXIC to HUMANS and animals**
- **WATCH CHILDREN at all times**
- **Poison baits and carcasses of animals are DEADLY to DOGS**
- **ANTIDOTE: Vitamin K1**

For suspected poisoning call
0800 POISON (0800 764 766)
IN EMERGENCY CALL 111

Some bait stations or traps may differ
from those shown in the picture below

A-JET

For more information:
Contact: Operations Director
Phone: 0800 862 538
Email: info@ajetservices.co.nz

REMOVAL OF SIGNS OR BAIT STATIONS IS AN OFFENCE

Bait Station Sticker

DANGER POISON
Rodenticide Bait

BRODIFACOU M BAIT

- **TOXIC to HUMANS and animals**
- **WATCH CHILDREN at all times**
- **Poison baits and carcasses of animals are DEADLY to DOGS**
- **ANTIDOTE: Vitamin K1**

A-JET
A-Jet Services
0800 862 538

Pest Management Consultancy Limited



"Independent specialist with over 25 years' experience in pest management"

Providing expertise to those companies that need independent professional pest management service, consultation and advice.



High-tech sensors new weapon in war on pests



A possum pictured in the Print Acquisition for Wildlife Surveillance (Paws) system, which has the potential to save rangers time and money. Photo / Helen Blackie, Boffa Miskell

A stoat manages to make its way on to a pest-free island sanctuary.

Soon after it begins prowling for its first kill, it enters a tunnel and steps on a sensor.

In real-time, the sensor scans the shape of its paw, identifies it as a stoat and fires off an alert to a ranger.

While much of New Zealand's bold bid to be rid of pests is uncertain, cutting-edge technology like this is expected to play a crucial part.

Dubbed the Paws (Print Acquisition for Wildlife Surveillance) pest identification sensor pad, the device is designed to detect and identify pests in places like islands or mainland sanctuaries where possums, rats and stoats have already been cleared out.

The Department of Conservation (DoC) has just signed a contract with Lincoln Agritech to develop the technology with collaborators Boffa Miskell and Red Fern Solutions, as part of a \$2.8 million funding roll-out for new research.

Trying to detect stoats and weasels has been a costly and time-consuming job for conservationists, who have often had to rely on tunnels with ink pads and cards inside them.

Analysing the cards for paw prints wasn't always straightforward, as the traces of a moving animal with muddy paws could be indecipherable.

The new technology, however, could be left in remote locations with little human intervention, saving park rangers the need to keep checking the pads.

Trials in Christchurch's Port Hills and forests in the West Coast had found it to be highly effective at detecting stoats, ferrets, possums, cats, rats and mice.

Lincoln Agritech principal scientist Clive Marsh said the team was perfecting the design this year, ahead of further small-scale field trials next year and larger ones in 2020.



[By: Jamie Morton](#)

Science Reporter, NZ Herald

jamie.morton@nzherald.co.nz@Jamienzherald

Get ahead of the rest

We offer courses to help you get your
National Certificate in Pest Operations

New Zealand Certificate
in Pest Operations (Level 3)
Urban Pest Control

Only
\$2,500
(GST inclusive)
until 31/03/19*

New Zealand Certificate in Pest
Operations (Level 2 Upgrade)
Urban Pest Control

Only
\$690
(GST inclusive)

Contact Desmond on 09 820 3433 or desmond@pacificintins.com



*Completed registration forms to be emailed to desmond@pacificintins.com before 31/03/2019.
Additional Careerforce fee applies.

Huge trapping project to protect endangered whio in Kaimanawa Forest Park



The whio population had been steadily dwindling since the introduction of invasive pest species such as stoats, possums, and rats. Photo/File

An extensive pest control trap network has been established in the Kaimanawa Forest Park to protect the endangered whio (blue duck).

A recent survey by the Kaimanawa Hunter Liaison Group revealed a small and vulnerable whio population of just one breeding pair in each of the Kaimanawa Forest Park's Kaipo and Oamaru streams.

These two pairs are just a few of the estimated 3000 whio left in existence.

The whio is endemic to New Zealand, and its population had been steadily dwindling since the introduction of invasive pest species such as stoats, possums, and rats.

Kaimanawa Hunter Liaison Group co-ordinator Gary Harwood said the group had been working with the Department of Conservation (DOC) on a variety of volunteer projects to aid in local conservation efforts for some time, including clearing bush tracks and maintaining DOC huts in the park.

"We decided to put our hunting knowledge to use and work together to help make a pest-free sanctuary in the Kaimanawa Forest Park so our endangered whio can flourish."

The Kaimanawa Hunter Liaison Group has been granted vehicle access to a remote part of the Kaimanawa Forest Park through the private Poronui Lodge property.

The installation of 108 Goodnature A24 automatic traps occurred over a two-day layout along 10kms of the Kaipo stream.

Article Continues on next page



The A24 automatic trap, developed by Wellington conservation technology company Goodnature, is the world's only predator trap which self-resets up to 24 times before it needs to be serviced by a human.

It has been proven to reduce pest populations down to near undetectable levels and keep them suppressed of rats and stoats. The network of traps will reduce the impacts of these pests on the New Zealand native birds.

Goodnature's technical expert Sam Gibson said it was a privilege to be a part of the community-led initiative.

"Providing the technology that helps bring down predator numbers, and subsequently boost endangered native bird populations is part of Goodnature's mission and it is consistently inspiring to see such commitment at the grassroots level in community initiatives like the Kaimanawa Hunter Liaison Group."

The Kaimanawa Hunter Liaison Group is made up of volunteers from multiple hunting groups, including the Central North Island Sika Foundation, Hunters and Habitats, and New Zealand Deer Stalkers Association Taupo branch.

These volunteers meet with DOC twice a year to discuss topics of mutual interest at a grass roots level.

Spotting whio, and other endangered native birds is not uncommon but the numbers have been steadily declining for decades.

Sika Foundation hunter-conservationist Cam Speedy believed we have turned the corner in whio preservation efforts.

"Stoats are the main cause of death for many whio chicks and this is stopping whio populations from being able to recover and grow in many parts of the country.

"Whio conservation efforts have been incredibly successful in other areas of the Central Plateau and we are seeing bird spillover into areas of the Kaimanawa Forest that aren't protected through predator control traps. If you can control the stoats, you can significantly improve the whio's chance of survival through the nesting period when they are at their most vulnerable," he said.

Rotorua Daily Post

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12112202

Technical Hints - Know your NZ cockroaches

Cockroach (Native Bush)

Celatoblatta spp,

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Subclass: Pterygota

Infraclass: Neoptera

Superorder: Dictyoptera

Order: Blattodea

Family: Blattidae

Species: Celatoblatta (about 16 species)

Common name: Native Bush Cockroach,



These small cockroaches are NZ natives. They are found in logs and leaf litter, under loose bark. Most of the species favours damp, dark habitats. They are not a household pest. They are usually introduced into a house usually by firewood. They are omnivorous and may feed on all sorts of organic materials. They can even eat dead wood, which they digest with the help of symbiotic gut flora.

The species *Celatoblatta quinquemaculata* can be found under slabs of rock in the subalpine and alpine regions of New Zealand. It is unusual because it survives through freezing conditions by allowing the water within its body to freeze and as temperature rises they become active.



Juvenile

more than a membership
IT'S A PARTNERSHIP