WHAT'S BUZZING? News from the World of Pest Management

Dengue: the crisis continues

Understanding Roof Rats Nesting, Food and Foraging Habits



August 2024 Volume 17 No.4



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Pest Management Association of New Zealand

PO Box 133215 Eastridge Auckland 1146 New Zealand Free phone: 0800 476 269 0800 4PMANZ Email: info@pmanz.nz Website: www.pmanz.co.nz Facebook: Click <u>HERE</u> Membership Enguires: info@pmanz.nz



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The executive secretary David Warrick, handles all membership renewals, certificates and ID cards as well as provision of vehicle stickers. He may be contacted on:

EMAIL: info@pmanz.nz or FREEPHONE: 0800 476 269 (0800 4PMANZ)

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FROM THE EDITOR





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

Hello everyone.

No amount of New Year's fireworks could hide the reality that 2024 would be another tough year for individuals and businesses alike.

Commentary over the rising cost of living, inflation and wage stagnation have dominated the news for over a year.. But despite this, our conference registrations for August are looking good! Currently over 150 and counting...

I hope you have registered and will be in attendance for what will be a great conference. We will be giving each delegate a special conference There are some great tips and advice from our to take home and use. See more details on page see you all in August. 36.

We have a full house of sponsors, starting with Garrards and their team of suppliers; BASF, Peter ENVU, FMC, Pelgar and Syngenta.

Then we have Key Industries, Ensystex, Arandee, Bell Labs, Liphatech, GoodNature, Peststop, Pest Management Professional Magazine and Bird Control (NZ).

If you haven't registered you can still do so. Just go to our website by linking <u>HERE</u>.

Mosquitoes have become a big problem around the globe with warming weather patterns, and with them comes dengue. Read what Dr Stephen Doggett has to say about the crisis across the Asia/Pacific/Indian region .

Training Manual of Bill's latest technical updates advertiser's and suppliers, so happy reading, and

Warm regards





President's Pen Maihi Cooper

Kia ora PMANZ members, suppliers, family, friends and other interested readers

It is right that I start my final presidential pen with a 'Safety Moment'. As we head into the tail end of winter, we are facing icy, wet and wild weather conditions so it is important that you keep up to date with weather changes and road closures. I utilise the Met Service and Waka Kotahi to plan my travel especially if I have a longer distance to cover. It is also important to be aware of poor weather conditions to help you plan your pest control activities, we all know what is like being out in the rain trying to service rodent bait stations. Take care, be safe and stay warm.

Given that this is my final pen for my term, I thought it worthwhile to summarise some of what we have achieved and the way ahead for the immediate future of PMANZ priorities.

When I came into the chairman position in August 2021, PMANZ had already invested in the rewrite of the Urban Pest management NZ qualification. This set the scene for me to continue this focus and emphasis on learning and development. The key strategies included ongoing investment into resources for the PMANZ members and developing future opportunities for the industry. I am pleased to see we have established the beginning of a 'continued professional development' programme, with relevant training modules available for all members. Over the past year, I have been engaging with a training organisation to establish a new career focused training fund that will become available for our industry to apply for within the next 6 months. It is exciting to have that opportunity to assist our industry further develop the pest management industry into a trade and professional career path.

A highlight for me has been the development and investment in the IT space with the new website providing the platform to futureproof the growth of members and open up functionality options. This has included the dynamic "Find a Professional Pest Manager" search function, member managed facilities; including managing registrations renewals and plenty of other useful information in the Members area to support you in the pest management industry such as Good Practice Guides, Job Safety Analysis, and pest industry reports. My vision was PMANZ would continue to provide industry knowledge and the website has helped us unlock this potential along with providing a fantastic opportunity for continued learning and development. Please, take the time to complete these free modules and update your company information on the website so you make the most of your PMANZ membership and if you need any assistance, contact us.

Our Pest Management Association is unique in that the members are all stakeholders and have an equal say, big or small companies, manager or technician. We are a small voluntary organisation without compulsory registration, that have to prove we are worthy of the confidence of our customers, the public and the legislators. We have to set our own standards and must abide by them. It is a competitive business, but we can't compromise on health, safety and environmental care. Our work involves being in sensitive situations and we must respect the trust placed on us. It is great to see that Pest management continues to interest and attract new people into the industry, as we see the continuing growth of members each month. Please join me in welcoming these new members.

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Tabua	Senibuli	Rentokil Fiji	
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Janine	Cachero	RNZAF	
New Company members			
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to our industry to make the legislation easi- matters. er to understand, practical and aligned to Urban Pest Management. The Safe Work Practices in Urban Pest Management Best Practice Document is the backbone supported by other ready reference sheets. We recognise our activities are out in the field and these essential documents need to be readily accessible. This and other useful information are available to members and you are able to personalise your own activities, again reach out to us if you would like any guidance.

The Aug conference is fast approaching, and I hope that if you have not already regis- Ngā mihi nui, tered then you will do so within the next Kind regards, couple of weeks. The content of this conference is of a high calibre and I'm sure it will be of interest to many of you, so please consider attending.

I would like to say it has been a privilege being in this role for the past 3 years. I can honestly say I have learned a lot and developed a more indepth and greater appreciation of the pest management industry challenges and rewards.

more than a membership IT'S A PARTNERSH

In the background, we work closely on many It certainly has not been a solo effort and I topics with the Environmental Protection would like to acknowledge and thank Authority (EPA) and Ministry of Primary In- Gerwyn, Paul Craddock, Peter, Rowan, David dustries (MPI) to ensure our systems and Wynn, Vicki, Paul Chapman, Tom and David procedures are safe and compliant. Docu- Warrick for your commitment, along with ments have been prepared that are aligned the effort to contribute towards PMANZ

> It has been a pleasure to sit beside you and I greatly appreciate you sharing your skills, knowledge, experience and most of all your passion for the industry. A special thanks to suppliers and other industry supporters, we could not do it without you all.

> Lastly as I sign off, all the very best to Gerwyn Jones who will succeed to the PMANZ president role, I am confident he will take the growth of the association further and lead us in a positive direction.

That's all from me for now,

Maihi Cooper

Maihi

PMANZ President



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Dengue: the crisis continues

By Stephen L. Doggett, PhD





In the April 2023 edition of FAOPMA Magazine, the article "*Dengue: a Crisis for Asia*" revealed a dramatic surge in dengue cases across Southeast Asia during 2022, with over a million infections in the Asia/Pacific/ Indian region. A year later, the situation remains dire.

Globally, over five million cases and 5,000 deaths across 86 countries were recorded by early December 2023, according to the European Centre for Disease Prevention and Control (ECDPC, 2023). This figure surpasses the 3,766,153 cases and 3,582 deaths reported worldwide by December 19, 2022, which was then the highest yearly record.

The Americas, notably Brazil, traditionally report the most cases, with approximately four million notifications during 2023. However, there was a noticeable increase in dengue cases in the Asian/Indian/Pacific regions. It's important to note that the reported number of dengue cases is often a significant underestimation.

The US Centers for Disease Control and Prevention states that around 3.6 billion people, or 40% of the world's population, live in dengue-endemic areas. Annually, about 400 million are infected with the virus, 100 million fall ill, and 21,000 deaths are attributed to dengue (https://www.cdc.gov/dengue/training/cme/ccm/page51440.html).

Accurate data is scarce in less developed countries where people may not afford medical care or live far from medical facilities. Consequently, many nations do not publicly provide reliable and up-to-date case numbers.

For instance, as of May 2023, there is no data for Japan, Korea, or Pakistan, and Indonesian data is outdated. This lack of transparency is possibly due to governments not wanting to acknowledge the severity of the situation.



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Here are the 2023 dengue statistics for	Micronesia: 59 cases.
Afahanistan: 1 496 cases 1 death as of De-	Nepal: 51,243 cases, 20 deaths from 77 dis- tricts
cember 30.	New Caledonia: 15 cases.
Australia: 1,023 cases, reflecting a signifi-	Palau: 17 cases.
cant post-COVID travel increase.	Philippines: 195,603 cases, 657 deaths.
Bangladesh: 321,179 hospitalizations, 1,705 deaths.	Samoa: 77 cases as of November 19.
Cambodia: 31,567 cases, 39 deaths.	Singapore: 9,663 cases as of December 23.
China: 17,788 cases, 1 death.	Solomon Islands: 550 cases.
Fiji: Over 3,800 cases by July.	Sri Lanka: 88,398 cases, 57 deaths.
India: 94,198 cases, 91 deaths as of Sep-	Taiwan: 26,703 cases.
tember 17.	Thailand: 150,808 cases, 165 deaths as of
Indonesia: 35,694 cases, 270 deaths by May.	December 20.
	Vanuatu: 84 cases.
Laos: 31,997 cases, 20 deaths.	Vietnam: 166,916 cases, 42 deaths.
Malaysia: 120,418 cases, 96 deaths.	Wallis and Futuna: 91 cases.

Maldives: 3,223 cases from January to No-vember.



Totalling these numbers, in 2023, there were 1,352,610 reported dengue cases and 3,149 deaths in the region. This is an increase from the previous year's figures of 1,260,445 cases and 2,682 deaths. Notably, more comprehensive data was available in 2022, suggesting that the actual numbers for 2023 were considerably higher.

The World Health Organization (WHO) in 2023 reported that the recent global upsurge in dengue is characterized by "a significant increase in the number, scale, and simultaneous and a source for vector breeding. Moreover, occurrence of multiple outbreaks, spreading into regions previously unaffected by dengue." This escalation can be attributed to several factors. Key among these is the expanded distribution of dengue vectors, namely Aedes

albopictus and Aedes aegypti mosquitoes, especially in countries where these mosquitoes were not previously endemic.

Climate change has facilitated the establishment of these mosquitoes in cooler climates, aided by rising temperatures, increased rainfall, and higher humidity levels. Additional contributing factors include financial and social instability, growing human populations, urbanization, and a scarcity of potable water, which often leads to water hoarding practices many countries face limitations in disease surveillance, leading to delayed reporting of cases. This hampers a timely response in vector and disease control, resulting in larger and more severe dengue outbreaks.

Article continues after advert



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So, what unique contributions can the pest control industry offer?

Experience: Professionals in this industry engage in vector control routinely. Their handson experience equips them with a profound understanding of surveillance, Integrated Pest Management (IPM), innovative pest solutions, sustainable pest management methods, and industry best practices.

Public Education and Awareness: The industry can partner with public health agencies to educate communities about dengue risks and preventive measures against mosquito breeding. This effort includes promoting the elimination of standing water, ensuring proper waste management, and advocating the use of mosquito repellents and screens.

Collaboration with Health Authorities: The pest control industry can collaborate closely with health authorities to identify and concentrate efforts on high-risk areas. Sharing data and insights is crucial for predicting outbreaks and implementing pre-emptive actions.

Article continues on next page





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Global Partnerships and Information Shar-

ing: Participation in global partnerships to share best practices, research findings, and dengue control strategies can significantly improve the effectiveness of control measures worldwide.

By focusing on these key areas, the pest control industry can make a substantial contribution to reducing the global dengue burden and safeguarding public health.

However, it must be acknowledged that despite WHO's various initiatives, the continuous increase in dengue cases suggests these efforts are not sufficiently effective. A strategic renewal is necessary, one that includes the pest management industry. Only through collaborative efforts can we effectively stem the rising tide of dengue infections.

Editorial Update: Since first writing this article Stephen informed us that dengue cases have exceeded **10 million cases as at July** 2024 according to the World Health Organisiation (WHO).

He went on to say, "climate change is leading to the geographical spread of the mosquito vector, resulting in new human populations being exposed to the mosquito and the disease, without any immunity. Plus climate change is creating a much longer mosquito season".

Stephen L. Doggett is the Director of **Medical Entomology at Westmead** Hospital, Sydney, Australia



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Understanding Roof Rats Nesting , Food and Foraging Habits

Exterior Nests

Well-established roof rat colonies are typically in older neighbourhoods where the landscaping, trees, and natural vegetation are mature and lush, and where there are also fruit and nut trees available. In these environs, the roof rat can exist fairly inde-pendently of people and their dwellings. A few of the more common exterior nest locations for the roof rat in urban areas include:

- Within the accumulating dead fronds of un managed palm trees.
- On fence ledges behind thick overgrown vines and vegetation.
- Upper cavities of garden sheds.
- Within thick bush cavities, on or off of the ground.
- Behind or within yard trash piles, wood piles, lumber stacks, etc.

Roof rats also occasionally construct globular leafy nests high up in trees much in the same manner as tree squirrels. In areas where the Norway rat is absent, or if all the arboreal nest sites are occupied, the roof rat will readily construct and live in earthen burrows. These burrows are usually located in areas protected by dense vegetation or at the base of cavernous types of ' bushes and shrubs. Extracted from the book: *Rodent Control A Practical Guide for Pest Managment Processionals* with permission from **Robert Corrigan, PhD**

President of RMC Pest Management Consulting



Whereas the Norway rat might be living right beneath our feet , roof rats may be directly over us, or within arm's reach as we walk by. This lush ornamental wall along a busy city sidewalk contained roof rat nests.

Structural Nests

Roof rats enter buildings from various areas exploiting any openings through vents and soffits or structural gaps, much in the same manner as tree squirrels. In roof rat-infested neighbourhoods, residents often report seeing rats running up and down the trees and traveling over to roofs via utility lines or overhanging tree branches.

Once inside, almost any structural element providing concealment may be utilized, but overhead areas are most vulnerable. In residential homes, attics, soffits, ceiling and wall voids, the corners of car port roofs, and many other aerial areas may be exploited. In high-rise apartment complexes and tall office buildings it is common to find roof rat infestations from the ground floor to the penthouse areas regardless of the number of floors.



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In warehouses, food plants, and other industrial buildings, the roof rat establishes nests within the top levels of storage boxes and racks, overhead electrical junction boxes, and on or behind any of the large structural beams and elements. Roof rat nests have been found at the tops of rice silos 80ft/24m up off of the ground. In industrial complexes and high-rises in neighbourhoods where roof rats are well established, pest professionals regularly state that the harder an aerial location is to reach, the more likely it seems to be one of the nesting sites for the roof rat.

ROOF RATS IN ATTICS

s was discussed in **Chapter 2**, rodents are significant pests for several reasons. However, an important aspect of structural roof rat infestations as compared to Norway rats or house mice is to underscore the propensity of this rat to infest attics and ceiling voids. In many buildings, these areas contain the main electrical wiring of a building and possibly other important utility conduit lines and systems. And again, rodents are gnawing mammals that have a tendency to attack and gnaw on all types of wires. To this point, it is important to keep in mind that elec-

trical systems of our buildings are perhaps the most critical susceptible components of

AND THE REAL PROPERTY OF THE R

the building to rodent damage. Thus, structural roof rat infestations are more than just a nuisance; they may be a real threat to the safety of a home and the life of its occupants. In fact, attic infestations of roof rats, or any rodents (mice, Norway rats, tree squirrels, etc.) must always be taken seriously. And it is the responsibility of a pest management professional to communicate the urgency of such infestations to the public.

Food Preferences and Foraging Behaviour

The roof rat, like the Norway rat, is an opportunist. But relative to foods and feed-ing, roof rats can exist more independently of humans than the Norway rat. The roof rat feeds on natural foods located within tropical and semi-tropical zones that pro-duce lush vegetation. Depending on the seasonal availability, all types of seeds, nuts, fruits, and berries are consumed.

In areas where slugs and snails are abundant, these mollusks often serve as one of the mainstays of the roof rat's diet. Many types of insects are also consumed, including the peridomestic cockroach such as American cockoaches. (Hence, slugs, snail shells, and de-legged cockroaches make for excellent roof rat trap lures). Roof rats living near water or waterways will feed on fish, shell-fish, and other aquatic organisms.

Around buildings of all types, roof rats take advantage of people and their pets. They raid outdoor dog pens, refuse containers around homes and restaurants, overgrown gardens, citrus groves, bird feeders, live-stock operations, and virtually any other place food may be easily available to them.

Roof rats typically feed at dusk and again prior to dawn, although there may be sever-al forays out for food each night and during the day. Typically, roof rats forage in family groups of up to 10 rats. When food and harbourage are plentiful, due to poor sanitation, populations expand. It is not uncommon to have up to several hundred roof rats foraging over relatively small areas in these types of situations. Rats consume about 10 percent of their body weight daily. Average consumption for roof rats are from about 7-15g of food per 24-hours.

Roof rats prefer to feed in areas that afford them good protective cover. Dense shadowy areas or cavernous pockets creat-ed by overgrown vegetation are common feeding locations of the roof rat. If the available food is located in exposed areas, the roof rat will frequently carry the food back to its nest or to a secluded area. All types of food and seeds may be cached into natural cavities outdoors or with-in attic, wall, ceiling, and soffit voids inside structures. Consequently, buildings that have been subject to roof rat infestations are also commonly subject to stored product infestations at later times.

Like Norway rats, roof rat colonies also typically contain individuals that exhibit strong neophobic behaviours. In fact, some researchers claim neophobia in R. rattus is more pronounced than in R. norvegicus. Neophobic rats tend to avoid baits, bait stations, and newly placed traps for several days or even weeks. Pest management professionals experienced with roof rat infestations commonly report this rat ignoring their rodenticide bait and traps (especially glue traps) altogether in city areas where food is abundant. Pest professionals also report colonies that are highly sensitive to human disturbance, especially if the disturbance is repeated and severe.

The roof rat differs from the Norway rat in that it tends to eat smaller amounts of food in several places. In this way, the roof rat is somewhat of a hybrid in feeding behaviour between the mouse and the Norway rat. Obviously, this has important implications when designing roof rat baiting and trapping strategies.

The roof rat requires water daily and will consume 29-59ml every 24 hours. In areas where vegetation is lush, water is usually readily available in several forms. Any sources of water around structures may also be readily utilized, such as drip-ping faucets, clogged gutters, over-watered gardens and lawns, and the like. However, succulent fruits, vegetation, or animals (cockroaches, slugs, etc.) may provide part, or even all, of the roof rat's daily water requirements.

When the roof rat is foraging for food or venturing about on "opportunistic forays," it often deposits urine and/or faeces, as well as secretions from urogenital areas of the body. Within these deposits, various pheromones (chemicals that transmit messages to other members of the same species) are also deposited. Consequently, wooden rafters, holes next to dryer vents, soffit screening, fascia gaps, and the other areas that are commonly used by roof rats to gain entry into structures can become well-marked with roof rat pheromones over time.

In heavy infestations, the high-activity areas of the rats can become virtually satu-rated with urine and



Fences in yards that contain roof rats ofen serve as rat highways from the rats' nests to their food sources. Roof rats typically travel along the support ledges of the fences and pause and hide in those areas where vegetation is heaviest. These travel lines may become well-marked with pheromones, enabling future rats to follow trails.

secretions (as easily spotted when black-lighted) and hundreds of faecal pellets may pile up. The pheromonal cues in these areas linger and may signifi-cantly assist other rats to find and utilize the locations where resources are most abun-dant, good entrance and exit points, preferred and safe travelways, safe hideaways, and/or good nesting exists.

The role of rodent pheromones help, in part, to explain why homeowners and others often comment that the rats show up every year around the same time and use the same areas. For pest management professionals the lesson of "lingering pheromones" also illustrates the importance of conducting thor-ough inspections to ensure baits or traps are installed and positioned into areas that the rats find "attractive" to them based on perhaps the odours of previous colony members using the same areas. Rodent control tools placed in areas marked by the rodents them-selves for high activity are obviously the goal.

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DEPARTED RATS?



n well-established neighborhoods with abundant amounts of lush landscaping, palm trees, and viney fence rows running along and connecting several backyards, roof rats sometimes enter and explore homes and commercial buildings

in intermittent spurts. For example, rats living in the crowns of palm trees may venture down and enter beneath "closed" attached garage doors of several homes on a block to make "exploratory pass throughs" looking for food. Or roof rats from several properties away may visit a garage or an attic for an evening or two, leave behind some fecal pellets, and then not return to that residence or part of the street for several days or weeks, or they may never return.

Upon hearing the rats overhead or noticing rat scats, homeowners set out some traps or rat bait or call in professionals. When the traps or baits are not interacted with, it may be wrongly concluded in these cases that a "neophobic" rat is living on the premises, but avoiding the traps and baits. Although in other cases that may be true, in these situations it is transient roof rats that came and went. These events cause homeowners and pest professionals alike much frustration in chasing "ghost rats" which may or may not visit the building again. Unfortunately, in neighborhoods where roof rats have abundant cover and food over several blocks, these events are common but unpredictable. The best strategy for residents in such areas is to rodent proof their homes and buildings as thoroughly as possible and minimize leaving any attractive resources that may draw rats to the premises (e.g., spilled food, open garbage cans, etc.).

Home Ranges and Dispersal

Most average home ranges for the com-mensal rats are estimated to be a 25- to 100- foot radius from their nests. But as was dis-cussed earlier, a rodent's home range is often dependent on environmental and site specific factors.

The roof rat is known to commonly travel up to 100 m away from the nest while foraging.

Roof rats have been observed running nearly 300m along fence ledges and utility lines, perhaps during dispersal events. However, roof rats living in the ceiling space of a garage where food spillage is abundant may only travel within a 8v-10m radius of their nest each day. Thus, when estimating home ranges for any particular rodent infestation (i.e., to help guide baiting and trapping programs), analysing each situation is important.



The punchy NEW Generation® Block 15g rodent bait from Liphatech delivers 25% more bait placements than competitor products.

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ScienceCaffeine and Ants: A PotentialNewsGame Changer in Pest Control



Study finds caffeine boosts Argentine ants' efficiency in locating baits, offering potential improvements in pest control strategies.

Caffeine increases the navigational efficiency of Argentine ants towards sugary baits, suggesting a new method to enhance the effectiveness of pest control efforts.

Research on Argentine ants has shown that caffeine can significantly enhance their navigational efficiency towards baited traps. By adding caffeine to sugary baits, the ants follow more direct paths to the reward, potentially making these baits more effective. This improvement in learning and navigation could help in controlling this invasive species, which has proven resistant to traditional baits due to poor uptake and bait abandonment.

Source SciTechDaily — Read Original HERE

SciTechDaily

Science FIGHTING INSECTICIDE-RESISTANT News MOSQUITOES: HOW YOU CAN HELP



How to Help Avoid Insecticide-Resistant Mosquitoes

In the ongoing battle against mosquito-borne diseases, an ongoing challenge has emerged that threatens to undermine public health efforts and the effectiveness of existing control strategies: <u>insecticide resistance</u>. As these insecticide-resistant mosquito populations grow, the tools and methods we rely on for mosquito management can become less effective, potentially leading to increased mosquito-borne disease transmission or nuisance populations. Understanding insecticide resistance, its causes, and its implications is crucial for executing successful mosquito management programs.

Source VDCI — Read Original HERE



News Worth Sharing

Waikato Regional Council recently received a report in June of a sighting of a wallaby in Whitehall, Karāpiro.

A local resident saw a single wallaby on Oliver Road on Tuesday. They had wallaby detection dogs working in the area yesterday and they indicated wallaby presence. As the search con-



tinues, we'll be contacting landowners in the area Wallabies are an introduced pest that are destroying our native forests and farms. Your help locating them is valuable to their control and helps protect our native species, forests, farmlands, and iconic landscapes.

If you've seen a wallaby, dead or alive, report it using the link below. You can find handy info to ID wallabies <u>here</u>

Waikato Regional Council is part of the national wallaby programme, Tipu Mātoro Wallaby Free Aotearoa, a partnership that includes MPI, regional councils, iwi, DOC, Forest & Bird, Federated Farmers, LINZ, and landowners. The programme is currently focused on controlling wallabies outside containment areas, to prevent their further spread.

Containment areas are areas where wallabies are already well established, and in the North Island the containment area is largely within the Bay of Plenty region, with parts in the Waikato region near the border.

Wallabies can be difficult to detect as they are both shy and nocturnal. The presence of wallabies can be confirmed using certified detection dogs, trail cameras and UAVs (drones) carrying thermal cameras.

Report Wallaby Sightings HERE

Source: LinkedIN - Waikato Regional Council—see Original HERE



News WorthFeeding and sheltering feral and straySharingcats banned



Feral and stray cats were included in the plan as both Tasman District and Nelson City councils look to step up feral and stray cat management.

Proposed new measures in dealing with the problem of feral cats include mandatory microchipping and desexing in St Arnaud, and an expansion of cat trapping areas.

Feral and stray cats will also have to be reported in some areas, and the feeding or sheltering of these cats prohibited.

A report to the committee said cats were highly efficient predators, and had been known to cause local extinctions of seabird species on islands around the world.

It noted that to be able to tell the difference between companion cats and feral and stray cats, national regulation and bylaws around compulsory microchipping were needed.

Smith said the country had been asking for years for national legislation for cats which would be similar to that in place for dogs, and at present, there weren't rules that said it was inappropriate to have cats dumped, or to feed a colony of cats.

What would come in beside the rules was the bylaw that both councils were working on at the moment which would require microchipping and possibly desexing, he said.

Once that bylaw was in place, it would allow trapping groups to "operate ethically" when they had really clear indication the cat was not microchipped and was behaving like a feral animal, Smith said.

The rules would be a partnership with cat owners.

"They'll identify them and we can manage them effectively and people don't have to second guess all that time, because that's what's happening at the moment."

The finalised proposal will now go to both Tasman District and Nelson City full council meetings for adoption.

Source: Stuff Read Original and also see video HERE

News Worth Sharing

Northlanders optimistic work being done to manage invasive pest fall armyworm



Fall armyworm wreaking havoc on maize and sweetcorn crops. Photo / Foundation for Arable Research

Northlanders affected by fall armyworm are optimistic work is finally being done to mitigate the fallout from the invasive pest.

The Ministry for Primary Industries (MPI) recently announced a "fresh arsenal" in the battle against fall armyworm, a plant pest that destroys grasses and cereals, especially sweetcorn and maize.

Biosecurity New Zealand Deputy Director-General Stuart Anderson said it is investing in the development of "an integrated pest management approach" to safeguard New Zealand's maize and sweetcorn industries.

MPI has teamed up with Foundation for Arable Research (FAR), Process Vegetables NZ, Vegetables NZ Inc, and growers on management and mitigation strategies to help reduce production losses and enhance resilience to the invasive pest.

Source: NZ Herald Read Original HERE

News WorthNearly 400 cats killed in controversialSharingNorth Canterbury competition



A controversial cat-culling competition has gone ahead, with participants bagging 370 feral moggies and some of their antics raising a few eyebrows.

One man killed 65 cats, landing him a \$500 prize.

Cat hunters in North Canterbury also clashed with animal rights protesters who claim they were forced to flee when children threw rocks at them after they took custody of a baby possum.

The competition started as a local pig-hunting competition then became a cathunting competition, as they noticed a growing number of feral cats.

Source: NZ Herald Read more HERE

News WorthProfessional Pest Manager MagazineSharingLaunches into New Zealand



Professional Pest Manager is now available to pest managers in New Zealand both in print and online.

Although *Professional Pest Manager* magazine has always been available to New Zealand pest managers, the magazine hasn't actively been promoted in New Zealand, until now. New Zealand pest managers can access the magazine online and will be able to subscribe to receive a printed version of the magazine. They will also get their own dedicated monthly E-Newsletter (PPM Pest E-News) and <u>website</u> with content tailored to the New Zealand market.

Read more **<u>HERE</u>**



NEW ZEALAND NEWS



Predator Free 2050: cost of eradication drops due to new technology



PREDATOR FREE 2050 AIMS TO ERADICATE THE COUNTRY OF RATS, STOATS, AND POSSUMS SO THAT OUR NATIVE SPECIES CAN FLOURISH AGAIN. PHOTO: MIKE LOCKE

The cost of predator eradication is being brought down by the development of innovative technology as a part of the Predator Free 2050 programme.

Rob Forlong is the CEO of Predator Free 2050 Limited, the Crown-owned company set up to run the programme.

Forlong says that the initial estimate made in the early stages of the programme has since been more than halved.

"There was a study done that thought it would cost \$32b – a huge amount of money. "Based on what it's costing particularly in the remote areas, we think that cost is now closer to \$8-10b."

According to Forlong, it's new tools and techniques that are making eradication efforts more efficient, with the cost per hectare dropping from over \$1200 per hectare to \$300-\$400.

"Self-resetting traps have already been a game-changer, particularly for possums. Artificial intelligence, increasingly so as well." The AT220 Possum trap can reset itself after "I always say if the community wants to do killing an animal and uses A.I. to distinguish this, we can do it. But if they think it's too between predators and native species. It also sends its own diagnostic reports meaning rangers don't have to constantly go out and check it.

"All of those things are huge laboursavers."

There has also been a breakthrough with norbormide, a toxin that only affects rats but which, up until recently, had been unpalatable for the rodents.

"There's a company that's cracked that issue now, so that's now in registration to be used as a toxin."

Despite these positive developments, Forlong says that achieving the goal of complete predator eradication is not going to be an easy task.

"There's a saying that says – 'if you think you can or you think you can't, then you're probably right' - and we're in that sort of position.

"So if we really want to do it, we can do it; and the funding – it will be a big ask, there's no doubt about that. \$8 billion, which is the bottom of the estimate, is a lot of money."

Forlong says that the only way that Predator Free 2050 will be successful is if the nation is completely behind it.

expensive, or they think it's too hard, or they're not prepared to make the sacrifices that we need to make, then we probably won't."

Professor James Russell is a strategic advisor to Predator Free New Zealand and an expert in biodiversity and pest control.

Professor Russell is also hopeful that the Predator Free goal can be achieved but is concerned that conservation may be forgotten amid the chaos of the current socioeconomic climate.

"We're dealing with a lot of human society issues at the moment – war and poverty and the cost-of-living crisis.

"Through all of that we often deprioritise the environment, so I'm worried that if we don't continually pay attention to the environment... then predator free could fall over."

WATCH HERE: Predator Free 2050 CEO Rob Forlong discusses what's on the cards for the next five years for the programme.

READ: Predator Free 2050 Limited's 2023 Annual Report.



Fortune favours the timid: how better understanding of stoat behaviour will help predator control in Aotearoa

It's well-known that Aotearoa New Zealand's native ecosystems are under threat from introduced pest predators such as rats, cats, possums and stoats.



Stoat and box trap. Image: John Hunt

Trapping efforts, such as those undertaken by Predator Free NZ groups, are effective up to a point – but it is very difficult to achieve 100% eradication of these predators, especially across large, remote areas.

One of the aims of the 5-year MBIE Endeavour science programme Eradication Science, coordinated by Manaaki Whenua -Landcare Research, is to evaluate the current toolkit of trapping technologies from the perspective of the pest. New knowledge is needed on why some pest animals evade or fail to interact with physical traps, and to devise ways to make the traps more enticing.

As part of the research, Dr Patrick Garvey and Dr Kyla Johnstone, working with Dr Catherine Price at the University of Sydney, tested the responses of wild-caught stoats to three existing types of stoat trap. The traps were disabled so that they could be triggered without harming the animals. This enabled the intrinsic behaviours of the stoats to be assessed across different trap encounters.

The experiment was run over 81 nights with 28 stoats – 13 male and 15 female – and the stoats' behaviour was filmed each night using infrared cameras. The research complied with all relevant animal welfare and ethics requirements.

In a classic rewriting of the phrase "fortune favours the brave", the researchers found that fortune favours the shyer, more cautious, less active, and less risk-prone stoats – known as "recalcitrant" animals in pest-control circles – that are less likely to interact with all types of traps. Shy female stoats, and female stoats generally, were more cautious and less likely to interact with the traps than male stoats. This finding is known from field trapping, where successful capture is strongly skewed towards males. Often, all it takes for an area to be repopulated is the survival of females that evade trapping. Almost all adult female stoats are pregnant throughout the year, so understanding sex biases in trap capture is essential to achieve eradications.

By contrast, "neophile" stoats – those attracted to risk and novelty – were more likely to approach and then trigger a trap. Enclosed box traps were the most effective type of trap all round, but neophile stoats were also attracted to tunnel traps. Stoats tended to interact least with head-up traps.

Is the answer to deploy more traps, to ensure that the more cautious individuals will be more likely to encounter devices? Not necessarily, say the researchers, since stoats that encountered a trap for the first time and failed to trigger it were quite likely to avoid all traps in the future – trap shyness is a persistent problem for predator control. Although the box trap performed well, capturing three in four stoats during their first encounter, no single design covered all spectrums of personality, suggesting that less "scary" trap designs, plus more effective baits and lures, are what's needed.

Compounding the problem of trap shyness, the researchers suspect that they have actually un-

derestimated recalcitrance in the wild. By definition, all the stoats in the study had the characteristics of risk-taking neophiles, since they had already been caught in a trap for the study. This suggests that trapping the most recalcitrant animals might be even more difficult than this study suggests, which itself is an important finding in planning future pest control efforts.

Applying these behavioural nuances in the field will be challenging but not impossible. The researchers conclude that increasing the likelihood of engagement with a trap during a first encounter, and improving the susceptibility of the animal to triggering that trap, is fundamental to increasing capture success in future predator management programmes. Next steps for the Eradication Science programme involve the development and deployment of novel lures to do just that.

Source: Courtesy of :



Patrick Garvey Senior Researcher - Wildlife Ecologist Wildlife Ecology & Management

He may be contacted <u>HERE</u>



Pest control on the high seas: Floating bait stations set sail



Row Robinson uses the trap.nz phone app to track the bait stations and monitor whether his pest control strategy is working. Chris McKeen / Stuff

The new frontier in the war against rats is the water's edge.

South Auckland resident Row Robinson has been trapping or poisoning rats on the farm or in the bush his whole life. But since April, he's been installing floating bait stations in ponds and mangroves throughout the 286ha of his coastal suburb, Wattle Downs.

Raised on a farm in Taranaki, Robinson (Ngāti Korokī Kahukura) was no stranger to pest control, and it was easy for him to lay traps or poison bait stations around his home.

Before long he moved onto his local golf course, targeting invasive rats, possums, wasps, hedgehogs and moths.

When, 15 years – and 160kg of bait per year – later, he hadn't noticed a decent dent in the rat population, Robinson started digging deeper. He noticed the bait stations closest to the Wattle Downs ponds were being hit most often by rats: that's when he realised the plentiful water of Wattle Downs could be the problem.

"I thought, I wonder where they're coming from, do these rats live in people's houses? How come we're getting infested," he said.

"So, after looking over a couple of fences, going and meeting people and asking if I can have a look around their property, I worked out that they're possibly coming from the mangroves."

So began months of research, trial and error. He made several dozen prototypes and then finally built a floating platform that would gracefully sink at low tide and rise back up again when the tide came in.

Article continues on next page



The bait stations are carefully constructed so that they float at high tide, sink gracefully as the tide goes out and rise up again, without flooding the black box full of bait. Chris McKeen / Stuff

Robinson keeps track of his 50 aquatic bait sta- the land back to the Māori and apologise for tions and 150 terrestrial stations with an ingenious phone app called trap.nz, which includes a detailed map of Wattle Downs, a pin for each bait station and room to log detailed data.

That's how he knows almost exactly how many grams of bait are nibbled at each station when they're surveyed by volunteers, and how often they're being topped up, which gives a sense of how successful the project is.

"If we've got a hotspot we know we need to intensify our efforts in those areas," he explained.

The first 15 years of baiting on land have had an impact, most noticeable in the loud bird life. February 2023, and this year a grant from the At a pond on the edge of the coast, pīwakawaka flit in circles around Robinson, who greets them cheerfully: "Hi ancestors!

"My grandfather used to say [about pīwakawaka] that one of our ancestors has come back to tell us we're stupid people, and we should give

taking it," he laughed.

Robinson is also armed with volunteers and funding, a welcome change. Ten people work alongside him with Pest Free Wattle Downs, spending together about 70 hours a month managing bait stations and entering data into the digital system.

A self-employed arborist and farmer, Robinson spends about 25 hours a week himself making Wattle Downs pest free and, until the last five years, was paying for all the materials and bait himself too.

More recently he's won funding to help pay for it, including a \$10,000 grant from Bupa NZ in Manurewa Local Board to fund the 50 rafts.

He's convinced his new water-focused strategy will have an impact.

Article continues on next page



Volunteers carefully inspect the poisoned rat bat to see if its square edges have been nibbled down. Chris McKeen / Stuff



Robinson can track progress across his 150 bait stations around the Wattle Downs reserves and peninsula, and the 50 bait stations installed on the water's edge. Chris McKeen / Stuff

"Because we're on a peninsula, we're quite protected. Manurewa is where our last bait stations, or our first bait stations, are our line of defence."

He plans to have a trap every 15 to 25 metres in a line and eventually a double line.

"So if they get through one line of bait stations then they'll get caught in the next line, and we'll have different flavours of bait for them.

"I would expect that over the next five years, we'll go around and check the bait stations and there won't be anything taken at all."

Auckland Council Environmental Services team manager Malcolm Harrison said without passionate volunteers like Robinson, pest control would be impossible.

"I think it's a really innovative piece of work," Harrison said. "If we look to Predator Free 2050, these kinds of things will need to be thought through and solutions developed, so it's great to have community groups thinking about these things now." Successful floating bait stations on Waiheke Island helped inspire Robinson's work.

Phil Salisbury, Rat Team Leader of Te Korowai o Waiheke, a community-led conservation project, designed floating bait stations in 2023.

Salisbury's platforms are attached to bamboo poles, so the raft can slide up and down with the tide, and also incorporate wire mesh to help rats climb up and access the bait.

Source: Sapeer Mayron—The Post

Read original **HERE**



The Post | TE UPOKO O TE IKA

UPDATE: Mice on Zespri ship:

Mice Not of New Zealand Origin



Mice were found on Zespri's first shipment to Europe in May. Photo / Alan Gibson

The refrigerated vessel carrying the kiwi fruit was called the Crown Garnet and mice were found across all 16 holds. Prior to its arrival, the ship owned by Cool Carriers, had departed from South America.

Zespri confirmed through DNA testing that the mice discovered on board the ship were not of New Zealand origin.

It was reported in Farmers Weekly that maritime law specialist Pauline Davies of Auckland solicitors Fee Langstone, said "losses from vermin infestations are uncommon in this part of the world", and this was the first time in 40 years of practice she had heard of such an instance.

Early shipments in chartered ships had experienced some losses through early ripening when shipped with apples, but now the fruits are not carried together.

In a written response to Farmers Weekly, Davies said "when a ship is chartered specifically for a cargo there are a range of distinct contractual arrangements".

When carrying out an international shipment the Bill of Lading is subject to international convention. This means there is an obligation on the carrier to use due diligence to ensure the cargo areas of a ship are "fit and safe" for carrying the cargo that is listed on the Bill of Lading.

Zespri had confirmed the ship had a pre-loading survey completed to check for rodent infestation prior to departure from Tauranga.

Zespri and its insurers will look to claim for the damage that has occurred, but this will depend on the terms of the insurance policy. Most marine cargo policies do not, for example, cover financial losses such as loss of profits, they only cover he loss or damage to the goods themselves.

This real life example goes to show the complex nature of exporting food around the world and the consequences if a pest infestation is present and starts to develop. The mouse infestation onboard the kiwi fruit shipment highlights the contamination risks associated with this pest where the entire shipment is to be destroyed.

Update Courtesy of Gerwyn Jones, Pelgar International



PMANZ CONFERENCE 2024

"EMERGING CHALLENGES IN PEST MANAGEMENT"

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for Pest Management Professionals

William H Robinson, Ph. D. Urban Pest Control Research Center

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In the preface to his new Training & Resource Manual, Dr William Robinson, a renowned pest control researcher and innovator, had this to say!

professional technician must be and recycled. ready to understand the new technology and equipment and then make it all work. The industry is going to need a new concept in training for the 21st century.

Training for pest management techinclude nicians must basic knowledge of pests, equipment, and application. This can be coupled with continued training from manu-The 'once-and-done' facturers. training format is no longer useful to the technician or the industry.

The long-term benefit for the technician is 'train for a career'.

Technology will not wait for the knowledge gap between generations to close. Training is not only for this generation. Everyone must be at the same level of knowledge at the same time, all the time.

The decade of the 2020s will be a The value of any training program is turning point for professional pest linked to the source of the informanagement around the world. mation and how it's used. Research-Technology is sweeping into the in- based information that connects didustry from all sides and at all lev- rectly with field conditions is used els-from real time monitoring to and reused. When training infornew application equipment. The mation is relevant, it's rewarding



Bill Robinson July 2024



The bird management market shares numerous similarities to the wider pest management community. As such, bird managers must maintain a high level of knowledge of pest bird behaviour, bird control techniques and the latest developments in management technologies. Existing deterrent systems include the wide variety of exclusion, physical, electric and scare products and systems. Ethical and animal welfare considerations are now at the forefront of our industry and bird managers need to be aware of both their legal obligations as well as sensitive public perception.

Come and hear Peter McCarthy speak at the conference on "New Developments in Bird Management".

Peter is a director of Pest IT Pty. Ltd. incorporated in 2004 and is working with Australian and New Zealand pest managers in development of new markets with bird deterrent systems from AvePro, Eagle Eye, Bird barrier, Magnet Trap and now Flock Off.

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A walk down Memory Lane Extracted from PMANZ Newsletter of August 2011

Keeping in mind... "how would this look on camera" could be a good idea.

Eric Van Essen, the President wrote these words back in August 2011.

Keeping in mind "how would this look on camera" could be a good idea.

Having a qualification does not make a pest manager. A pest manager is a person that understands the biology and habits of pests and uses or encourages the customer to use the safest practical measures to prevent or control pests.

A pest is simply a plant or animal in the wrong place at the wrong time. This does not means we have to take a "scorched earth" approach.

Knowing the life cycle of the pest and educating customers and their neighbours can be helpful and can improve your results and credibility. Mosquitoes, ants, flies and rodents are not just the problem of your customer.



BU77INC

In commerce, customers are dependant on the strength of all links in the supply chain. Pests can infest at many stages from raw materials to finished products. All participants in the supply chain must play their part and protect themselves against pests.

be a useful strategy and possibly lead

to additional work.

more than a membership **IT'S A PARTNERSHIP**

Important Information on the Use of Alphachloralose in Pest Control

Dear Members,



PMANZ recently received a reminder of some important information regarding the use of Alphachloralose, a substance commonly used in bird pest control from the ACVM.

Alphachloralose is a topical subject that has been garnering media attention recently. The Agricultural Compounds and Veterinary Medicines (ACVM) group receives 3-4 complaints about this product annually. The complaints often revolve around the subtlety of the label directions, which specify its use in <u>agricultural or horticultural settings only.</u>

It's crucial to note that it is therefore not permitted to use Alphachloralose products outside of these specified settings, and they are certainly <u>not to be used in urban environ-</u> <u>ments.</u> Despite the subtlety of the label directions, there have been no prosecutions to date. However, ACVM intends to revisit this issue when these products are reassessed.

The following Alphachloralose products are currently available:



PESTOFF® TREATED WHEAT & PESTOFF® TREATED BARLEY:

These two products are used for <u>controlling sparrows in wheat and barley</u> <u>crops</u>. They contain 22 g/kg of Alphachloralose in the form of a bait.

PESTOFF® TREATED PEAS:



This product is used for controlling pigeons in pea crops. It contains 25 g/kg of Alphachloralose in the form of a bait.

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PESTOFF® BIRD CONTROL PASTE:

This product is used for controlling nuisance birds in agriculture and horticulture. It contains 25 g/kg of Alphachloralose in the form of a paste.

We are unsure if all members of the PMANZ are aware of this information. If the subject does arise in conversation, we would be grateful if you could share this knowledge. Let's work together to ensure the responsible and legal use of pest control substances.

more than a membership **IT'S A PARTNERSHIP**

Clarification on Rodenticide Use for Pest Management in Food Businesses under the Food Act 2014 and Animal Products Act 1999.

Following recent increases in rodent activity around the country, several highprofile rodent incursions and enquiries from pest managers and the food industry, PMANZ sought clarification from Ministry of Primary Industries (MPI) on the regulatory requirements regarding rodenticide use in food businesses under the <u>Food Act 2014</u> and <u>Animal Products Act 1999</u>.

They advised us as follows:

For a food business registered under the Food Act (i.e., almost all food retailers & other food businesses), the <u>Animal Products Act does not apply.</u>

Businesses registered under the Animal Products Act are typically farmers, egg producers, pet food manufacturers, home kill, abattoirs, etc. that are processing animal products, not the more common food retailers or most food manufacturers.

This means the fairly restrictive pesticide approval and usage rules for Type-C rodenticides as listed under the Animal Products Act Approved Maintenance Compounds (Non-Dairy) Manual don't apply to most of the types of food businesses an urban pest manager would typically work in, with few exceptions.

This means that a **food business can allow their pest control service provider to deploy rodent bait stations within the store or complex so long as Food Act requirements are met.**

This clarification comes as a revelation and would have saved many from potential misunderstandings with food auditors and site managers over the years where confusion of the application of pesticide regulations has occurred.

The way to check is to simply ask the business if they are registered under the Animal Products Act or the Food Act, and act accordingly.

Clarification on Rodenticide Use for Pest Management in Food Businesses under the Food Act 2014 and Animal Products Act 1999, continued...

Under the Food Act 2014, businesses are required to handle rodenticides and other maintenance compounds in a manner that ensures the safety and suitability of food. This includes eradicating pests in a way that does not adversely affect food safety, ensuring that maintenance compounds (i.e., pesticides and cleaning products etc) are appropriate for their intended use and are handled according to the manufacturer's instructions, and ensuring that individuals carrying out pest control tasks have the necessary competency.

To address any potential confusion or misinformation, PMANZ have been advised that MPI will be providing educational advice to Food Act Verifiers in the coming months, highlighting these expectations.

In the meantime, we encourage businesses to reach out if they encounter instances where Food Act Verifiers are providing incorrect advice on pest management practices.

PMANZ is committed to promoting safe and effective pest management practices within the food industry, ensuring the safety and well-being of consumers, and likewise will be advising its pest management professionals about this clarification in the use of rodenticides within food businesses.

For further information or inquiries, please contact Dr Paul Craddock, or see https://www.mpi.govt.nz/food-business/

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Find resources and tips for small business owners to help you look after yourself and your team.

If you're suffering financial-related stress and anxiety, talk to your GP. They'll be able to assess where you're at and refer you to a specialist if necessary. Lifeline 0800 543 354 or text 4357 Samaritans 0800 726 666

You can also access trained counsellors for free by **texting or calling 1737**.

Call or text for free support

If you feel a bit overwhelmed, anxious or just want to talk, free services are available 24 hours a day, 7 days a week: call or text 1737 for support from a trained counsellor

1737.org.nz(external link)

Other mental health and wellbeing support can be found at Depression.org.nz:

Depression.org.nz(external link)

<u>Helplines(external link)</u> — Mental Health Foundation

Sorted has free finance tools, guides and resources on its website:

Sorted.org.nz(external link)

If you want to talk to someone for support around debt or personal budget issues, you can ring the free

Money Talks helpline on 0800 345 123:

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Technical Hints: Courtesy of **LIPHATECH** UNDERSTANDING RODENT BIOLOGY OF THE ROOF RAT (Rattus rattus)

When professional pest managers dig deep to understand rodent biology and behaviour, it becomes easier to correctly identify pest species and to implement best practice control methods, which serve to improve rodent control outcomes.

Here we take a closer look at one particular pest rodent species: the roof rat (Rattus rattus), also known as the black rat, ship rat, house rat, and tree rat.

Pest status: The roof rat is a particularly destructive rat species. Its presence can substantially affect native ecosystems and agriculture due to its adaptability and high reproductive outputs. Roof rats carry many diseases and parasites that are of substantial concern to native wildlife, humans, and domestic animals. They also cause tremendous damage due to their habit of gnawing on structural elements, pipes, and electrical wires.

Key behaviour: The roof rat is considered an arboreal animal. It is very agile and a good climber, preferring to live above ground level in trees, although it has adapted well to upper areas of all types of structures as well. Roof rats are often found living in the roofs of houses, which they gain access to by travelling along overhanging tree branches or wires and cables attached to the property.

Inspection tips: When conducting a site inspection, it's important to look up high, above head height. Look for runways along pipes, ledges, wires, inside roof voids, and trees branches, which can be identified by rub marks (caused by grease and dirt from their bodies), footprints (running tracks), damage (gnaw marks), droppings or nests.

ROOF RAT (Rattus rattus)





Roof Rat droppings

Quick Facts			
Identification: Medium size, slender rodent with pointed nose, large eyes and large ears.	Gestation period: 22 days		
Weight: 150-300 g	Number per litter: 6-8		
Body length (head and body): 14-23 cm	Number of litters: 4-6 per year		
Total length, including tail: 40 cm	Daily food intake: 25 g		
Sexual maturity: Reached in 2-3 months	Life span: 18 months		
	Droppings: Around 10 mm, with pointed edges		

Did you know? The tail of the roof rat is longer than its head and body combined.

Gaining control: It's crucial to identify the signs of the rodents' presence and place bait stations or traps in these traffic routes and locations. For areas of high infestation, bait stations must be inspected frequently to ensure bait supply is maintained in all stations until the rodent population is under control.

Preferred food: Roof rats prefer fruits, seeds and food with a high oil content.

Recommended baits: The roof rat is an elusive species that requires a highly palatable bait, as encouraging bait uptake can otherwise prove difficult. This is one of the reasons why <u>Liphatech</u> developed and drove the innovation into soft bait formulations. Difethialone, discovered by Liphatech, has the best efficacy against roof rats and is available in First Strike Soft Bait, which is a mixture of milled grain and vegetable oil which has no wax and is highly palatable. It is also easy to use, making it a good choice for challenging roof rat jobs. Those who prefer a more traditional bait can opt for Generation Block, which also contains difethialone, in a 15 g punchy block bait form. Liphatech recommends rotating rodent baits for best practice.

Liphatech also offers a range of bromadiolone baits and hardware products suitable for use on roof rats.



The punchy NEW Generation® Block 15g rodent bait from Liphatech delivers 25% more bait placements than competitor products.

Generation® Block features Difethialone, the newest single-feed active ingredient from Liphatech and is technologically the most advanced anticoagulant with no known genetic resistance.

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