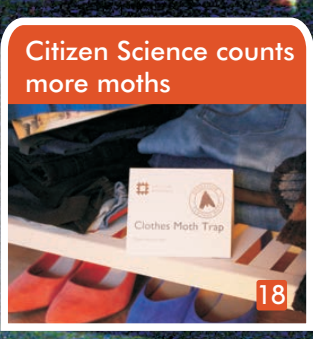
pest

The independent UK pest management magazine

Rodent baiting rules tightened

Issue 59
October & November 2018



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Pest is published six times a year

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Aims

As the industry's only independent magazine, ***Pest*** aims to deliver a mix of unbiased news, impartial advice and topical technical features. We are committed to being as inclusive as possible covering every sector of the pest management industry.

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Printed by PPS Print, www.pps-print.com

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Contents

Getting more and more professional

We all tend to look back with rose-tinted spectacles. But, truthfully, some of the rodent control practices of the past were far from professional. As our feature on permanent baiting (pages13-15) underlines, the days of simply turning up at a client's premises, putting down a load of rodent boxes full of poison and then calling in from time to top them up, are gone.

Permanent and long-term baiting are recognised techniques, but only when justified. In so many cases, if the job's not done within 35-days there's likely to be some other factor at work and it's the pest professionals' job to be able to use their unique skills to work out what's going on and so solve the customer's problem.

For those, maybe with a 'green agenda', who might query the value of using rodenticides, look no further than the work from the USA on the significance of rats and mice in the spread to humans, of viruses and bacteria. Would you eat in a restaurant where you knew that rodents were present?

With the nights drawing in and the clocks about to change, it can only mean one thing! The start of the round of autumn exhibitions. We look forward to meeting several of our readers at these events and reporting on them, for those unable to attend.

Frances Helen

Interpreting the news at www.pestmagazine.co.uk

BASIS PROMPT reaches 5,000

A pest technician working in his first year in the industry says he is relishing the chance to add more to his knowledge and skills after he became the 5,000th person to join the BASIS PROMPT register.

Little did technician Steve Wilson, pictured left, who works for Essex and Suffolk Pest Solutions, based in Ipswich, realise that when he signed up to join the BASIS PROMPT register he would became the 5,000th person to join.

To celebrate this landmark he was presented with a bottle of champagne by Stephen Jacob, chief executive officer of BASIS PROMPT.

Stephen said: "Reaching 5,000 members is a staggering achievement for the pest management industry and for BASIS PROMPT, because we now represent over 50% of the technicians working in the sector so, collectively, as an industry, we are in a very strong position when it comes to demonstrating professionalism and currency of knowledge."

Hockley tackles waste

With a range of six relevant products, cleared and labelled for use in and around recycling and waste management, Stockport-based Hockley International tried their hand at something different – attending the *Recycling and Waste Management* exhibition. This was held from 12-13 September at the Birmingham NEC and is billed as the UK's largest waste event, attracting over 20,000 visitors.

Three members of the team attended, Catherine Howard (finance director), marketing executive Lewis Litchfield and sales executive George Allison, pictured. Lots of interest was expressed in the products, especially following the hot summer, those for fly management.

Mitie Pest Control sold to Rentokil

It was announced on 1 October 2018 that the Mitie Group is to sell Mitie Pest Control to Rentokil Initial for £40 million in cash. This sale comes as no surprise to industry watchers. It is well reported that Rentokil has a treasure chest of cash and the stated objective of expanding by acquisition. On the other hand Mitie had been going through difficult financial times.

Peter Trotman, then managing director and son of the founder of Eagle Pest Control (which formed the basis of the Mitie pest operation) left the business in March. His place was taken by Andy Halsall who also oversaw the sale of Cannon Pest Control to Rentokil in early 2017. Andy leaves Mitie at the end of October. However, in a further twist the acquisition is now being looked at by the Competition and Markets Authority.

read more on the web WWW

Budding scientists encouraged by Bayer

For five days at the start of October, Bayer Environmental Science hosted over 100 local primary school children and teachers in their 'Baylab' temporalily located at the company's headquarters in Cambridge.

The objective of the Baylab is to encourage children's interest in scientific subjects and support practical learning. The children took part in practical science lessons, ranging from using a microscope and testing honey, to the role of bees and their life cycles.

Steve Bishop, Bayer group product manager, explains: "The Baylab provides an enhanced learning facility and has been a huge success with students and teachers alike. The pest control industry needs a steady stream of new professionals to continue to build on the research and development that's required to support pest control for years to come," he says.

"This is why we're so passionate about awakening an interest in science among young people from all backgrounds at an early age, to boost their confidence, provide inspiration and aid in development. It's all about capturing the imagination of children today, to make them the scientists of tomorrow," concluded Steve.

Steve explains that he hopes the children and teachers went away with a positive attitude, not only towards science, but to the work that goes into maintaining the environments in which they work, rest and play.

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Pest controller deaths

It was a great shock and a very sad day when the news broke on 4 October that two technicians had lost their lives carrying out their routine activities.

The two technicians, both from Ecolab Pest Elimination and aged in their 30s and 40s, were found early in the morning following an incident at Banham Poultry at Attleborough, Norfolk.

Police and the Health and Safety Executive have launched a joint investigation and are looking into a refrigeration gas leak in an effort to determine whether it has any link with the men's deaths.

Tom and Jerry!

Fascinated. George Wallbank, a surveyor for Hampshire-based Rokill Pest Control Services took this picture (below) at a family friend's home in Kent.

The friends were aware they had a slight mouse problem but their cat (not called Tom) did little to earn his keep. Curiosity seemed much his stronger suit, as all he seemed to prefer to do was watch!

Left to right: Franchise consultants Jeffrey Rafftree and David Noble of Morgan Blake Solutions with the Abate Pest Management team - Jill Blake, Tracey Jeckells, Jonathan White, Neil Foley and managing director, Jon Blake

Franchising the latest thing...

Abate Pest Management is the latest company to set-off its expansion plans via the establishment of a network of pest control franchises throughout the UK – similar to the Birmingham-based Buster Group, as reported in the previous edition of ***Pest***.

Abate, located near Wymondham in Norfolk, is owned by husband and wife team, Jon and Jill Blake. It started operating in 1999 and has grown to cover the entire Eastern region.

The company has created a team to roll-out and manage the franchising (as seen above). New additions include Neil Foley who has spent 40 years in sales and business coaching, plus the appointment of franchise experts, Morgan Blake Solutions.

Jon Blake, managing director said: "We have worked extremely hard on becoming a quality company delivering a quality service. The geographical area we work in has become much larger and we often get asked if we can cover areas much further afield. Franchising is a perfect solution to support our growth. We plan to have our first franchise in operation by January 2019, with 15 franchises by the end of the year."

Living the life down under

Readers may well remember the Australian chap who greeted visitors arriving at PPC Live in Malvern earlier this year. This was Gary Journeaux, the boss, from the Australian pest control company, Competitive Pest Services. Gary was after three technicians to travel to Australia to help them out during their busy summer months.

The three lucky technicians who have deserted the English winter to work for Sydney-based Competitive Pest Services for six months have now arrived and have been enjoying the high life. The three who have gone are Jordan Sweet who worked for Rokill and lives in Bristol, Tom Mitchell from Hereford and was with Europest and Birmingham-based Eddie Taylor who was with JG Pest Control.

Every year before the pest season officially starts, the company has a party to bring the team together before they all get too busy. This year the travelling trio arrived just in time to join in the fun, before starting work and their Australian training. The outing was a cruise, including suitable refreshments, in Sydney harbour.

The English new arrivals certainly seemed to enjoy it, judging by Eddie Taylor's comments: "Thanks for one of the best days of my life! The boat party was a big success! This is a fantastic opportunity that anyone in their right mind should jump at. The work itself isn't too different which makes the transition into Aussie life even smoother."

Their time in Australia will be spent helping with general pest control treatments over the summer. The technicians will find that a lot of the insects and treatments are the same, such as bed bugs and German cockroaches. However red-back spiders, funnel web spiders and possum control are all pests that require training – as there are not many of these in the UK!

Having fun at the start of their six month placement. Left to right: Jordan Sweet, Tom Mitchell and Eddie Taylor

To undertake this work, the technicians have to be aged between 18-30 years old to qualify for a six month working holiday visa. Gary concluded by saying: "One of the techs has already said he doesn't want to return home and has even hinted that he would like to help us out again next summer."

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Winning ways

It was celebration time for specialist insurance brokers, Cliverton. Based in Fakenham, Norfolk, the team was out in force to collect the Schemes Broker of the Year award, one of the categories in the UK Brokers awards. The event was held at the Brewery in London on 14 September.

Celebrating their award with event host, comedian Tom Allen, are left to right: Vicki Amphlett, Ellie Dunn, Chantelle Amphlett, Lynne Fisher and Peter Knowles (sales and marketing director – Lycetts)

Not only do Cliverton insure several companies within the pest control industry, they also specialise in pet, equestrian and countryside insurance.

Last chance to get your entry in...

It's only a matter of days to go before entries for the British Pest Management Awards (BPMA) 2019 close – 1 November to be precise. Launched in 2017 to coincide with the British Pest Control Association's 75 birthday, the 2019 awards build on the initial success (see ***Pest 50***: April & May 2017) with the range of categories extended.

Pest is delighted to record that ***Pest*** editor & co-publisher, Frances McKim, is one of the five independent judges. Judging will take place early in 2019 with the awards ceremony held on the middle night of PestEx 2019 on 20 March 2019.

BRITISH Pest Management AWARDS 2019

Caught!

Located in the heartland of the edible dormouse (*Glis glis*) territory it is not unusual for Tim Simmons of The Verminator Pest Control to be called out to treat this escapee. His first outing this year was to a house in Buckland Common, Hertfordshire.

Seen here, caught in the loft using a multicatch cage trap were 12 *Gli glis*. Tim has designed and made his own multicatch trap which can comfortable accommodate 50 - 60 individuals – his record being 162 caught in one house over eight days using several traps!

Readers will remember this species was originally introduced to the UK by Baron Rothschild in 1902 at his country estate at Tring, Herts, prior to their escape. See ***Pest 7***: January & February 2010.

Cleanliness next to Godliness

Cobra North East, specialists in pest control and extreme cleaning, have been contributing to the ongoing success of Durham cathedral as a major tourist attraction in the North East. MD Paul Gowland, pictured left, sent us these pictures showing work to remove years of bird faeces and nesting material in areas of the building previously not open to the public.

He says: "Our procedures not only ensure public safety but also help prevent the decay of this mighty structure. I am extremely proud that the management at the cathedral have put faith in a local firm to carry out such important work at this World Heritage site."

Bonanza buzz off

Staff at Fulbourn hospital, Cambridge got something of a shock when they discovered the bees they had seen flying into the roof of a building consisted of a colony of over 60,000.

Praise bee: Left to right: Abigail, Andy and Gail Reade suited and booted for the rescue job in Cambridge

Abigail Reade, director of The Tree Bee Society, which specialises in conserving honey and bumble bees was called in to help: "The bees had probably lived there for a number of years. There was honey everywhere," she explained.

Abigail, together with fellow directors Andy and Gail Read, spent 12 hours painstakingly removing all the bees and the surrounding honeycomb. "We did get stung a few times and although we are used to it, it is still very painful," explained Abigail. Once caught, the hive was closed and the bees taken back to their base in Burscough, West Lancashire.

In the new year, Abigail is running a series of training courses on bees and how to collect them, call 01704 894081 for details.

More unusual wasps' nests...

In the ***Pest*** office we have awarded the good old wasp (*Vespula germanica*) the prize for being the most inventive pest when it comes to setting up home – namely building nests. These two particularly unusual ones were selected from several sent in.

Going green

Are these wasps taking on a new environmental theme? A green nest? As Paul Tittensor from Stoke on Trent-based Arrest Pest Control collected the nest explains: "The nest was in a garden shed. At first I wondered if the wasps had found a source of green paint and fancied a new coloured home. No. The nest was located next to a piece of green carpet underlay." Yummy!

Bear in mind

Billy Miller, a technician with Rentokil Pest Control based in Newcastle came across a distressing sight for all fans of Paddington Bear. As Billy relates: "I was called to a wasps' nest located in the outhouse of a home in Newcastle. At first I thought the nest was in a bin bag, but when I moved it I discovered an old teddy bear underneath. The wasps had built a nest in the cavity where its face had once been." Poor teddy!

Watch out – Rupert's about...

LDC, in association with *The Telegraph*, has confirmed what the pest control industry knew already... Rupert Broome, managing director at Killgerm, has been identified as one of the country's 50 Ones to Watch.

After quite a rigorous grilling procedure, Rupert has been selected as one of the top 50 most ambitious business leaders – the inspiring individuals running the UK's most successful medium-sized businesses.

All credit to Rupert as he had 'big shoes' to fill when he took on this position from Killgerm founder, Jonathan Peck, some five years ago (See ***Pest 29:*** September & October 2013). Since when Killgerm has continued to thrive. However, Rupert is the first to acknowledge the legacy left behind by Jonathan, without which none of this would have been possible.

1env strengthens it's exports team

1env has appointed Jurij Bilandzic Zajec as its new international business development manager.

His aim is to further develop and strengthen the 1env export presence in Europe and the rest of the world.

Jurij has a wealth of experience within the pest control industry. In the last ten years he has covered many different countries all over the globe and speaks an amazing seven different languages. Most recently Jurij spent four years working for the Italian Bleu Line Group, developing and expanding their eastern European sales network. Prior to this he worked with rodenticide manufacturer, Unichem.

New label design manager

As PelGar International continues to grow, the company is delighted to welcome Dr David Hall to its technical team.

Reporting to head of technical, Sandy MacKay, David will be responsible for all aspects of PelGar's product labelling including compliance, design and generation for the company's own brand and white label products. He will also lend his experience to the technical team.

David is a rodent biologist with over 20 years of pest control experience. His PhD was on the ecology of black rats on Mauritius and he has worked on island conservation programmes in several countries. He joins the PelGar team after 13 years at Rentokil, initially in research and development and then as product manager for consumer and professional products. Outside of work, David is a keen runner and photographer.

Top of the pest class!

The Royal Society for Public Health (RSPH) has renamed and expanded its awards, which it presented on 13 September to learners who achieved the highest score that year for their qualification. These are now known as the Hygeia Awards, after the Greek goddess of health and wellbeing. The awards extend across all public health sectors, not just pest control.

The Centre of Excellence award recognises centres which show commitment to their learners through high levels of teaching and support, alongside proven high pass rates. Joint winner Rentokil Initial was in good company, as the award was shared with the renowned catering experts Le Cordon Bleu.

This year's Pest Management award, which recognises the individual who achieved the highest mark in the RSPH Level 2 Award in Pest Management was scooped by Patrick Poore, who is part of the technical team at Hampshire-based Rokill.

Natasha Kaplinski makes presentations to David Cross, left, head of the technical training academy at Rentokil Pest Control and Patrick Poore of Rokill Pest Control Services

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In order to receive this distinction from the U.S. Environmental Protection Agency (EPA), a bait station must pass EPA-established protocols that demonstrate tamper-resistance to both children and dogs, as well as possess performance features for weather resistance.

BELL CERTIFIED TIER 1

What are the tamper-resistance requirements for children?

Testing protocol requires a testing panel comprised of a minimum of 50 children aged 42 to 51 months being unable to gain access to any station.

What are the tamper-resistance requirements for dogs?

A minimum of 12, young and healthy dogs weighing at least 20kg, are provided unrestricted access to a bait station for at least 2 hours. A station will only pass if all 12 dogs are successfully kept from accessing the bait.

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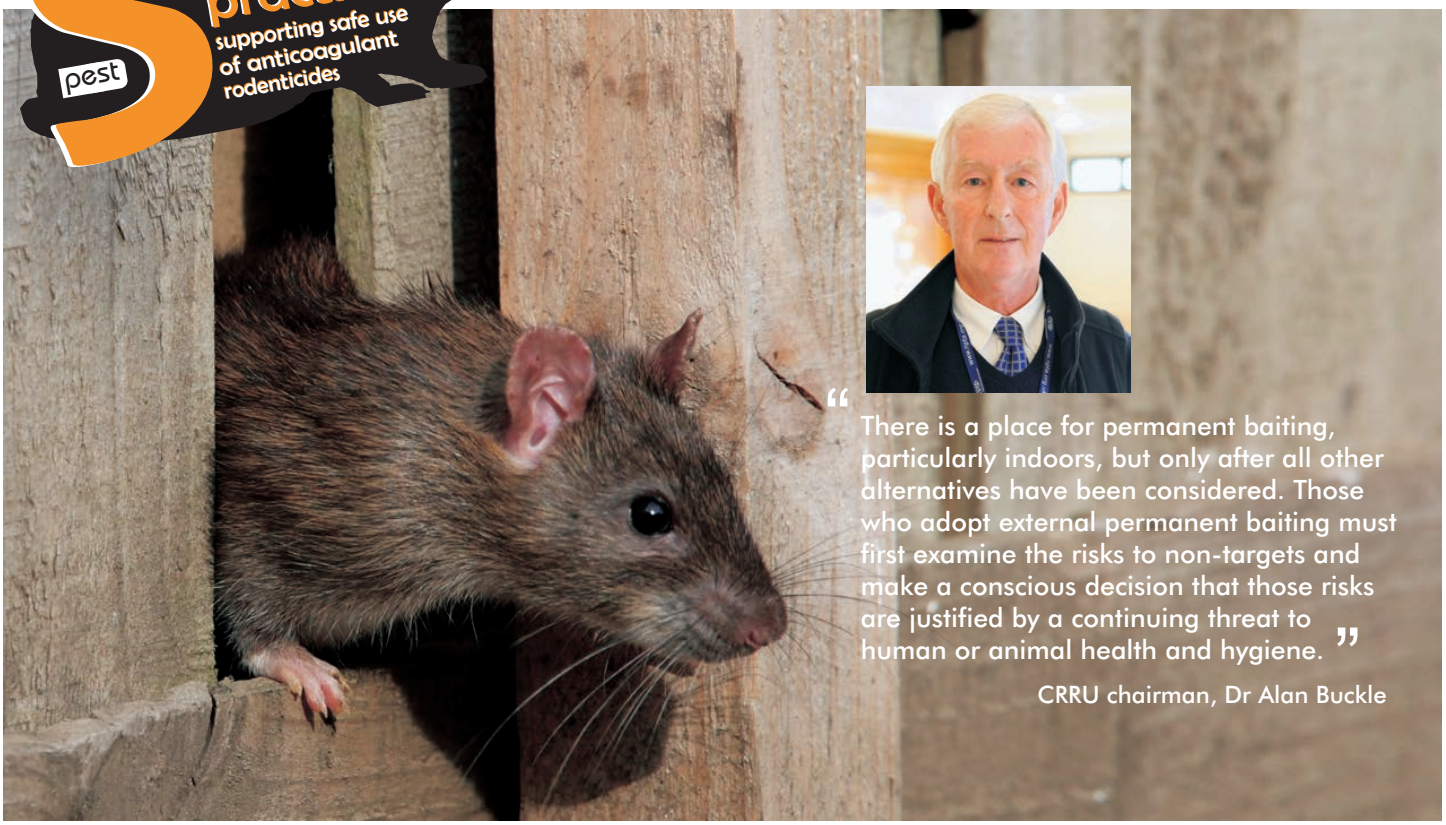

"There is a place for permanent baiting, particularly indoors, but only after all other alternatives have been considered. Those who adopt external permanent baiting must first examine the risks to non-targets and make a conscious decision that those risks are justified by a continuing threat to human or animal health and hygiene."

CRRU chairman, Dr Alan Buckle

Permanent baiting rules tightened

Changes to the wording on rodenticide labels have effectively made the Campaign for Responsible Rodenticide Use (CRRU) best practice document, *Guidance: Permanent Baiting*, a legal requirement. Associate editor Helen Riby reviews the latest version of this document published by CRRU on 17 September 2018.

The first edition of CRRU's *Guidance: Permanent Baiting* was published in April 2016 to support the implementation of the UK Rodenticide Stewardship regime. That original 8-page booklet has now been extended to 10-pages to cover the new label requirements. Useful guidance on rodenticide resistance has also been added.

Important lesson

The most important take-home message from the original document was that **permanent baiting outdoors poses a risk to wildlife and should therefore only be used when there is no effective alternative.** The days of winning a contract, putting down rodent boxes complete with toxic bait and then simply checking the boxes periodically should be consigned to history.

The most significant change for the new booklet is its upgraded status. The document is now referred to on rodenticide product labels, so, effectively, there is now a legal duty placed on professional rodenticide users to follow the guidance it contains.

These new label phrases have been adopted by the Health & Safety Executive (HSE), the organisation responsible for UK biocidal product authorisations, but they originate from the European Commission. But don't expect Brexit to change things. It is extremely unlikely that these requirements will be relaxed following Brexit, so it's important to get to grips with them now.

CRRU Guidance: Permanent Baiting is currently one of the ***Pest*** library items featured on the ***Pest*** home page at www.pestmagazine.co.uk
Copies can also be downloaded from the CRRU website at www.thinkwildlife.org/download/ or from the ***Pest*** library itself at www.pestmagazine.co.uk/en/library

Label changes affecting permanent baiting technique

Let's look at these label changes in more detail. The first point to note is that only products containing bromadiolone and difenacoum will be authorised for use in permanent baiting. However, not all products containing these two active substances will have the authorisation so now, more than ever, pest professionals **MUST** read the product label.

We know that reading product labels may be better than counting sheep when it comes to drifting off to sleep but it really is something that just cannot be avoided.

The official language used is not always the easiest to follow. We hope this article will help to highlight the key points.

So, if you are faced with a situation where permanent baiting is the only answer, what do you need to look out for on your rodenticide label?

New label text for permanent baiting approved products

If the product is approved for permanent baiting then it will state:

- *Permanent baiting is strictly limited to sites with a high potential for reinvasion when other methods of control have proven insufficient.*
- *The permanent baiting strategy shall be periodically reviewed in the context of integrated pest management (IPM) and the assessment of the risk for re-infestation.*
- *Sites under a permanent baiting regime should be inspected regularly in accordance with product label directions. The period between visits should be determined by the technician in charge but will not be longer than every four weeks when permanent baiting is conducted outdoors.*
- *For permanent baiting follow any additional instructions provided by the CRRU Guidance on Permanent Baiting.*

New label text for permanent baiting prohibited products

There are also new label statements for rodenticides which are **NOT** approved for permanent baiting.

As well as the obvious:

- *Do not use the product as permanent baits for the prevention of rodent infestation or monitoring of rodent activities.*

There are two other new phrases:

- *If, after a treatment period of 35 days, baits continue to be consumed and no decline in rodent activity is observed, the likely cause must be determined. Where other elements have been excluded, it is likely that there are resistant rodents, so consider the use of a non-anticoagulant rodenticide, where available, or a more potent anticoagulant rodenticide. Also consider the use of traps as an alternative control measure.*
- *Products shall not be used beyond 35 days without an evaluation of the state of the infestation and the efficacy of the treatment.*

In other words if, in your professional opinion, and having documented your reasoning, you decide that you need to continue baiting for longer than the 35 days specified on the label, then you can do so.

CRRU identifies four circumstances where longer-term baiting may be required:

- Very large and extensive infestations especially when the scale of the problem has not been recognised when baiting was started;
- Initial reluctance of the rodents to feed on baits (bait shyness and/or refusal to enter bait boxes) which, in effect, delays the start of the treatment;
- Continuing re-infestation of the site by rodents coming in from an outside location. Efforts should be made to deal with 'outside' sources of immigration, including calling on local authorities to use their powers;
- A partially resistant population such that resistance cannot be immediately recognised. Clearly a change of tactic will be required once resistance is found.

Stewardship practice pest supporting safe use of anticoagulant rodenticides

IMPORTANT TO NOTE:

1. Despite the reference on product labels to the use of permanent baiting for 'monitoring purposes', CRRU emphasises that it does not recommend the use of any anticoagulant bait solely for the purpose of monitoring for an infestation.
2. The document also reminds pest professionals that it is extremely unusual for any treatment to result in 'no decline in rodent activity' as stated on some labels. However CRRU points out, determining the reason for a treatment failure is essential.
3. A further anomaly is that labels for products containing one of the potent 'single feed' actives (brodifacoum, difethialone and flocoumafen) may also include the statement about switching to 'a more potent anticoagulant rodenticide', but there is, currently, nothing more potent than these three.

Mitie was one of the first companies to stop using permanent baiting

More permanent baiting advice

Clearly all rodenticide professionals (in public health, agriculture and gamekeeping roles) need to read *CRRU Guidance: Permanent Baiting*. To assist our readers, however, we have provided the following summary of the other key points in this excellent document:

1 Definitions

Permanent baiting means bait left out in protected (usually tamper-resistant bait stations) places where there are no current signs of rodents but where there is a threat from them. The purpose is to prevent an infestation.

In normal circumstances anticoagulant rodenticides should clear the infestation in 35 days, or fewer, but there are circumstances where baiting needs to continue beyond 35 days. This is referred to as 'long-term baiting' and, just like permanent baiting, its use must be justified.

Only professionals with demonstrated competence i.e. anyone competent to purchase and apply professional rodenticides under the UK Rodenticide Stewardship Regime may decide to employ the permanent baiting technique.

2 Wildlife problem

Permanent baiting would not be a problem says the guidance: 'if only pest rodents went into bait stations and took the bait.' Unfortunately this is not the case. There is plenty of evidence of small wild rodents – field mice, voles etc. and birds taking the bait.

A reduction in the use of permanent baiting will significantly reduce the level of rodenticide residues found in wildlife.

3 Indoor and outdoor differences

The risk to non-target wildlife from indoor permanent baiting is much lower, so permanent baiting will often be a useful and easily justified technique for the control of persistent house mouse infestations.

Outdoors however, because of the risks to wildlife, permanent baiting should only be used when a pest professional considers the site has 'a high potential for reinvasion' and 'other methods of control have proven insufficient'.

4 Alternatives

There are no direct alternatives, but plenty of actions that can be taken to minimise the need for permanent baiting. These include:

- Effective proofing;
- Frequent and through inspections;
- Extending baiting to neighbouring sites (if owners refuse to cooperate, then remember, local authorities have legal powers to require owners to take action against rodent infestations);
- Non-toxic monitoring baits;
- Traps in bait boxes;
- The use of remote monitoring sensors.

5 Using permanent baiting

- If after consideration of all the alternatives you conclude permanent baiting is required, make sure you write down your reasoning and keep it;
- If the technique is being employed outdoors, complete an Environment Risk Assessment;
- Decide how frequently you need to visit the site, bearing in mind that this must be at least every four weeks;
- Select the permanent baiting points carefully. For example, put them near to points of access to buildings that cannot be effectively proofed. Where possible avoid areas of rough grass, shrubs and hedgerows where non-target mammals live;
- If, on inspection, signs of small mammals are found, remove the bait;
- If there is no bait take by rats after a series of checks, remove the bait as, clearly, the risk of an infestation is lower than anticipated.

6 Resistance management

The new version of *CRRU Guidance: Permanent Baiting* highlights the prevalence of anticoagulant resistance and reminds us that the use of resisted anticoagulants against resistant rodents not only spreads resistance but increases its severity. The changes in the product labels which give professional users the ability to use the resistance-breaking compounds brodifacoum, difethialone and flocoumafen long-term is good news for resistance management. It means that, where resistance is present and long-term baiting is necessary to prevent obvious risk to human and animal health, products containing the more potent actives can be used.

As the practice of permanent baiting became more widespread during the 1980s and 1990s, barn owls were increasingly found to be contaminated with rodenticides

Labels unwrapped

Meet PelGar's Sandy Mackay at PestTech

Knowing what's on the label will make your life easier and legal

Be honest, when was the last time you properly read a rodenticde label? Rodenticides have been around a long time so it's tempting to think we know it all. But, beware, labels have been changing and that means there are now major differences in when, where and how similar products can be used. *Pest* talked to PelGar's new head of technical, Sandy Mackay, to find out more.

With new rodenticide labels hitting the shelves on a near daily basis it is critical to understand what has changed, why changes have been made and, most importantly, how this will impact the products you use and the way you use them.

Where can I use rodenticides?

Check the use pattern on each label, they can differ considerably.

The majority of PelGar's difenacoum and bromadiolone baits can be used in open areas and waste dumps as well as in and around buildings and in sewers. But, be aware that not every manufacturer will be the same and, remember, if it's not on the label then it's not an authorised use pattern.

All brodifacoum, flocumafen and difethialone products (the single feed poisons) remain authorised only for use in and around buildings and in sewers.

While the general public are restricted to using baits only in tamper-resistant bait stations, professional users are authorised to use covered and protected bait points and to apply bait directly into the burrow – but, again, be aware of your product label as not all products will have this use pattern listed.

How often do I visit bait points?

While previous label iterations have been prescriptive, the revised labels leave visit frequency to the discretion of the operator and emphasise that visit frequency should be based upon the pre-treatment survey. When burrow baiting is employed the visit frequency should be increased.

This change is a great help to pest professionals meaning visit frequency can now be considered on a case-by-case basis.

Can I leave bait down permanently?

The Campaign for Responsible Rodenticide Use has published new guidance on permanent baiting (see pages 13-15 in this issue). As indicated in the guidance document permanent baiting can be a legitimate technique but it should only be employed in the specific circumstances listed on the label.

Only some difenacoum and bromadiolone products will be authorised for permanent baiting so don't assume your usual difenacoum or bromadialone product will automatically be authorised for this task. It will not. Checking the label is essential. .

Did the bait change or just the hazard symbols?

The changes in classification of rodenticide baits some 6-12 months ago introduced revised labels requiring the label to show the appropriate hazard symbol, danger signal word and associated hazard phrases.

Ensure you have the latest copies of the product labels you use, along with the safety data sheets in your files.

What about bait stations?

Bait stations must now be labelled with the following information:

'*Do not move or open. Contains a rodenticide. Product name or authorisation number. Active substance. In case of incident call a poison centre.*'

As the UK does not have a specific poison centre, the National Poisons Information Service (NPIS) recommends calling 111.

Ready-for-use bait for the control of rats and mice in and around buildings, in open areas, waste dumps and in sewers.

Several distributors now supply pre-printed bait box labels, such as the example above from 1env, to meet the new label requirements

Target	Level of infestation	Bait points	Application	Advice
Mice *(Mus musculus)*	Low	Up to 40g every 5 metres	Indoors and outdoors around buildings: *tamper resistant bait stations, covered and protected baiting points.*	The frequency of visits to the treated area should be at the discretion of the operator, in the light of the survey conducted at the outset of the treatment. That frequency should be consistent with the recommendations provided by the relevant code of best practice. Sites where burrow baiting is used should be visited more frequently than those where secure bait boxes are employed.
	High	Up to 40g every 2 metres		
Rats *(Rattus norvegicus)*	Low	Up to 200g every 10 metres	Indoors and outdoors around buildings, in open areas, waste dumps and sewers: *tamper resistant bait stations, covered and protected baiting points, direct application into the burrow.*	
	High	Up to 200g every 5 metres		
Rats in sewers *(Rattus norvegicus)*		Up to 200g per manhole	Anchored or applied in bait stations, covered and protected bait points.	Baits must be applied in a way so that they do not come into contact with water and are not washed away.

IMPORTANT NOTE:

Pest species are also listed on product labels – most rodenticides are approved only for use on house mice and brown rats. Use against any other species (e.g. squirrels) is strictly prohibited.

Permanent baiting:
Permanent baiting is strictly limited to sites with a high potential for reinvasion when other methods of control have proven insufficient. The permanent baiting strategy shall be periodically reviewed in the context of integrated pest management (IPM) and the assessment of the risk for re-infestation. Sites under a permanent baiting regime should be inspected regularly in accordance with product label directions. The period between visits should be determined by the technician in charge but will not be longer than every four weeks when permanent baiting is conducted outdoors. For permanent baiting follow any additional instructions provided by the CRRU Guidance on Permanent Baiting. If after a treatment period of 35 days baits continue to be consumed and no decline in rodent activity is observed, the likely cause must be determined. Where other elements have been excluded, it is likely that there are resistant rodents so consider the use of a non-anticoagulant rodenticide, where available, or a more potent anticoagulant rodenticide. Also consider the use of traps as an alternative control measure.

RAT an
MOUS
KILLER

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K-2011-0097

Contains 0.005% w/w difenacoum and 0.001% w/w denatonium ben

To be used only by professional u g certification demonstrating compliance with UK rodenticide stewardship regime requirements. When this pr upplied to a user for the control of rodents, it shall only be supplied to a professional user holding certificate strating compliance with UK rodenticide stewardship regime requirements. Read the label before use. Using th in a manner that is inconsistent with the label may be an offence. Refer to the CRRU UK Code of Best Practice valent) for guidance.

Directions for use:
Read and follow the product information a s any information accompanying the product or provided at the point of sale before using it. Where possible, prior to the treat form any bystanders (e.g. users of the treated areas and their surroundings) about the rodent control campaign. Consider pr ive control measures (e.g. plug holes, remove potential food and drink as far as possible) to improve product intake and re the likelihood of reinvasion. Carry out a pre-baiting survey of the infested area and an on-site assessment in order to identify th ent species, their places of activity and determine the likely cause and the extent of the infestation.

Remove food which is readily attainable for nts (e.g. spilled grain or food waste). Apart from this, do not clean up the infested area just before the treatment, as this only di ces the rodent population and makes bait acceptance more difficult to achieve. The product should be placed in the immediate vi ity of places where rodent activity has previously occurred (e.g. rodent runs, nesting sites, holes, burrows etc.).

Target	Level of infestation	Bait points	Application	Advice
Mice (Mus musculus)	Low	Up to 40g every 5 metres	Indoors and outdoors around buildings: tamper resistant bait stations, covered and protected baiting points.	The frequency of visits to the treated area should be at the discretion of the operator, in the light of the survey conducted at the outset of the treatment. That frequency should be consistent with the recommendations provided by the relevant code of best practice. Sites where burrow baiting is used should be visited more frequently than those where secure bait boxes are employed.
	High	Up to 40g every 2 metres		
Rats (Rattus norvegicus)	Low	Up to 200g every 10 metres	Indoors and outdoors around buildings, in open areas, waste dumps and sewers: tamper resistant bait stations, covered and protected baiting points, direct application into the burrow.	
	High	Up to 200g every 5 metres		
Rats in sewers (Rattus norvegicus)		Up to 200g per manhole	Anchored or applied in bait stations, covered and protected bait points.	Baits must be applied in a way so that they do not come into contact with water and are not washed away.

Place the bait in the baiting point by using a dosage device. Dispense from a low height to minimise dust. Clean device with a damp cloth. Replace any bait in baiting points in which bait has been damaged by water or contaminated by dirt. Remove the remaining product at the end of the treatment period (except when directly applied into burrows). Baits must be placed to minimise the exposure to non-target species and children. Cover or block the entrances of baited burrows to reduce the risks of bait being rejected and spilled. Follow any additional instructions provided by the CRRU UK Code of Best Practice (or equivalent). If bait uptake is low relative to the apparent size of the infestation, consider the replacement of bait points to further places and the possibility to change to another bait formulation. The product should only be used as part of an integrated pest management (IPM) system, including, amongst others, hygiene measures and, where possible, physical methods of control. For outdoor use, baiting points must be covered and placed in strategic sites to minimise exposure to non-target species.

Do not use this product in pulsed baiting treatments. Protect bait from atmospheric conditions. Place the baiting points in areas not liable to flooding. When placing bait points close to surface waters (e.g. rivers, ponds, water channels, dykes, irrigation ditches) or water drainage systems, ensure that bait contact with water is avoided. Bait stations must be clearly labelled to show they contain rodenticides and that they must not be moved or opened (see 'other information' for full details). Where possible, bait stations must be fixed to the ground or other structures. Bait should be secured so that it cannot be dragged away from the bait station. Do not wash the bait stations or utensils used in covered and protected bait points with water between applications. Place the product out of the reach of children, birds, pets and farm animals and other non-target animals. Place the product away from food, drink and animal feeding stuffs, as well as from utensils or surfaces that have contact with these. When using the product do not eat, drink or smoke. Wash hands and directly exposed skin after using the product.

Do not use in areas where resistance to the active s . Products shall not be used beyond 35 days without an evaluation of the state of the infestation and of the e nt. Do not rotate the use of different anticoagulants with comparable or weaker potency for resistance man . For rotational use, consider using a non-anticoagulant rodenticide, if available, or a more potent anticoagulant s secondary poisoning, search for and remove dead rodents during treatment at frequent intervals, in line with the re provided by the CRRU UK Code of Best Practice.

Storage and disposal:
Store in a dry, cool and well-ventilated place. Keep the con and away from direct sunlight. Store in places prevented from the access of children, birds, pets and farm animals. At the end ment, dispose of uneaten bait and the packaging in accordance with local requirements. Dispose of dead rodents in accordance requirements. Poisoned rodents may be disposed of by the waste producer at an incinerator or landfill permitted to accept that s ste, or collected by a registered waste carrier and taken for disposal at a suitably permitted site. For further information on disposal the Environment Agency (www.environment-agency.gov.uk) or SEPA (www.sepa.org.uk). Rodents can be disease carriers. Do not h ad rodents with bare hands, use gloves or use tools such as tongs when disposing of them.

Permanent baiting:
Permanent baiting is strictly limited to sites with a high potential for reinvasion when other methods of control have proven insufficient. The permanent baiting strategy shall be periodically reviewed in the context of integrated pest management (IPM) and the assessment of the risk for re-infestation. Sites under a permanent baiting regime should be inspected regularly in accordance with product label directions. The period between visits should be determined by the technician in charge but will not be longer than every four weeks when permanent baiting is conducted outdoors. For permanent baiting follow any additional instructions provided by the CRRU Guidance on Permanent Baiting. If after a treatment period of 35 days baits continue to be consumed and no decline in rodent activity is observed, the likely cause must be determined. Where other elements have been excluded, it is likely that there are resistant rodents so consider the use of a non-anticoagulant rodenticide, where available, or a more potent anticoagulant rodenticide. Also consider the use of traps as an alternative control measure.

Medical advice:
This product contains an anticoagulant substance. If ingested, symptoms, which may be delayed, may include nosebleed and bleeding gums. In severe cases, there may be bruising and blood present in the faeces or urine. Antidote: Vitamin K1 administered by medical/veterinary personnel only. In case of: Dermal exposure, wash skin with water and then with water and soap. Eye exposure, rinse eyes with eye-rinse liquid or water, keep eye lids open at least 10 minutes. Oral exposure, rinse mouth carefully with water. Never give anything by mouth to unconscious person. Do not provoke vomiting. If swallowed, seek medical advice immediately and show the product's container or label. UK medical professionals should contact the National Poisons Information Service (www.npis.org) for further advice. Contact a veterinary surgeon in case of ingestion by a pet.

Precautions:
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. Store locked up. Dispose of contents/container in accordance with national regulations.

Contains 1, 2- Benzisothiazolin-3-one. May produce an allergic reaction. To avoid risks to human health and the environment, comply with the instructions for use.

Danger
May damage the unborn child. May cause damage to organs (Blood) through prolonged or repeated exposure.

Other information:
Hazardous to wildlife. Wear protective chemical resistant gloves during product handling phase (EN374). Because their delayed mode of action, anticoagulant rodenticides may take from 4 to 10 days to be effective after consumption of the bait. This p ct contains a bittering agent and a dye. Bait stations must be labelled with the following information: 'do not move or open', 'contains a ro ide', 'product name or authorisation number', 'active substance', 'in case of incident call a poison centre – UK: 111'.

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Distributors can also offer advice and/or put you in touch with relevant manufacturers.

Danger
May damage the unborn child. May cause damage to organs (Blood) through prolonged or repeated exposure.

Bait stations must be labelled with the following information: 'do not move or open', 'contains a rodenticide', 'product name or authorisation number', 'active substance', 'in case of incident call a poison centre – UK: 111'.

Moths up...

Two projects involving moths and butterflies have caught the attention of the great British public as examples of Citizen Science. 'Operation Clothes Moth', organised by English Heritage, is believed to be the first example of Citizen Science research applied to preventive conservation. The other example, 'The Big Butterfly Count' has run for six years, attracts nearly 100,000 participants and is organised by Butterfly Conservation.

Citizen Science is defined by the Oxford English Dictionary as 'The collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with professional scientists.'

Since 1997, English Heritage (EH) had been actively monitoring the spread of webbing clothes moths at over 40 sites across England. Over the last five years, EH conservators had seen the number of the common or webbing clothes moth (*Tineola bisselliella*) double with a new species, not previously recorded, *Monopis crocicapitella* (also known as the pale backed clothes moth), beginning to appear for the first time in its properties in the South East and in London.

In an attempt to measure the extent of this increase, in spring 2017 EH launched 'Operation Clothes Moth'. All visitors to any of the EH sites were encouraged to collect a free clothes moth trap to place in their home to monitor their spread. (As reported in ***Pest 50:*** April & May 2017).

In total 5,000 traps were distributed to the 113 EH staffed sites, approximately 4,500 were given to visitors and 213 moth counts were recorded, a 4.7% return rate. Asking participants to wait three months before recording results combined with the assumption that those that failed to catch any decided not to participate possibly influenced the rate of return.

Participants were asked to record information on an online form. This recorded information included, post code, property type and trap location, amongst others.

Clothes moths numbers

The total number of webbing clothes moth (*Tineola bisselliella*) caught by participants was 3,607. On average 17 were found on each trap.

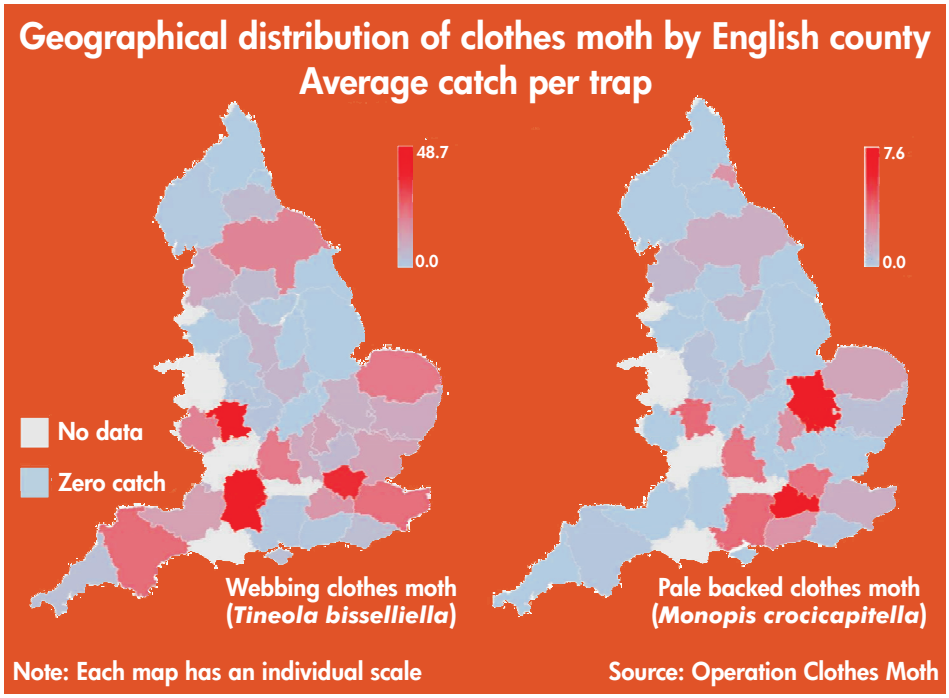
Surprisingly, in total 69 of the 213 traps reported catching the pale-backed clothes moth (*Monopis crocicapitella*), with a total catch of 460 individuals. This catch result for this more recent invader was much higher than expected. The previous year, 2016, EH had only caught 15 across the country from 94 traps, and that result was significantly higher than in previous years.

This would suggest that the pale backed clothes moth could pose a threat in future years to historic house collections, as well as to domestic premises.

Geographical location

The reported catch of the webbing clothes moth is higher in the south east of England (average 23 per trap). This then appears to radiate outwards, with the south west and west midlands the next highest (17 and 16 per trap), the east follows (12 per trap) with the north east, north west and east midlands much lower (six, five and three per trap).

Amber Xavier-Rowe from English Heritage with a sample of the moth traps used



Adult webbing clothes moth (Tineola bisselliella)

Adult pale backed clothes moth (Monopsis crocicapitella)

The newer pale-backed clothes moth is concentrated in south east England with 86% of the total catch and an average catch per trap of three.

The east also had an average catch per trap of three which is significantly higher than other regions.

However, it should be noted that there is a potential bias in the data as participants who thought that they had a problem with moths at home could have been more motivated to collect a trap. However, 26% returned results of no reported catch and 49% returned a catch of four or fewer clothes moths.

This data has improved EH's understanding of the threat of clothes moths. Currently the organisation only regularly places pheromone lure traps at 26 sites in 11 counties, whereas participants of the survey returned data from 192 properties in 42 counties.

Housing type and age

Of particular interest to professional pest controllers, not

...butterflies down!

Whilst the numbers of recorded moths is up, in comparison the number of butterflies in another Citizen Science project, the Big Butterfly Count, was down.

With excellent media coverage, a record-breaking number of people took part. For the second year running, the number of participants increased by two-thirds and the number of completed counts also rose by more than half. An incredible 100,246 people took part in 2018, undertaking 97,133 counts.

No butterfly bonanza

Given the long, hot sunny spell, in fact ideal conditions for butterflies, leading up to the count the expectation was that there would be record breaking numbers of sightings. Yet, despite these impressive numbers, participants generally did not experience a butterfly bonanza.

Some species, the small tortoiseshell, for example, suffered its worst summer in the history of the Big Butterfly Count with sightings falling by 32% compared to last year. Populations of red admiral and comma were well down, 73% and 40%, respectively, compared to the high numbers seen in the same period last year.

Commenting on the results the survey organisers said that the disappointing number of butterflies seen by participants is probably not a fair reflection on the

population levels of the UK's common butterflies during the summer.

The warm weather from April onwards led to many species starting their flight periods early in 2018 and, as a result, some of the abundant single-brooded species were already past their peak in numbers by the time of the Big Butterfly count 2018.

Don't worry readers! At ***Pest*** we have not lost the plot – butterflies are not the latest pest for you to control. This information is included simply as a comparison and as another example of Citizen Science – a project several of you may well have participated in. It also just goes to show what influence the weather can have on insects – just as is the case this year with wasps and hornets.

The zero catch rate for each property type

Property type	Zero catch count	Total catch count	Zero catch of each category
Bungalow	6	15	40%
Detached	25	67	37%
Flat	3	35	9%
Other	1	2	50%
Semi	13	50	26%
Terrace	7	41	17%

Average clothes moth catch per trap for each property type & numbers of shared spaces

Property type	Clothes moth average catch per trap	Shared spaces
Bungalow	1.7	0
Detached	13.2	0
Semi	13.7	1
Terrace	20.6	2
Flat	46.2	5

only did the response form cover the moths themselves, but also the type of property they were caught within.

Six of the top seven reported catches were all located in flats and only three flats reported a zero clothes moth catch. One hypothesis for this could be the number of shared walls, floors or ceilings (hereafter called shared spaces) with other properties that are outside the control of the owner.

Property age makes a difference

The age of the property also provides data that appears to agree with the hypothesis of – more voids, more problems.

Generally older houses have more dead spaces compared to modern types of construction. Participants could select from two options on the form relating to the age of their property, pre-1950 or post-1950. The average clothes moths catch per trap from a pre-1950s property was 26 compared to 14 for a post-1950s property.

As Tineola infestations do not occur naturally outside in the UK and northern Europe it follows that infestations must be carried between houses on carpets, clothes and other possessions. Adjoining spaces give the moths an opportunity to spread without having to leave the enclosed environment.

Cooler clothes washes contribute

Meanwhile, a study of 2,006 consumers released by Rentokil Pest Control also reveals some interesting trends. It shows how Britain's changing laundry habits and decreasing desire for fast fashion, may be contributing to the moth epidemic.

This research found that 54% of those surveyed are more likely to wash their clothes at 30 degrees now than they were five years ago.

Over half of the survey respondents (52%) said they buy fewer items of clothing than they did five years ago. Just under three in five said they prefer to buy good quality clothes they know will last them longer.

However, these higher-quality clothes are often made with natural materials such as wool, silk and fur which contain the protein keratin, the preferred food for moth larvae.

The survey found 13% of respondents have had a moth problem, suggesting more than 6.8 million Brits have experienced damage due to larvae feeding on their belongings.

Among those who have had a moth problem, the top five most moth spoiled items are shown in the table below.

The most common DIY treatment respondents used to treat an infestation is moth balls, with 26% trying this.

This is followed by natural remedies such as lavender, rosemary and cloves (25%) and vacuuming (20%).

Just 6% have tried freezing any clothes suspected of being home to moth larvae, while 5% admit to microwaving them.

Item	Proportion of respondents
Jumpers	41%
Curtains	19%
Carpets	16%
Dresses	12%
Suits	12%

Typical moth larvae damage

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PEST TECH

PestTech heads south to Milton Keynes


NPTA's Adam Hawley

It's all change again for PestTech in 2018 as the popular, one-day event organised by the National Pest Technicians Association (NPTA) moves to a new venue for the second year running. The date has gone back to the more familiar Wednesday nearest bonfire night – 7 November 2018 and the new venue is the Arena MK in Milton Keynes.

2017 marked a sea change for PestTech. The move away from the somewhat old-fashioned Motorcycle Museum venue to Coventry's Ricoh Stadium completed PestTech's 20-year plus transition from homespun fair, to today's nationally important professional event.

But clearly a nationally significant pest management event cannot compete with televised snooker, so it should come as no surprise that last year's venue has chosen to host the snooker in the first week of November 2018 rather than PestTech.

But, as chairman Adam Hawley explained earlier this year it wasn't just the snooker that made NPTA think twice about the Ricoh: "In 2017 we had free parking for delegates but, this turned out to be just an 'introductory offer'. We feel strongly that it is very important to continue to provide free entry and free parking for all attendees, so when the venue refused to offer the same terms for future years, that was the final nail in its coffin."

OK so the Ricoh's got the lucrative snooker and doesn't want PestTech in the first week of November, but, that's fine. The new venue is a bit further south, but it's still very central and pretty easy to get to. What's more it has plenty of free parking, so what's not to like!

Arena MK is actually a very similar set up to the Coventry Ricoh. Like the Ricoh it's a major sporting venue, the home of the MK Dons football club and, again, like the Ricoh, there is an on site Doubletree by Hilton hotel. There are also plenty of seating areas offering networking and meeting opportunities within the Arena MK building.

NPTA

The MK Arena is sited within the MK1 Leisure and Shopping Park which offers plenty of other restaurants to choose from all within easy walking distance. What's more, if you need to do a spot of shopping before making your way home there's a large Wallmart ASDA store, M&S and a variety of fashion and sports outlets. For those who fancy a break from pest control talk, or prefer not to go to the *Pest Control News* dinner, there's also an Odeon multi-screen and IMAX cinema.

Seminar programme

There will be a full programme of seminars running alongside the exhibition. Final titles and timings are not yet announced but the topics will be:

- Bayer's Richard Mosley on BRC auditing;
- NPTA's John Hope on NPTA technical support services;
- Abigail Reade from the Tree Bee Society on collecting bees;
- Martin Ball from the Wildlife Incident Investigation Scheme;
- David Cross from Rentokil with an update on Aluminium Phosphide;
- Simon Whitehead from Parkfield Ferrets on rabbiting past, present and future.

The exhibitors

This list is as complete as we could get from PestTech organisers, the National Pest Technicians Association (NPTA). As we went to press, the NPTA was experiencing some admin difficulties, so the list may not be comprehensive. The expectation is that the final tally will be around 50 exhibitors.

We will be sending out a ***Pest Alert*** by email with the full exhibitor list and details of the accompanying seminars a week or so before the event. If you are not sure if you are signed up for ***Pest*** emails following all the GDPR chaos, email editor@pestmagazine.co.uk with your consent.

Exhibitor
1env Solutions
Agrisense
Airgun Training & Education Organisation
Barrettine
BASF
BASIS PROMPT
Bat Conservation
Bayer
Bell Laboratories
Bower Products
British Pest Control Association
Bradshaw Bennett
Campaign for Responsible Rodenticide Use
Cliverton Insurance
County Workwear
Deadline Products
Higgs Holdings
Huck Nets
International Pest Control
Killgerm

Exhibitor
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Lodi UK
PelGar International
Pelsis
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PestWest
PestFix
Rat Pak
Rat Wall
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Urban rodents: A public health priority

Dr Bobby Corrigan

The purpose of this article which first appeared in the leading USA pest management magazine *PCT* (*Pest Control Technology*) is to provide an important research update addressing the significance of city mice and rats and everyday public health. Written by leading urban rodentologist, Dr Bobby Corrigan of RMC Pest Management Consulting it also gives important tips for safely working with rodents on everyday accounts. Moreover, these research findings should serve to emphasise why the integrated portion of Integrated Pest Management (IPM) must continue to be strongly emphasised in urban rodent control. .

> "That which can be foreseen can be prevented"
> Will Mayo, 1910

In New York City, the well-respected Center for Infection and Immunity is located at Columbia University's School of Public Health. The scientists at this center have been studying the microbial pathogens (e.g. viruses, bacteria) associated with various insect and animal vectors (e.g. mosquitoes, rodents, ticks etc) for years.

Virus hunters

One group of these scientists is led by Dr Ian Lipkin, the virus hunter internationally recognised for his work with West Nile virus and SARS.

In 2012, Dr Lipkin's team began live-capturing and analysing everyday city rats and mice from New York. The goal was to study which viruses and bacteria these rodents were carrying and whether, or not, they might pose public health threats.

Columbia published these important research findings of city rats (*Rattus norvegicus*) in 2014.

The more recent rodent research update, addressed here, discusses Columbia's second rodent research project, which was conducted similarly to the rat study, except it focused only on wild house mice (*Mus domesticus*).

The research findings were published in two separate journal papers earlier this year and received quite a bit of attention from the global press. The following is an overview of those research findings. ▶▶▶

City mice and germs

The city mouse project was led by Simon Williams, a research scientist in Ian Lipkin's lab at Columbia. Simon was joined by a team of virologists, microbiologists, epidemiologists and rodentologists.

The mouse team live-trapped 416 wild house mice from various residential and multi-functional buildings throughout greater New York. By employing a range of sophisticated laboratory techniques, the droppings, urine and the mice themselves were analysed, allowing Williams' team to isolate and identify the bacteria and viruses found on and within the mice.

Dangerous findings

Importantly, the collected house mice were found to be carrying several of the bacteria responsible for human gastroenteritis – inflammation of the stomach and intestines, typically resulting from bacterial toxins or viral infection.

Five bacterial pathogens and one protozoan were discovered in the wild house mice with significant frequency:

1. Salmonella (different strains);
2. *Escherichia coli;*
3. *Clostridium difficile;*
4. Shigella;
5. *Leptospiria* spp.;
6. *Toxoplasma gondii*.

Depending on the acquired infection level and the specific bacterial pathogen, should a person ingest (directly or indirectly via contact or inhalation), the resultant sicknesses ranges from mild to life-threatening.

Salmonella bacteria, for example, are a leading cause of bacterial food poisoning in the United States with 14 million reported cases annually along with 15,000 hospitalisations and 400 deaths.

Among the millions of less severe cases of foodborne illness infections, most result in diarrhoea, fever and stomach cramps with accompanying and sometimes severe vomiting one or two days after contact, or somehow ingesting, the bacteria or viruses from faecal or other contact with rodents or other pests (cockroaches, flies) or animals.

Birth defects and abortions

Toxoplasma gondii is a protozoan parasite that causes *toxoplasmosis*, of which the cat is the definitive host. Cats become infected by killing and eating house mice infected with *T gondii*. When the parasite gains a foothold around mouse-infested homes

Several million viruses can fit in a space the size of a full stop at the end of a sentence, so how many viruses (or bacteria) can fit on just one mouse dropping in only one restaurant (or in your own kitchen)?

When mice are active in any kitchen they constantly defecate and urinate on, and into, dishes, pots and cooking containers – it is not uncommon for small droppings or fragments of such to go unnoticed when the containers are used.

and apartment complexes (via cat faeces accumulation), the house mouse serves as an intermediate host contributing to the parasite's persistence and propagation. If pregnant women contact infected cat faeces, they can become infected, resulting in spontaneous abortions or various foetal abnormalities.

The *leptospira* bacteria found in the New York City mice, and rats, are probably the most widespread and most prevalent of all zoonotic diseases i.e. transferable from lower animals to man. The leptospirosis bacteria can be transmitted to people via the urine from rodent pests around buildings. This happens via skin contact with leptospirosis-contaminated water, moist soil and vegetation, or sometimes via the direct ingestion of food contaminated by infected rodents.

Dismissed as 'the flu'

Symptoms of leptospirosis often closely mimic the common flu: fevers, headaches, diarrhoea, chills and vomiting. As such, many cases are too casually dismissed by both the patients and their physicians as 'the flu'. In severe cases, however, this bacterium can be deadly as it can cause severe kidney damage, jaundice and haemorrhaging. Because leptospirosis is prevalent among rodents in American cities containing high populations of rats and mice, perhaps health departments should undertake more preventive programmes with appropriate serology and analyses of local rat populations.

It should be noted that the discovery of these particular germs in New York City mice isn't revolutionary. During the past several decades, other researchers have recorded rodents carrying various microbial pathogens. What is significant is this was the first time a random sample of just a tiny portion of the wild house mice of America's most highly dense and populated city had been profiled – which begs the question: 'What might be the profile of any of the other millions of mice not sampled?'

Antimicrobial resistance genes

There was an additional interesting and important finding in the study. Columbia also discovered within the New York City mice the evidence of genes widely distributed that can bring about antimicrobial resistance to several of our most common antibiotics including the fluoroquinolones and β-lactam compounds. Notably, these particular antibiotics are among the most commonly used drugs to combat the bacterial gastrointestinal infections caused by the pathogens discovered in the wild mice of this study.

The Columbia study then, it is yet another example of the axiom 'the deeper we look, the more we find'. Finding the antimicrobial resistance association in everyday house mice certainly opens up the door for additional questions regarding one of our most pressing worries – the threat of continual increase of antibiotic resistance.

Novel viruses

Columbia's second study on house mice investigated the viruses present in mouse droppings. Interestingly, 36 viruses, including six new viruses, were identified. None of the viruses were found to be varieties that cause human illness – different from that found in the bacteria study.

This is not to say the wild mouse viruses were cleared of all guilt. The study did identify genetic sequences matching important viruses that infect insects, dogs, chickens and pigs. These findings will certainly be of interest to vets and livestock producers everywhere, considering how prevalent mouse infestations are around livestock, animal hospitals, zoos etc.

Nevertheless, the lack of human-pathogenic viruses – at least in the sample of mice collected in this study – is a bit of a relief compared to what we've been alerted to with mouse viruses during the past 30 years.

No guaranteed transmission

It is important to keep in mind, not only for this study, but for any research addressing pest-species vectors, that just because animals are found to be harbouring germs, doesn't guarantee those germs will be transmitted to other animals around them. Such is the case with this house mouse study as well.

More research is needed to measure, if possible, the likelihood of transmission of microbial pathogens found on mice and rats, or even cockroaches and flies, for that matter, under typical everyday conditions.

Still, it is a sobering thought that, in just the space of a full stop at the end of a sentence several million viruses can fit. And, only one mouse in a restaurant can produce upwards of 125 faecal pellets and thousands of micro droplets of urine in 24 hours.

What's more, we know mice constantly dart about in thousands of 'spots' throughout the rooms where they are active day-in and day-out and that they tend to investigate many of the everyday objects they encounter during those forays. So, it seems an obvious likelihood that sooner or later an infected dropping, or micro-droplet of urine, will find its way into 'our world'.

One example of this would be the all too common mouse infestations that occur in the ceilings above the kitchens in commercial accounts, for example in restaurants, bakeries, convenience stores, etc. For these infestations, there is a good possibility of pieces and parts of faeces, hair, urine fragments and so on routinely falling down onto foods, food boxes, preparation areas, utensils, plates and the like.

Similarly, droppings and urine can be deposited within food containers stored within the mouse-attracting dark, quiet drawers and cupboards of homes everywhere.

To summarise, the transmission of bacteria and viruses from interior mice can happen at any time and in any number of ways.

This also includes when we are actually trying to clean up the presence of germs and dirt via sweeping and vacuuming – which can then render microbes airborne allowing them to be inhaled by those doing the cleaning.

UK relevance?

Commenting on the relevance of these findings to readers on this side of the Pond, Dr Corrigan said:

"Perhaps you are wondering if the results from those microbes found in the mice from New York City are relevant to your town or city! Certainly they are.

"Those same foodborne illness microbes are very common and are found in nearly all major towns and cities around the globe. So too is the ubiquitous house mouse.

"The epidemiologists of the Columbia study have readily commented to the press that the results found in the New York City mice are highly likely to be found in most cities everywhere, with possibly even more, or different, dangerous germs!

"Related studies by UK and European researchers have addressed similar concerns of rodents and pathogens in years past e.g. Macdonald (1999); Battersby (2002); Meerburg (2009) to name but a few."

What's in your wallet?

Perhaps you are thinking, 'Well, the rats and mice collected in these studies were from New York City, a very crowded, old seaport city with more than 900,000 buildings and lots and lots of rubbish. It doesn't mean the rodents in my city or town are carrying the same pathogens?' Well, maybe. But until a city rodent/pathogen profile is conducted in your city, the question truly is, 'What's in your wallet?' Maybe it's less? But maybe it's more.

This then leads us back to the Will Mayo quote at the beginning of this article about being preventive – in part, via effective, well-designed and well-implemented pest management programmes at ground level. Because in all cities around the entire globe, the fact of the matter is millions of cases of unexplained febrile illnesses year after year are not actually diagnosed.

Dr Jay M Lieberman, an infectious diseases specialist and former professor of clinical paediatrics at the University of California, Irvine, suggested in an important 2009 publication salient advice for all: namely, that when any ill person is brought in for medical attention with an unexplained fever-related illness or infectious disease, clinicians should routinely ask about any potential exposures to animal pests, such as mice and rats, that have been active around the home or workplace.

This mouse bait station is located in the small common space that exists below commercial kitchen equipment the world over and, as every pest professional knows, this space is a favourite travel and hang-out for mice. Here rodents defecate, urinate and often leave body hairs and other contaminants.

Take-away tips

Rodent control is among our industry's highest revenue-generating services, as well as one of our primary identities as to why we truly do help protect the health and lives of humans. So, how can we make use of this important research update. Here are some tips:

- The Columbia research further substantiates the importance of the basic tenets of exclusion and sanitation within the urban IPM model. If rodents can't get into the buildings in which we live in the first place, they can't deposit contaminated faecal matter of any sort that we may later contact, ingest or inhale.
- Ensuring rodent-proof doors, sealed holes and detailed/cleaned floors in shadowy, hard-to-reach spots, i.e. the favourites of house mice, is not, as the saying goes, rocket science. Updates in the public health risks of rodent pests can help our clients be aware of the importance of the essential partnership in any IPM programme between them and us.
- Any client with a current rodent infestation and/or who has called upon you to provide the service to eliminate such rodent infestations should be reminded as to the importance of personal hygiene, in particular the frequent washing of hands, until the rodent infestation is corrected.
- Services to address rodent infestations must be sold with an attitude of achieving high control on an ASAP basis. Inexpensive services can hardly input the up-front labour necessary to get the population eliminated fast.
- Rodents in our commercial accounts tend to favour nesting and reproducing and being most active in those structural areas that are often hard-to-reach – and so often prone to being skipped over during service visits. Employing any of the electronic remote sensors now available on the market will serve as important food safety and public health monitors in this regard.
- Cleaning up any excrement and associated rodent filth is the client's responsibility. Clients should clean and disinfect all areas in which rodents have been travelling and/or have left faecal material.
- All on-the-job pest professionals must always wear issued PPE (gloves and respirators when inside enclosed spaces) while performing inspections, and/or laying down indoor rodent control equipment within infested areas.
- Always wash any coveralls or discard any Tyvek-style suits in the proper 'donning and doffing' procedures after using them in crawlspaces, attics or other areas/surfaces where rodent infestations have occurred.
- Even after wearing your disposable gloves during rodent control work, wash your hands after removing the gloves each and every time.
- Never, ever, clean out rodent-visited exterior bait stations or traps by sweeping the station's contents (faeces, dirt, hairs, etc) onto any client's property.
- Dispose of any dead rodents found on the job appropriately.

Summary

Perhaps the most succinct way to summarise this important Columbia University research would be to consider two things. First, what if the mice collected from this study targeted only the mice from restaurants, or schools, or office buildings? Would less, or more pathogens have been found? And second, I'd like to repeat the answer to a question I had posed to the famous food microbiologist Dr Michael Doyle, of the University of Georgia, at a food safety symposium awhile back: "Would you, Dr Doyle, eat in a restaurant if you knew it had only one mouse positive for *Salmonella enteriditus* hiding somewhere in the kitchen?"

Dr Doyle's answer: "I would not. Would you?"

Mouse infestations in ceilings above food preparation areas can be a source of contamination

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New cockroach about!

A species of cockroach native to southern Europe, Turkey and the Caucasus has taken up residence in the UK. Independent consultant and *Pest* Technical Advisory Board member, Clive Boase, Isabelle Landau of the Urban Pest Advisory Service of the City of Zurich and Hannes Baur of the Natural History Museum in Bern, Switzerland report on their findings.

In August 2017, Ian Sullivan of Little Monster Environmental Pest Control received reports of cockroaches from a customer in Hertfordshire. The cockroaches had been seen on external window sills of a first-floor apartment, occasionally coming indoors around window and door frames or through ventilation openings and, occasionally, flying.

Initial inspection showed that they resembled the German cockroach, but there were strange differences. Richard Moseley of Bayer Crop Science confirmed that these were not German cockroaches, so involved Clive Boase and the expert team from Switzerland to help resolve this situation.

Further investigation in Hertfordshire in the summer of 2018 revealed that the cockroaches were still present. They were identified as *Ectobius vittiventris* (A. Costa), a species native to southern Europe, and not previously found in the UK.

Bayer Crop Science generously supported the investigation.

Ectobius vittiventris

The cockroach *Ectobius vittiventris* is native to southern Europe, Turkey and the Caucasus. However, in recent decades it has been extending its range north-westwards and is now widespread in some areas of Switzerland (first reported in 1985), Austria, and southern Germany.

In Germany and Switzerland, this species is known as the 'Bernstein Waldschabe', i.e. the 'Amber Wood-Cockroach'. In the UK, the 'Garden Cockroach', may be a better description, although this remains to be decided.

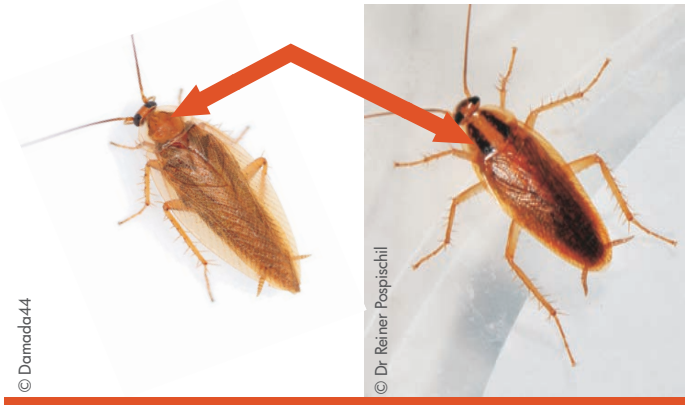
Key features of this cockroach's appearance and behaviour are detailed in the table opposite. **Note:** The UK has three native species of cockroaches in the Ectobius genus. All are restricted to areas of dry, sun-warmed outdoor habitat in the south of England, such as heaths, sand-dunes and cliff-tops. None are associated with buildings or urban areas.

Separating *E. vittiventris* from the German cockroach

Given that *E. vittiventris* can fly, is active in the daytime, and lives outdoors on plants, it has a very different behaviour to the German cockroach *B. germanica*.

However, in terms of size and appearance, *E. vittiventris* could be confused with the German cockroach. The most reliable way to separate the two species, in both adults and nymphs, is to examine the pronotum (the plate covering the dorsal surface of the thorax):

- In *E. vittiventris*, the centre of the pronotum is a uniform brown with no longitudinal stripes.
- In *B. germanica*, the pronotum is brown with two dark longitudinal stripes.



E. vittiventris, left and B. germanica right. The main difference, as indicated, is in the pronotum

Note: A mutant form of the German cockroach known as 'orange body', occurs occasionally. In this form, the dark marks on the pronotum are much paler, but still just about visible. This mutant occurs in the usual German cockroach situations.

The Hertfordshire *E. vittiventris* population

The cockroaches were initially reported from one apartment within a block of c.20 apartments. However, subsequent investigation found that they were present around the apartment building and extended across an area of at least one hectare, including several businesses, car parks, roads, gardens, hedges, areas of amenity planting and roadside verges. However, the full extent of the population was not determined, so it may be more extensive. Given this extent and this species' development, they are likely to have been present for several years.

Nymphs and adults, including females carrying oothecae, were found. The number of individuals present in a handful of leaf-litter was up to around six, with similar numbers falling onto a 1 x 1.5m white sheet from overhanging shrubs.

No obvious source of the cockroaches was established. There was nothing unusual about the affected area.

Habitat

This cockroach lives outdoors, primarily in shrubs, flower beds, hedges, gardens and parks. In Hertfordshire, most were found

***E vittiventris* – appearance and behaviour**	
Size:	Adult: 9-14 mm long (similar to the German cockroach)
Colour:	In adults and nymphs, the dorsal surface of both the pronotum (upper surface of the thorax) and the wings are a uniform rusty-brown
Male & female:	Similar in overall appearance, although the male is more elongated
Habitat:	Outdoors in gardens, hedges, parks etc. Occasionally comes indoors, but soon dies. Does not become established in kitchens etc
Flight:	The male flies readily, like a moth, especially in warm weather. The female does not fly as strongly.
Activity & seasonality:	Active by day as well as at night. Only noticed during the warmer months
Reproduction & lifecycle:	Egg cases laid in one year overwinter and the nymphs emerge the following year. The nymphs then develop that year up to the third-fifth nymphal stage, overwinter again, and then mature into adults in the following year.

E. vittiventris shaken from the bushes onto a white sheet

either a) in accumulations of dry leaf-litter under shrubs or around the perimeter of buildings, or b) amongst the foliage of shrubs and hedges. They were more commonly associated with deciduous plants such as hawthorn, oak and buckthorn and less commonly with evergreens, such as laurel and cypress. Residents in an apartment block and in offices within the affected area, reported them coming indoors through open doors and windows. However, they do not become established indoors, unlike the German cockroach.

The population in Hertfordshire survived the 2017-18 winter which was particularly harsh. However, given that this species is now well-established in central Europe where the winters are often more severe than in the UK, this is not surprising.

Monitoring and detection

This species does not appear to be easily caught on standard adhesive crawling insect detectors. Twenty monitors were placed at various potentially suitable outdoor locations at the Hertfordshire site and caught no cockroaches over a three-month period.

Instead, they were found most easily by either placing a handful of dry leaf-litter in a white tray and sorting through it for the cockroaches, or by placing a white sheet on the ground under a shrub, shaking the branches and looking for cockroaches that fell onto the sheet.

Risk of onward spread

The type of suburban habitat in which the Hertfordshire population was found is very common across the UK, so there would appear to be many potentially suitable areas that could be colonised. Given that they can fly in warm weather, there may be other nearby populations in the Hertfordshire area. Over longer distances, the presence of these insects in leaf-litter and shrubs in gardens and amenity planting, make it likely that the cockroaches are moved around during removal of garden waste. It would be surprising therefore if the Hertfordshire population is the only one in the UK.

Impact

Given that this species does not appear to become established indoors, it is unlikely to have as great an impact as the more common German and Oriental cockroaches. Nonetheless it is likely that many residents and businesses finding this species will assume that they have an infestation of the more serious German cockroach, and seek professional advice (see Uçkay *et al*, 2009, below).

The likely impact and interaction of this species with native wildlife in the UK is not known. There are no reports so far of negative interactions where this species has recently become established in central Europe.

Control

In Hertfordshire, a residual spray with bendiocarb wettable powder around entrance points was effective at reducing cockroach ingress into the building.

The Swiss Pest Control Association advises its members not to treat this species, but to inform customers that it does not become established indoors, is harmless and may be prevented from coming indoors with fly screens.

Other UK populations

Pest controllers who suspect they may be involved with this species should contact clive@pest-management.com. The UK Non-Native Species Secretariat has been notified.

E. vittiventris was present in the border planting (top), in the vegetation at the entrance to the property (middle) and in dead leaves around the building

Further reading

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Useful information on the UK's native cockroaches can be found at: http://species.orthoptera.org.uk/species_dictyoptera.aspx?userid=0

PelGar International

NEW 20KG SACKS

With the recent news of 20kg sacks being withdrawn from the market PelGar are pleased to announce their new 20kg pack format, now available across the PelGar range from Edialux Professional Products.

When PelGar's regulatory team discovered the new legislation limiting loose baits to a maximum pack size of 10kg, to avoid the need for decanting larger quantities, they undertook measures to apply to HSE for some additional pack formats which would allow for the continued sale of their popular 20kg packs. The HSE has since granted these amendments to PelGar and the products are now available to all certified users. 'The continued sale of PelGar's products in 20kg packs will allow pest controllers to capitalise on economies of scale rather than having to absorb or pass on the increases in the relative price of their baits' comments PelGar's UK Business Manager Nic Blaszkowicz. The new formats approved by HSE for PelGar International contain two 10kg inner packs in a 20kg sack or tub.

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Our reporter, Imogen Levenson from Tufnell Park Pest Control

Lead conservator Liz Rose, left, shows visitors the work being done to repair a 17th century flag used by the East India Regiment

Conservation at first hand

Imogen Levenson, of north London-based Tufnell Park Pest Control has the famous British Library in Euston Road within the area where she does most of her pest control. She took advantage of her British Library membership to attend one of their conservation demonstration days on 25 September and discovered it's not only pests that the conservators do battle with.

As Imogen explains: "One of the benefits of being a member of the British Library is having the chance to visit the conservation areas and meet the experts who work with the collection. Many of these items have suffered deterioration over time, ravages of humidity, temperature, fungus, mould, rodents and insects."

The team all have their specialist areas of interest and the aim of curation is moving from restoration to conservation. Imogen's day started by looking at rare old books which had been repaired following the falling apart of their bindings. Pages were cleaned using specialist sponges, a range of brushes and one particular tool for flattening folded corners – entomological tweezers.

Imogen's favourite section contained a small collection of insect pests including death watch beetles, pscocids, varied carpet beetles and weevils. Behind it was a poster which all pest controllers should be familiar with, the one from English Heritage designed by David Pinniger as a guide to museum pests. Also in the display were demi-diamond pheromone lure holders.

The day progressed to a discussion with the experts who are working through the portion of 11th century Chinese Buddhist scrolls discovered in Cave 17, of the Mogao Caves near Dunhuang, north-west China. Repairs are being made to damaged areas using a light spray of moisture to soften the document and then strengthening them by pasting in sections of Japanese paper, which is very strong due to the length of the fibres. The original parchment was made from mulberry trees, not the outer bark but the phloem. The ink had given some insecticidal resistance, but the opening portions of the scrolls had suffered the most damage from handling.

It's interesting to note that the conservators do not wear gloves when handling the materials as they reduce manual dexterity which could cause damage to the objects. However, all of them had very clean hands with short nails.

An ancient flag was being repaired. This flag was used by the East India Regiment in the 17th century. Over the years it has hung in Government buildings and has been portrayed in the background of paintings now displayed at the British Museum.

Liz Rose, who is the lead conservator, estimated that repair to the flag would take

100 hours. So far it has involved gentle vacuuming and careful washing in a specially designed water bath, copied from ones at the Victoria & Albert museum. The same design of water bath is in use at Eltham Palace, the venue where Imogen was filmed as part of the 2014 TV programme *The Ladykillers*, alongside consultant David Pinniger and English Heritage's Dee Lauder.

Tiny gentle vacuum cleaners are used in the process. There has been significant disintegration. Liz started her career as a screen printer. She designed a support board covered with a printed flag which lies beneath the deteriorated flag to give colour and enable interpretation. Over the top of the flag is a fine net which will prevent the deteriorated silk moving in the future. She is sewing this sandwich together by hand, including the flag pole. As the flag is huge Liz can only work for short periods at a time, reaching across to the middle and allowing her eyes to adjust as she makes fine intricate stiches with a curved needle.

China does it differently

The market for pest control products and services in China is growing at a dramatic rate – as recorded in *Pest 58:* August & September 2018. When it came to hosting the Federation of Asia & Oceanic Pest Management Associations (FAOPMA) Pest Summit our intrepid reporters found things are definitely done differently in China. Stephen Doggett from the Department of Medical Entomology at Westmead Hospital, NSW, Australia was one of the speakers. Gerwyn Jones is the Asia Pacific manager for PelGar International and was responsible for his company's exhibition stand.

The FAOPMA-Pest Summit was held in Shenzhen, a city of 13 million inhabitants, lying in Guangdong Province in southern China. It was hosted by the China Pest Control Association and ran from 26-29 September. FAOPMA is an assembly of the pest management industry associations across the Asia-Pacific and Greater China regions. The theme of the meeting was Pests and Health.

There were some 2,200 conference delegates, representing 28 countries, 600 of whom came from outside China. Last year the meeting was held in Chiang Mai, Thailand and was viewed as an extremely well-run event with an exemplary scientific programme and exhibition. Did this year's meeting match up? The answer in both our reporters' opinion was: "Well, almost!"

Things didn't get off to a good start. Using the online registration process, many registrants didn't receive confirmation of registration and payment. Presentation titles were changed without consulting speakers and communication generally was, shall we say: 'challenging'. The programme itself was only finalised a few weeks prior to the meeting, meaning delegates did not register as there was no way they could determine if it was relevant to their business. Once it was available, for many based outside China there was insufficient time to apply for visas.

Once at the event, the printed programme was little more than a vague guide. Yet, despite these problems, there were a number of notable highlights.

The international keynote speech was provided by Dr Claudia Riegel, director of the Moorish and Termite Control Committee from New Orleans, USA. She gave a fascinating account of zoonotic diseases (those spread by vectors like fleas, ticks and mosquitoes from animals) through the ages from Roman days to the present.

Dr Jianguo Xu, National Institute for Communicable Disease Control and Prevention, gave the local keynote talk. His presentation also focused on zoonotic diseases occurring within China.

In Stephen's opinion, the highlight of the presentations came from David Gay, the past president of the Australian Environmental Pest Managers Association who was recently awarded the prestigious Order of Australia medal for services to the industry. David initially focused on employee entitlements and the challenges these present. However, while laws are present to ensure protection for employees and employers, a good working relationship should be based on more than the law. Job security is the number one reason why an employee stays with a company. David discussed one of the greatest challenges this industry faces; how to attract and keep the best employees.

Dr Hyung Wook Kwon, of Incheon University in Korea, covered the use of the Internet of Things for mosquito surveillance whilst Stephen Broadbent from Ensystex, Australia discussed rodent control focusing on the need to move to more humane killing

FAOPMA President Huang Xiaoyun

Dr Claudia Riegel

Dr Jianguo Xu

Representatives from the Member Associations of the Federation of Asian & Oceanic Pest Management Associations (FAOPMA)

of rats and mice. Internationally, there has been a move away from glue boards, as they do not kill humanely and also rodenticides due to potential non-target effects. Some plastic traps designed to crush rodents have been found to perform poorly, leading to unacceptably slow and painful deaths. Now a number of countries require rodent control devices to meet ethical standards and more countries will head down this path.

Dr David Lilly from Ecolab Global Pest Elimination discussed the potential of fruit (vinegar) flies as vectors of food-borne diseases and reviewed why we should not be complacent about small flies.

Our reporter, Stephen Doggett, principal author of *Advances in the Biology and Management of Modern Bed Bugs* spoke on bed bug control in low income housing and on aircraft; the two scenarios he considers are the most difficult in which to control bed bugs.

On the exhibition side, there were approaching 200 exhibitors. For Gerwyn Jones, this was not a new activity as this was PelGar International's fourth FAOPMA conference. Gerwyn reports a level of anticipation and excitement for this event being held in mainland China. However, his concerns started to creep in some months beforehand – communication was worrying. Even a week before the event commenced, details had still not been finalised.

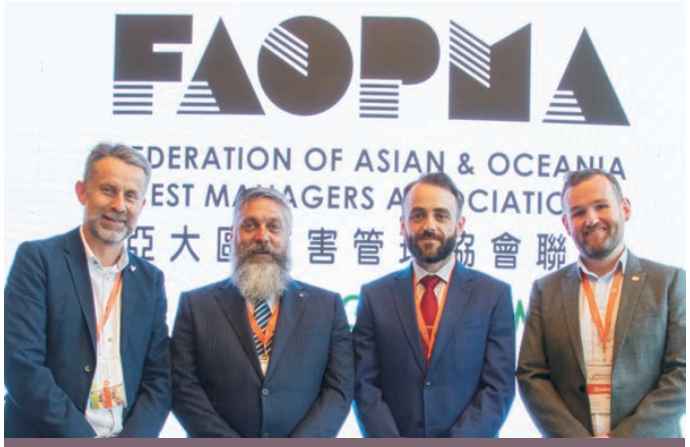
On the day of set-up Gerwyn arrived at the venue enthusiastic and keen to get the stand prepared but: "To the amusement of the Chinese conference staff, who enjoyed the spectacle, I had to put the stand up in complete darkness and with no air conditioning."

At the exhibitor registration desk it became obvious that this was going to be an 'interesting' experience. They had no reference of PelGar being at the exhibition, even though the company name was on the huge printed exhibitor board behind them. Thankfully Gerwyn had had the foresight to print everything out prior to arrival, once provided with this information it resembled something from a Monty Python sketch and exhibitor passes, but nothing else – not even a conference programme – were handed over.

During the first day there was a noticeable lack of water and food at the venue. At previous FAOPMA conferences there had always been cold drinks at hand and food to snack on during intervals. Gerwyn had to buy a carton of water bottles for the stand so that the team could keep hydrated. The lunch provided was in the form of vouchers for the McDonalds located in the basement.

One of the most frustrating parts of both the conference and exhibition was the lack of personalisation of the name badges – they just said 'Exhibitor' or 'Delegate' – so no one had any idea who they were talking to or where they were from!

There were only a handful of British companies present, the most obvious being PelGar International and PestWest Starkeys. *International Pest Control* magazine had supported the event in advance, so one had to feel sorry for publisher, Ras Patel, who had his entire stock of magazines, which he had planned to give away to delegates, confiscated at the border as they had not been pre-screened and cleared by the Government.



Some of the Aussies at FAOPMA, from left: Stephen Doggett, David Gay, Vasili Tsoutouras and David Lilly

Not unexpectedly, the majority of exhibitors and delegates came from mainland China and there were plenty of products made in China on sale.

Whilst organisational issues emerged, it is important to realise that China is bound by social and political constraints. For example, all conferences in China must be approved by the Government, which makes advertising difficult. Hence the lack of an advertised programme. Whilst most professional pest managers in the Asia-Pacific region are hungry for scientific knowledge, the Chinese are more interested in business and cultural aspects with less emphasis on the scientific lecturers. By understanding these cultural differences and limitations, we can come to appreciate the challenges of operating an international meeting in such a country.

The next FAOPMA summit will be in Daejeon, Korea in September 2019. There is no question that the Koreans are one of the world leaders in pest control and this will be a meeting not to be missed.

read more on the web WWW

The presenters 'thank you gift' was great – a glass laser etched with a picture of the speaker; both personal and unique

Chun Siew, right, PelGar distributor from Pherotools Malaysia, with Rupert Broome on the PestWest stand

Visitors from Rentokil Hong Kong on the PelGar stand

Gerwyn Jones, left, with Ethan Vickery from VM Products, USA

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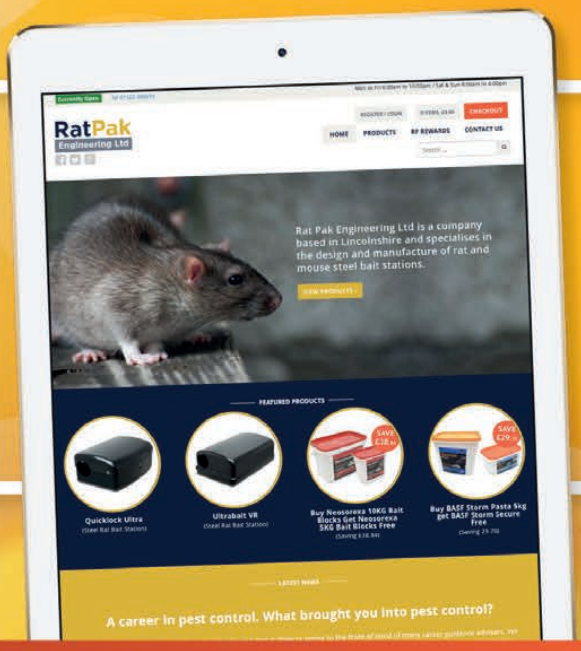

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Norway rat resistance guidelines updated

The guidelines for management of anticoagulant resistant rat infestations in the UK has been extensively updated in the light of new research.

Published by the Rodenticide Resistance Action Group (RRAG), the 9-page, A4 document details the development of resistance from the late 1950s to the present day.

It includes useful definitions of terms such as metabolic resistance, technical resistance and practical resistance. It outlines recent developments in DNA testing which mean that, today, all that is needed is the tip of the tail of a dead rat, sent through the post to the laboratory and a definitive result can be obtained.

The bulk of the document focusses on how to manage rats with one of the five resistant strains known to exert a detrimental effect on the efficacy of rodent control operations.

These strains were originally labelled after the region where they were first identified. However, as they are now found in wider geographical areas they are now listed by their specific genetic mutation. The five are: L128Q (formerly Scottish resistance), Y139S (formerly Welsh resistance), Y139C (formerely Gloucestershire resistance), L120Q (formerly Hampshire/Berkshire resistance).

Download your copy from the ***Pest*** Library or visit www.bpca.org.uk/about/partners/rrag

New improved Pest Partner

To be launched at PestTech is the new and improved Pest Partner app from Bayer.

The rejuvenated app will incorporate the popular features from the existing app, as well as further new innovations. Users can download the new app for free on the Bayer stand.

Amongst the new features is a treatment calculator. This allows technicians to accurately calculate dosage requirements while on the job. Users can simply enter the pest type, product name and application method, then the tool will calculate the correct rate to be applied.

The already popular intuitive product information guide will continue to provide a list of pests that each product controls, as well as the time of year and places the product can be used.

Also included is a camera tool which allows users to take a photo of any troublesome pest and then submit it, for example to a Bayer expert, for identification or advice on the best solution.

Up-to-date safety data sheets and labels will also be available, as well as sections on distributor locations and a live weather forecast.

New CPD hotline set up

BASIS PROMPT has launched a dedicated hotline for members who want an up-to-date tally of their Continuing Professional Development (CPD) points, or need advice on how to earn points and qualify to stay on the register.

The new CPD hotline 01335 301311 is open Monday to Friday from 09.00 to 17.00 and is operated by BASIS PROMPT co-ordinator Chrissie Webster, pictured below.

Stephen Jacob, chief executive officer of BASIS PROMPT, said: "Although there is a minimum requirement to gather 20 points throughout the year, many of our members collect many more and as a result they are increasingly very proactive when it comes to keeping in touch with their running total.

"That is why we decided to set up the CPD hotline specifically to help them, while we are also able to contact training course providers if members think that points they will have received for attending haven't been uploaded yet."

PROMPT Register

CPD hotline: 01335 301311

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Vote now

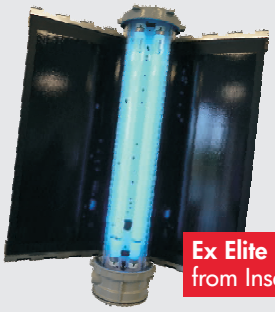
Which of our fabulous finalist products has helped you the most as a pest professional? Take a look at the 11 sensational new products nominated by ***Pest*** readers, then let us know your favourite(s).

You can vote for up to two products, but your second choice will only be taken into account in the event of a tie. Please note, only pest professionals who work in the UK are eligible to vote.

To vote, complete the postal voting form opposite and return it to the editor at the address shown. Alternatively, email editor@pestmagazine.co.uk with your selection. Please include your name and organisation in your email.

Readers can also vote online at www.pestmagazine.co.uk/en/news/posts/2018/september/vote-now-in-2018-best-product-award

Voting closes at midnight on **WEDNESDAY 31 OCTOBER 2018**. The top three products will be announced during PestTech and the winners' certificates and trophy presented.



Ex Elite
from Insect-O-Cutor

Goodnature A24
from Killgerm

Sakarat D Liquid
from Killgerm

Talon Track
from Syngenta

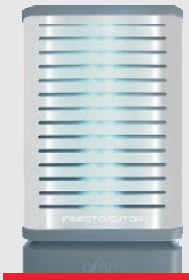
Deadline Fluorescent Tracking Gel from Deadline Products

Nattaro Scout
from Edialux

Rotech Sentry
from 1env Solutions

Halo Aqua
from Insect-O-Cutor

Silverfish trap
from Russell IPM



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from Insect-O-Cutor

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from Lodi UK

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best product award 2018 pest

1

2

Name:

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1 Readers may vote for two products, but may only submit one voting form;
2 Manufacturers/distributors and their employees cannot vote for their own product.
3 Votes submitted after midnight on 31 October 2016 will not be counted.

You can find all the legal stuff at www.pestmagazine.co.uk/en/bpa-rules

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A freezer in your pocket

Killing insects using extreme cold is an established technique – but the equipment required to do this is often heavy, expensive and cumbersome. Now pest controllers can have a freezer in their pocket! Green Hero Frost Spray, developed in Germany by Futura, comes as a handy aerosol and is not only biocide-free, but when sprayed it freezes insects within seconds. Frost Spray, says Futura, is ideal for use for wasps' nests, general indoor pests like spiders and is great for bed bugs.

www.1env.co.uk

www.edialux.co.uk

Find your way around sewers

Finding your way around sewers when you come to treat for rodents is no easy task. Are there any cracks or leaks, or improper connections? Might there be potential entrance ways into properties? To help operators find their way around, Killgerm has added Drain Smokes to its range. Once lit, these non-toxic smokes burn for two to three minutes and produce around 140m^2 of white smoke.

www.killgerm.com

When it's damp or wet

Using rodenticides in damp or wet conditions is a challenge. To help, 1env has introduced two new products from the Muribrom stable. Both contain 0.005% bromadiolone and can be used in and outdoors.

The smaller of the two, the 31g Muribrom extruded wrapped block is ideal for damp conditions and locations where slugs and snails are an issue. Each block is individually wrapped in a printed plastic wrapper to prevent them from eating the bait. This makes the block easy to use yet still attractive to rodents.

As the name implies, Muribrom mega block is a larger 100g block. 1env say it is extremely durable, making it ideal for sewers and damp conditions. It comes with a tethering wire embedded.

www.1env.co.uk

Two shades of grey!

The latest insect non-toxic lure from Russell IPM is designed to capture not only silverfish (*Lepisma saccharina*) but also greyfish (*Ctenolepisma longicaudata*) also known as grey silverfish or long-tailed silverfish. Called Silvercheck, Russell explains it is the only trap on the market that monitors both silverfish and greyfish. Although rarely seen, as they generally move fast and hide, both these pests are becoming a problem in homes and public buildings globally. The monitor will help protect against the damage caused to wallpaper, books, leather, clothes and antique collections.

www.russellipm.com

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Diary dates

23-26 October 2018

PestWorld 2018
Walt Disney World Swan and Dolphin Hotels, Orlando, Florida FL, 32830
www.pestworld2018.org/

7 November 2018

PestTech 2018
Arena MK, Stadium Way, Bletchley, Milton Keynes MK1 1ST http://npta.org.uk/pesttech/

8-9 November 2018

PERUPLAGAS 2018
Ricardo Palma University, 33, Av. Alfredo Benavides 5440, Santiago de Surco 15039, Lima, Peru
http://peruplagas.pe/

14-16 November 2018

Parasitec 2018
Paris Event Center, 20 Avenue de la Porte de la Villette, 75019 Paris, France www.parasitec.org

15 November 2018

SOFHT Annual Lunch and Awards 2018
The Brewery, 52 Chiswell St, London EC1Y 4SD
www.sofht.co.uk/events/annual-lunch-and-awards-2018/

27-29 November 2018

Global Bed Bug Summit 2018
Sheraton Denver Downtown Hotel, Denver, Colorado, USA
https://npmapestworld.org/education-events/upcoming-events/global-bed-bug-summit/

Need to claim CPD

If you're collecting Continuing Professional Development (CPD) points as a member of BASIS PROMPT then the number you need to claim the two points available for reading ***Pest*** magazine throughout 2018 is: PC/62676/18/g

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Can you pass the pest test?

Pest Test 59

Also online

BASIS has made two PROMPT CPD points available if you can demonstrate that you have improved your knowledge, understanding and technical know-how by passing the ***Pest Test***. So, read through our articles on on Permanent baiting (pages 13-15), Moths (pages 19 & 20), Urban rodents (pages 25-28) and New cockroach about (pages 30 & 31) and answer the questions below. Try to answer them all in one sitting and without referring back to the articles.

SEND COMPLETED QUESTIONS to: ***Pest*** Magazine, Foxhill, Stanford on Soar, Loughborough, Leicestershire LE12 5PZ.

We will mark your ***Pest Test*** and, if all answers are correct, we will enter the results onto your PROMPT record held by BASIS.

1 Only two actives might be authorised for permanent baiting although not all products containing them will be. Which two?

- a) coumatetralyl & difenacoum
- b) bromodiolone & difenacoum
- c) coumatetralyl & flocumafen
- d) brodifacoum & bromodiolone

2 In which area was the greatest number of webbing clothes moths caught?

- a) North East England
- b) West Midlands
- c) East Midlands
- d) South East England

3 What % decline did the small tortoiseshell butterfly suffer in 2018?

- a) 23%
- b) 32%
- c) 40%
- d) 73%

4 Which of these is not a bacterial pathogen?

- a) Shigella
- b) *Toxoplasma gondii*
- c) *Clostridium difficile*
- d) *Escherichia coli*

5 How many reported deaths were there in the US from food poisoning caused by salmonella bacteria?

- a) 200
- b) 300
- c) 400
- d) 500

6 What is the key distinguishing feature to use to identify *Ectobius vittiventris* from *Blatta. Germanica*?

- a) It is much bigger
- b) Its pronotum has no longitudinal stripes
- c) It is significantly darker in colour
- d) It moves in a different manner

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