

# pest

The independent UK pest management magazine

## Game-changing mosquito management

Issue 66  
December 2019 & January 2020



UK Rodenticide  
Stewardship reviewed



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Terminix vans roll back  
into the UK



18

Plenty to hear and see  
in Milton Keynes



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2019 readers' choice  
announced at PestTech



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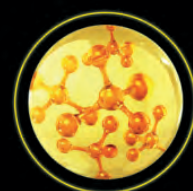
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### Editorial contacts:

Editor & publisher: **Frances McKim**

Associate editor & publisher: **Helen Riby**



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**Frances McKim**

### Technical advisory board

Dave Archer	Clive Boase
Dr Alan Buckle	John Charlton
Brian Duffin	John Charlton
David Loughlin	Adrian Meyer
Dr Richard Naylor	Dave Oldbury
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Grahame Turner	

### 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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Tel: 01509 233219

Or write to us at:

**Pest**, Foxhill, Stanford on Soar,  
Loughborough, Leicestershire LE12 5PZ  
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## Winter wonderland

What an autumn! First the floods and now the cold weather. Our sympathies obviously go to anyone who suffered in the floods, but, now, with winter having officially arrived, so has the cold.

Every cloud however has a silver lining and our rodent friends are certainly making a B-line for warmer accommodation – hopefully not in the editor's loft again (see page 43)! All good business for pest professionals. In fact Rentokil recently announced that their enquiry levels at the end of November were 20% higher than the five-year average.

Winter is also a time for reflection. In this issue we review the two leading events of the autumn – PestWorld (pages 22 & 23) plus bumper coverage of PestTech (pages 32-35). So, we now look forward to the start of another year.

Also in reflective mood, we take a look back at the progress made with rodenticide stewardship (pages 13-17). There's been a lot and, make no mistake, if we hadn't got stewardship we'd be facing huge restrictions; even the prospect of no rodenticides approved for outdoor use! Rob Fryatt is in reflective mood too looking at the enormous strides that have been taken in combatting mosquitoes and how the market for professional mosquito control has grown (pages 24-26). Looking to the future, Peter Trotman encourages everyone to get ready for the digital age of rodent management (pages 30 & 31).

That just leaves us to wish all our readers a very happy Christmas and a prosperous new year.

*Frances McKim*

Interpreting the news at [www.pestmagazine.co.uk](http://www.pestmagazine.co.uk)



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## Woodstream acquires Dynamic Solutions

Based in Pennsylvania, USA, Woodstream Corporation has announced the acquisition of Dynamic Solutions Worldwide from Milwaukee, Wisconsin, maker of DynaTrap flying insect traps.

With a UK base in Oakham, Rutland and maybe best known in the pest control business for the company's Victor branded products, this may well mean further additions to their European product range.

## Durham County Council celebrates

The pest control team at Durham County Council was delighted to once again be awarded CEPA (Confederation of European Pest Management Association) Certified status. Pest control team manager, Mark Farren said: "I am delighted that our team has been recognised once again. Between us all, the team boasts 120 years' collective experience in the pest control industry."

With a team of ten technicians, Durham CC runs a full commercial pest control service for both domestic and commercial properties.

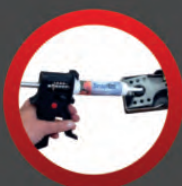


Some of the Durham pest control team. From left: Andy Denholm, Phil Hunt, Stephen Meek, Kevin Lawrence, Stuart Harrison, Daniel Roxby (front), Phil Sever (rear) and Mark Farren

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## Killgerm branches out into Scandinavia

On 1 November the Killgerm Group announced the completion of its acquisition of Milluck AB. Founded in 2007 by Per Nilsson and based in Malmö, Sweden, Milluck is the leading supplier to the professional pest control market both in Sweden and elsewhere in Scandinavia.

Commenting on the acquisition, Rupert Broome, Killgerm group managing director, said: "Our Killgerm and PestWest operations have had a longstanding relationship with Milluck since the business was founded. Per Nilsson has built an excellent operation which is very similar in many ways to our operations within the Killgerm Division. As such, there is a natural fit between our businesses. Also, the dedication and professionalism of Per and his team is absolutely aligned with the values of Killgerm."

"Acquiring a physical presence in this important Scandinavian market will complement and strengthen our existing operations in Belgium, Germany, The Netherlands, Poland, Spain, Switzerland and the UK. I am delighted that the existing team, led by Per Nilsson as managing director, will continue to drive the business forward under the banner of Killgerm Scandinavia."



## Success comes in threes

Norfolk-based NBC Environment is celebrating the successful signing of three contracts.

Veolia, the waste, water and energy management company, has signed a new contract for the next three years worth a total of nearly £1m for bird control services. NBC already has a successful 16 year working relationship with them.

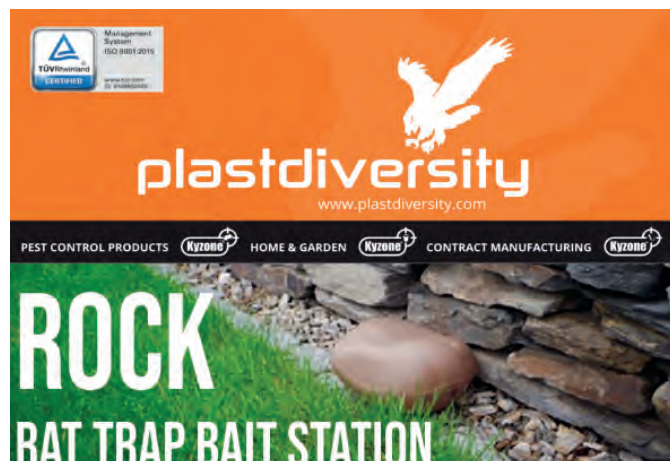
Secondly, NBC has been awarded a three-year contract, worth in the region of £1.5m, with The VPS Group, the temporary or emergency property management group. Deciding to out source its pest control, VPS selected NBC to provide a nationwide service.

Completing the trio of wins, is a two-year extension to an existing contract with Thames Water. Here NBC Environment protects Thames Water's large rural estates, not only from the risk of conventional pests, but also by managing birds and other wildlife.



NBC Environment's John Dickson

NBC Environment's John Dickson commented: "These wins coincide with recent funding which has secured ongoing growth and development for the business. NBC Environment now employs some 120 staff, including over 50 falconers, making us the largest employer of falconers in Europe."



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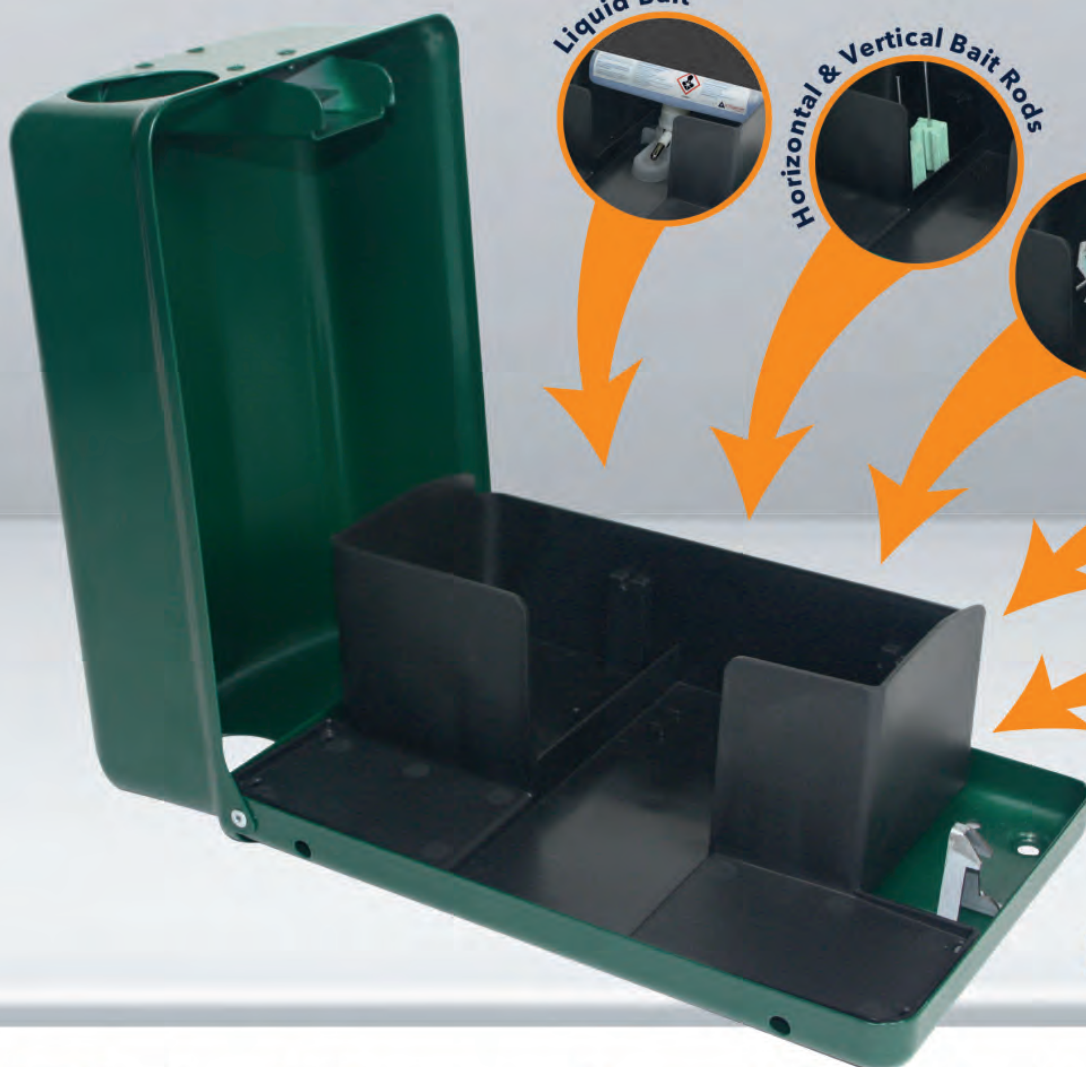
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## New tick-borne virus in the UK

On 29 October 2019, it was confirmed that tick-borne encephalitis virus (TBEV) had been detected for the first time in ticks in the UK. It was found in two locations – Thetford Forest and an area on the border between Hampshire and Dorset.

Just as is the case with Lyme disease, which readers have read about before

(see **Pest 57**: June & July 2018), tick-borne encephalitis (TBE) is an infection spread by tick bites and is endemic in mainland Europe and Scandinavia, as well as Asia.

It is not surprising that TBE virus has found its way to the UK as birds from TBE virus-endemic countries migrate to this country so it is reasonable to suppose that this may have been the route of introduction of the virus into the UK.

The findings are part of ongoing research by Public Health England and the Emerging and Zoonotic Infections National Institute for Health Research Health Protection Research Unit at the University of Liverpool.



© Richard Baritz

The culprit – *Ixodes ricinus*

## Two great business initiatives

Two proactive initiatives to help grow the business have just been revealed by Norfolk-based Abate Pest Management. The first is an interesting variation on franchising. Last year Abate announced that it was looking for franchisees throughout the UK, but, despite receiving interest from people from both inside and outside the industry, to date, no franchises have been awarded.

Jonathan White, sales and marketing manager explains: "One of the key areas of interest came from hardworking, talented and trained pest technicians, who really liked the thought of owning their own business under the Abate franchise umbrella. This would give them instant access to credibility, accreditations, certifications and support to help them run their business. "However, the money needed to join a typical franchise is quite high, meaning few could afford to take the decision to branch out on their own."

This led the company to turn the franchising concept on its head. "We want to remove the lack of money as the barrier so we are looking for qualified technicians to join our business, not as employees, but as fully fledged business partners. We will be in business together, having a direct vested interest in their success. It will be their business with Abate as minority shareholders. If people can demonstrate to us that they have the capacity and desire to succeed in business, then that's potentially a winning combination," Jonathan explained.

Abate calculate that the minimum cash needed to start one of the new Abate franchises is £6,450 plus VAT and some working capital. If this appeals, Abate is looking for business partners in Lincolnshire, Essex, Hertfordshire, Bedfordshire, Peterborough and Northants, but is open to conversations from pest professionals in other parts of the UK.

### Apprenticeship scheme

The company's second initiative is to seek two new apprentices to join the Abate tailored internal apprenticeship scheme which will commence in January 2020. The programme consists of a two year training scheme where individuals will gain industry recognised qualifications including a Level 2 Award in Pest Management. In addition, learning will include workplace skills, health and safety, food safety, customer service, environmental, legislation and aspects of how technology plays a part in the industry. If interested contact Abate at [info@abate ltd.co.uk](mailto:info@abate ltd.co.uk) before Christmas.



Abate's Jonathan White: "We're turning franchising on its head"

## Rentokil voted best company to work for

Data released by the world's biggest job site, Indeed, has revealed that Rentokil Initial is the best company to work for in the UK.

The findings come from reviews posted this year on Indeed's website by tens of thousands of private sector employees who have used the site. This elevation to top-spot relegates the 2018 winner, the global tech giant Apple, to second place.

Rentokil came top for its job security and advancement, with staff praising how it promotes from within, the good work-life balance and the company's positive culture. In reviews, staff described having high job satisfaction and doing fulfilling work.

Andy Ransom, CEO of Rentokil Initial commented saying "We focus on getting it right for our people and in turn they provide a great service to our customers. We'd be the last to claim that we always get it right, but we're committed to the long term investment in our people and their progression and development.

"Our approach is to ensure that we have a culture in place where everyone can develop their career through industry-leading training and be recognised for doing so."



Pest professionals certainly see some sights. But, this one, spotted in a fast food shop in Nottinghamshire, must be one to remember!

"Staff obviously weren't using the hand basin to wash their hands, but the rats were taking full advantage of it as a watering stop," explained Martyn Belcher of Mansfield-based ABM Pest Control.

"You can see the tell tale marks highlighting this activity."

Martyn not only sent the photograph to us at **Pest**, but it also went, with a suitable report, to the local authority Environmental Health team.



## PROMPT appoints its first chief operating officer

BASIS PROMPT has appointed a chief operating officer (COO) to help drive the organisation forward and grow its membership further, Linda Lippiatt.

The move to PROMPT marks a change for Linda, who has previously worked across the agriculture sector and was most recently head of operations at pork processing firm Tulip in Redruth, Cornwall.

A farmer's daughter, she says that her experience in the agriculture and food industries has prepared her well for her new role; not least because both industries rely heavily on the professionalism and expertise of the pest control industry.

She said: "Whenever you store food or grain you are going to attract pests and a pest problem that gets out of control can be catastrophic for producers.



"I am fully aware of the need for a robust pest control culture and a strong working relationship with a professional pest control company, both of which underline the need for businesses in our industry to invest in ongoing CPD and be members of a register such as PROMPT, which now represents more than 5,000 pest control professionals from across the UK and Republic of Ireland.

## A touch of Italian flair added to Lodi UK

Professional pest control manufacturer and supplier, Lodi UK, has appointed Sam D'Angelo as its new marketing coordinator. Sam's remit is to bring a dynamic and creative approach to this role using his international experience and innovative branding methodologies.

Sam holds a BSc degree in chemistry from Cardiff University during which time he also spent one year studying in Bologna, Italy. After graduating he worked in Italy for three years developing a European business and digital marketing strategy for an Italian company. By birth Sam is half Italian, so it comes as no shock to discover he is a fluent Italian speaker, as well as also speaking some French – a useful asset as Lodi's headquarters are in Grand Fougeray, France.

"It's great to join the Lodi UK team. I'm really looking forward to overseeing the diverse marketing activities of such an expanding and innovative company," explained Sam who was spotted helping on the stand at PestTech.



## David joins the Pest Technical Advisory Board

**Pest** is pleased to announce that David Loughlin is joining the **Pest** Technical Advisory Board. He brings a depth of expertise in pest management, with a particular interest in biocontrol. Editor Frances McKim commented: "Biocontrol will play a much bigger part in pest management in future so it's great to have David on board."

David holds a masters in pest management (1984) and was initially employed in research and horticulture before working through three iterations of the Environmental Health unit at Berkhamsted, (1990-95) where he helped bring Maxforce, the first cockroach bait product, to Europe.

A short move to Sandoz working on S-methoprene markets was followed by four years in the food industry. He moved into the pheromone and biocontrol sector in 2003, first at Exosect then AgriSense. In 2011 he founded Sentomol, an insect pest management business offering an extensive product line of insect trapping and monitoring systems. Sentomol recently



expanded with the acquisition of the online PestTrader business, which connects suppliers and develops and markets innovative products from around the world.

He was Editor of *International Pest Control* (2012-18) and is an active member of the Steering Committee that organises the Annual Biocontrol Industry Meeting (ABIM).



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## BASF appoints new country sales manager

Yet another industry professional making their debut outing for their new company at PestTech was Anthony O'Hare. He has joined BASF as country sales manager, leading Professional and Specialty Solutions for the UK & Ireland. He will support the existing team at a crucial time for BASF as the business launches several new products, so expanding its range in both the urban and rural pest control sectors.

Based near Liverpool, Anthony will be covering the UK along with colleagues Helen Ainsworth, Charlie Ives and Gavin Wood to provide the full range of BASF solutions to the supply chain.

Anthony too is a seasoned campaigner, having over 20 years' pest control industry experience. He has previously worked in sales, operational and leadership roles for global servicing companies such as Rentokil, ISS and Cannon Pest Control. He said: "I am excited to be part of the BASF team as we continue to develop and grow our business in the UK with innovative pest control solutions while putting a focus on how we can best support our customers' needs and requirements."



## New Killgerm sales manager for the north



Killgerm has appointed Rob Simpson as area sales manager for the North of England. Rob takes over from Ian Parry who is retiring. Rob comes equipped with bags of practical pest control experience having spent the last 17 years working for Rentokil Pest Control. He started as a pest control surveyor but has spent the last 13 years running Rentokil branches throughout the North West, from the St Helens office.

Rob says: "I hope my experience in running pest control operations will help me support Killgerm's customers over the coming years." He adds: "It will be exciting to develop new relationships with other industry figures and to be at

the forefront of pest control products and support."

Rob is a true Lancashire lad – born in Wigan, raised in Preston, a graduate from Manchester University but now based in Cumbria. Unusually he has a BSc from Manchester in medical informatics – for those who have never heard of this – its part IT, part medicine and part management.

## New international role for Dawn



Dawn Heptinstall-Bolton has joined Oklahoma-based Trécé Inc as business development manager based in the UK. Trécé is a leading American manufacturer of insect monitoring systems and pheromones. Her role will be to support the company's growing business interests in Europe, the Middle East and Asia.

Dawn is well equipped to undertake this position. For the last three years she has been the European sales manager for South Wales-based Agrisense Industrial Monitoring, a role she had previously undertaken from 2007-2013, returning to that company in 2016. During her two tenures at Agrisense, Dawn led the way in expanding the firm's sales in the Middle East, Turkey, Australia,

New Zealand and other regions. In between these spells at Agrisense she was sales manager at rodent control product manufacturer, Woodstream Europe, based in Oakham, Rutland.

Bill Lingren, Trécé owner & founder, commented: "Dawn's active involvement in every stage of the supply process has helped her establish a solid reputation for successfully seeking out and developing new regional distributors—and for observing and meeting the needs of customers. I am confident that she will use those same skills to drive our international expansion."

## David moves to 1env



Another well known industry expert spotted at PestTech for the first time on the Essex-based 1env Solutions stand was David Helgesen.

David had just joined the 1env technical sales team. Living in Lincolnshire, David will cover East Anglia, the Midlands and the Home Counties, visiting existing customers whilst also developing new business relationships.

David has a wealth of experience in the industry, going back 30 years.

For a length time he was a surveyor for Terminix, gaining first-hand practical pest control experience. After this he had a spell as a national business development manager for a company supplying the non destructive testing industry. More recently he was business development manager for Lincoln-based Rat Pak Pest Control Products.

## New divisional director at Cliverton



Mark Briggs has joined Norfolk-based insurance specialists, Cliverton, as the company's new divisional director. Cliverton arranges and tailor-makes pest control insurance policies and is part of the Lycetts Group of companies. Mark's brief is to spearhead its ambitious growth plans. He brings with him more than 20 years of insurance experience, including senior management positions at Aviva. He succeeds Andrew Ball who has retired.



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# Yet more regulatory madness hits pest professionals

In October the latest report into rodenticide resistance commissioned by the Campaign for Responsible Rodenticide Use (CRRU) as part of the UK Rodenticide Stewardship Regime monitoring programme was published. The headline result that resistance had leap-frogged to new areas was widely reported by ourselves and the other professional pest management press. But, what wasn't picked up at that time was the regulatory madness that has effectively undermined a pest professional's ability to control house mice using the permanent baiting technique.

## Owl data, not good news!

2018 was the first full year when all the UK Rodenticide Stewardship activities were in place, so it had been hoped that there might be some good news from the *2019 Rodenticide Residues in Barn Owls* stewardship monitoring report from the Centre for Ecology and Hydrology (CEH). Unfortunately no statistically significant change was recorded. Low, but detectable, anticoagulant rodenticide residues were found in 87% of barn owls. The equivalent figure in the baseline years was 81%.

The scientists measured anticoagulant residues in the livers of 100 barn owls that died in 2018 in locations across Britain. The residue data has been compared with the data from 395 barn owls that died between 2006 and 2012, the baseline years.

The key findings were:

- 87% of owls had detectable liver residues. The equivalent figure in the baseline years was 81% but it had varied between 78% (2016) and 94% (2015). No statistical difference between the baseline year and the 2018 findings;
- Some 67% of the owls had livers with multiple compounds;
- As in the baseline years, the compounds detected most frequently were bromadiolone, difenacoum & brodifacoum;
- There was no significant difference for any individual compound, or for summed anticoagulants, although a decrease in the proportion of birds with 'high' difenacoum residues approached significance;
- No significant difference in the proportion of barn owls with detectable liver residues of flocoumafen, but there was a significantly higher proportion with residues of difethialone.

Commenting on the findings, Dr Alan Buckle chairman of the Campaign for Responsible Rodenticide Use (CRRU), which is co-ordinating the UK Rodenticide Stewardship Regime said: "Best practice by a responsible majority will not be enough. It's a must for everyone, without exception or excuses.

"In 2020, there will be an official in-depth review of the regime's implementation and impact on wildlife. For it to be judged effective, lasting reductions in rodenticide residues carried by non-target wildlife are expected. Without such evidence, we should anticipate further restrictions on how rodenticides can be used, and by whom. Clearly, this places responsibility squarely in users' own hands."

It is, we suspect, another example of the law of unintended consequences.

The resistance report adds yet more evidence to show that house mice are widely resistant to difenacoum and bromadiolone. Products containing these active substances are not recommended against house mice but, these two active substances are the only ones legally permitted to be used in a permanent baiting regime. As pest professionals know, permanent baiting is often required to deal with house mice. It is generally used indoors where the risk of non-target animals gaining access to the bait is extremely low and yet product labels, which are legally binding, now prevent the use of the actives that will deal with the problem.

Something needs to be done about this anomaly and fast.

Meanwhile for those who missed it the report shows:

- 93% of house mice carry at least one rodenticide resistant gene. A total of 35 house mouse tissue samples were collected, all showing one or other of the highly prevalent Y139C and L128S mutations. Although the total number of records for house mouse is small, these new data show the wide extent of house mouse resistance to anticoagulants across the UK;
- 61% of Norway rats carry at least one resistant gene and almost half have inherited the gene from both parents. This confers the highest level of resistance. A total of 140 Norway rat tissue samples were analysed, among which 85 carried one of five different resistance mutations (Y139S, Y139C, Y139F, L120Q, L128Q);
- Resistance in Norway rats was found for the first time in Durham, Northumberland, Tyneside and North Yorkshire, Greater Manchester and along the River Severn valley from Somerset to north west Shropshire, northern East Anglia and Devon;
- These new locations add to an existing widespread presence in central southern England. One of the genes previously identified only on the Anglo-Welsh border was found in North Yorkshire, Merseyside and Essex. The most severe resistance gene, already present in much of central southern England, was found for the first time in Devon. A third new resistance mutation (Y139F) was found among rats in Greater London.

## Some better news for stewardship

Just over two-thirds of farmers no longer use permanent baiting around the farm. Instead, they employ measures such as tidy yards and rat-proofed buildings, cats or terriers, traps and shooting, in combination with tactical rodenticide only when needed.

The findings come from two different studies by Ulster University and the Campaign for Responsible Rodenticide Use UK, involving 247 farmers in total.

Encouragingly, Ulster University's study in particular also found strong links between the use of non-rodenticide controls and the employment of professional pest control contractors and/or farmers who undertook a rodent control training course.



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# We're lucky to have stewardship! Or, are we?

When **Pest** launched eleven years ago at PestTech 2008 little did we know that we would be documenting a seismic shift in rodent control practice. But, have the changes been for the better or just made life harder? Associate editor Helen Riby reflects on the UK Rodenticide Stewardship Regime and looks back to why it was introduced in the first place.

If you've joined the industry in the past two or three years the extent of the changes impacting rodent control may have passed you by. Rodenticide stewardship has become part of normal practice for many pest professionals. Back in 2008 however, the word 'stewardship' was never associated with rodenticides, nor for that matter any pest control activity – well not at the sharp end of the business anyway! The word was very probably used in the offices of the multinationals as it had already become commonplace in the agricultural side of their businesses.

At that time, 'CPD' was still a mysterious acronym and 'certification' was something that really only affected the specialist area of large-scale fumigation. Remarkably no-one needed any sort of qualification to set up as a professional pest controller, although to be fair many did choose to get their RSPH/BPCA Level 2.

## Blissful ignorance

Whilst those actually using rodenticides were blissfully unaware, it was as far back as 2007 that the active substances in rodenticide products started to fail European Commission risk assessments. Between 2007 and 2011 all of the anticoagulant actives failed the Commission's hypothetical environmental and human health risk assessments meaning that, strictly, they should be banned from the market.

The only thing that saved them was that

there was no viable alternative. That defence however, was only allowed after a great deal of lobbying from the industry. Lobbying was necessary because the Commission had initially decided that the get out clause of 'no suitable alternative substance nor technologies' would not be permitted for any rodenticides, nor insecticides used in pest control.

At the forefront of this lobbying exercise was the then chairman of the chemical industries association CEFIC's Rodenticides Working Group, one Dr Alan Buckle. Yes Alan has been central to the defence of rodenticides long before the Campaign for Responsible Rodenticide Use (CRRU) was called upon to coordinate the development of a UK Rodenticide Stewardship Regime.

Indeed in Issue 9 of **Pest** magazine, published in May 2010, Alan was

announcing the good news that some commonsense had prevailed and the rodenticide actives had made it through the Biocidal Products Directive (BPD) review, although with some major caveats.

These caveats included only getting approval for five years rather than the usual ten. There was also great emphasis in the approval documentation on risk mitigation measures especially to protect the environment and to prevent primary and secondary exposure to non-target animals.

These environmental concerns (real or imaginary) would go on to play a fundamental part in the drive that led to the UK Rodenticide Stewardship Regime.

## Almost banned

In the subsequent edition of **Pest** (July & August 2010), Alan was back to report on yet another battle, this time with the European Parliament's Committee on Environment, Public Health and Food Safety, known as ENVI. This extremely influential committee was debating the content of the draft Biocidal Product Regulation (BPR) and it almost voted through wording which would have severely





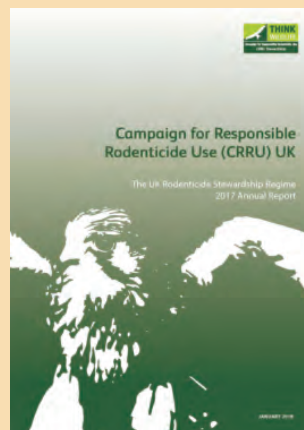
# Practical implications of rodenticide stewardship

Newcomers to professional pest management might not be aware of the significant changes the UK Rodenticide Stewardship Regime has delivered. For them many of these activities are simply ordinary practice. For those who have lived through the implementation it is often good to reflect on what's changed, so here's a summary of the key practical changes:

- Stewardship covers all types of professional users – farmers, gamekeepers and pest professionals;
- The qualifications that determine who is a professional have been identified. The main ones for professional pest control are:
  - RSPH/BPCA Level 2 Award in Pest Management;
  - RSPH/BPCA Level 2 Certificate in Pest Management;
  - Killgerm Principles of Rodent Control;
  - RSPH Level 2 award in the safe use of rodenticides;

Visit the CRRU website for full details [www.thinkwildlife.org](http://www.thinkwildlife.org);

- Proof of competence is now a legal requirement for purchase and use of professional strength rodenticides. No proof, no supply. For gamekeepers and pest professionals that's a recognised certificate of competence. For farmers it can also be membership of a CRRU approved farm quality assurance scheme. See CRRU website at [www.thinkwildlife.org](http://www.thinkwildlife.org) for a list of approved schemes;
- Suppliers, whether physical or online, must hold a copy of a customer's certification before supplying professional rodenticides and compliance with point of sale checks is audited by BASIS;
- It is also now a legal requirement to follow best practice when using professional rodenticides. This is because product labels refer users to the CRRU UK Code of Best practice (or equivalent) for guidance and what's on the label must be followed;
- The product label is the source of other important stewardship



information and, in particular, covers whether or not a product is approved for use in permanent baiting. CRRU has also published detailed guidance on the practice of permanent baiting;

- Users must conduct environmental risk assessments and document their actions and choice of control measures following the hierarchy detailed in the CRRU Code of Best Practice. The objective is to use the management method with the lowest risk to wildlife whilst also being an effective control.



curtailed the use of rodenticides and actually banned them in many important areas of use.

Again the industry just managed to get that wording changed and so allow the continued use of rodenticides in Europe. But, make no mistake, the opinion of the Commission, ENVI and indeed much of the European Parliament was (and probably still is) that rodenticides are bad news and they would like to be rid of them.

### National interpretation

Within the new BPR, when it arrived, it was also made abundantly clear that national interpretation was expected. The final decisions on the risk mitigation measures to adopt were to be left in local hands and, for the UK, that meant the Health & Safety Executive (HSE) in its role as the UK competent authority for biocides.

It was because of this requirement that, in August 2012, the HSE published documents on the environmental risks of second-generation anticoagulants (SGARs) and the risk mitigation measures available and began a public consultation on options for their regulation.

In April 2013 the HSE held a meeting with manufacturers, other stakeholders and environmental groups to discuss the result of the consultation. The main outcome from this was that there should be a stewardship programme. The HSE also made it clear that without stewardship no outdoor rodenticide use would be permitted. In other words the use of rodenticides to combat rats would be virtually eliminated.

But, who would step forward to create a stewardship programme? Fortunately the industry already had the Campaign for Responsible Rodenticide Use (CRRU) which had been running the Think Wildlife campaign and associated Wildlife Aware training for pest controllers. In June 2013 HSE invited CRRU UK to organise and co-ordinate a stewardship programme.

CRRU chairman Dr Alan Buckle commented at the time: "CRRU welcomes the opportunity to co-ordinate this important stewardship initiative. It is now in the hands of the suppliers and users of rodenticides to show that these essential products can be applied without unacceptable impacts on UK wildlife."

Over the following two years, 2013-2015, CRRU negotiated with stakeholder groups and the HSE to create an acceptable framework for the UK Rodenticide Stewardship Regime. This was no easy task.

Farmers, gamekeepers and pest controllers' organisations didn't always agree but, gradually, a format emerged which was acceptable to both the HSE and the Government Oversight Group it reports to for stewardship as well as being something all stakeholders could sign up to.

### Monitoring scheme essential

In discussions HSE made it clear that a monitoring scheme must be agreed and in place before stewardship could progress. The industry not only had to lead this effort but also had to pay for the agreed monitoring. See box below on the data required.

Finally on 24 July 2015 after many months of blood sweat and tears CRRU launched the UK Rodenticide Stewardship Regime.

### So why this history lesson?

Well, before attempting to judge the impact of the UK Rodenticide Stewardship Regime it is essential to understand the background to its development.

Since its introduction, stewardship has come in for a fair deal of criticism in the online forums and at meetings up and down the country. Some criticise it for being too lenient – for example letting farmers buy professional products when they are a member of an approved farm assurance scheme rather than making them all get a qualification.

Some maintain that the new 'Safe use of rodenticide certificates' in our sector that allow users to buy and use professional rodenticides are too easy to get.

Others have pointed to the lack of policing and the problem of online sellers of

rodenticides not following the rules.

Yet others moan about having to do risk assessments and document their decisions.

And others have complained about the vagueness of the 'in and around' buildings text on product labels.

**But, make no mistake without stewardship there would be no outdoor use of rodenticides so, whilst stewardship has had its frustrations, there is no doubt in my mind that without it we would be in a far worse position.**

### Positive benefits

Indeed stewardship is bringing many positive changes and helping to professionalise the way rodent control is conducted outdoors in the UK:

- Qualified pest professional now have the power to choose the best product for the circumstances they are faced with. Gone are the artificial restrictions that meant that the most potent single feed rodenticides could only be used indoors; a restriction that many scientists believe is at least partly responsible for the UK having the world's most severe and widespread resistance mutations in Norway rats.
- Stewardship is making pest controllers think more laterally about how rodent problems can be solved. There's a greater use of traps, monitoring baits and even empty latent bait stations that only come into use when an infestation is detected. Pest technicians are becoming problem solvers, not bait box fillers. Although it has to be said not everyone is yet on that page – Rome wasn't built in a day. ▶▶▶

## Data required by HSE/Government Oversight Group

- 1** Environmental impacts (monitoring compliance)  
Data from Centre for Ecology & Hydrology annual survey of residues in livers of 100 barn owls (carcasses sent in no barn owls killed for monitoring purposes); annual survey of barn owl breeding performance; annual review of Wildlife Incident Investigation Scheme (WIIS) incidents
- 2** Whether rodenticides are effective and the workforce competent  
Data is provided from annual report of training uptake and award of certification/qualification by CRRU-approved awarding body; annual report of number of members of CRRU-approved farm assurance schemes; provision of relevant best practice guidance documents; promotion of regime objectives and awareness by stakeholder organisations
- 3** Resistance monitoring and competent workforce  
Annual report of status of resistance monitoring in UK and elsewhere in Europe
- 4** Awareness of workforce and compliance with stewardship  
Data is provided by Knowledge Attitude and Practice (KAP) surveys in 2017 and 2019
- 5** Point of sale information (supply chain governance)  
By point of sale compliance audits by independent organisations



- The associated paperwork might be a pain but it is an essential tool in raising standards and provides data that can be used to target effort to the right places saving time and cost.

As for the critics, yes, many of the criticisms are true. Policing, in particular, is difficult. There will always be those who flout the law.

But, just because something's not perfect doesn't mean it's of no value. Attitudes don't change overnight. Progress is nearly always evolutionary not revolutionary.

Indeed, in looking back over the 11 years of **Pest**, which I have done to compile this article, it is clear that there has been a massive change in the professionalism of much of our industry and, change for the better.

Rodenticide stewardship is just one aspect of the progress made but we're not out of the woods yet.

Stewardship is now in the monitoring phase and, ultimately, the judgment will not depend on how many people are qualified or how many downloads there have been of the Code of Best Practice.

The proof of the stewardship pudding will be a reduction in the environmental impact of outdoor rodenticide use. The key measure the HSE and the Government Oversight Group is watching is the amount of anticoagulant found in the livers of barn owls.

More specifically, the HSE has said that 'There should be a significant decrease in the exposure of the sentinel species – barn owl – in terms of sum residues of SGARs detected in livers of barn owl carcasses collected over the first four years of stewardship.'

## So where are we now with barn owls?

So far there has been no significant change. The 2018 report from the Centre for Ecology & Hydrology which is doing the barn owl work did show some movement in the right direction, but it wasn't statistically significant. The 2019 report just out (see page 11) identifies neither an increasing nor a decreasing trend in rodenticide residue incidence. This report is based on owl carcasses collected in 2018 which was the first year all elements of the UK Rodenticide Stewardship Regime were in place. The general consensus is that there will be a biological lag in the system let's hope the 2020 report from owls collected this year shows some definite improvement.

## What if it there's no improvement?

Rodenticide users have until the end of 2020 to show stewardship is working but, after that, if there is no improvement the HSE has suggested there could be restrictions on:

- Who can use rodenticides – maybe only 'trained professional pest control technicians'?
- How they can be used? No permanent baiting, no burrow baiting?

- Where they are applied? No 'open area' uses? Even a restriction to indoor only use i.e. a complete ban on outdoor anticoagulants.



## What about insecticides?

Insecticides are also increasingly under regulatory threat. If proof was needed look no further than at what's happened to Ficam D see **Pest** Issue 61: February & March 2019. There is a strong argument that the industry should get working on an insecticide stewardship scheme now and be prepared. But who will lead it? Where's the equivalent of Alan Buckle for insecticides? We need someone who understands the science but is also a good communicator. Someone who is prepared to argue the case doggedly within the morass of European bureaucracy and to bang stakeholder heads together to get agreement. If he, or she, is out there could they please make themselves known and soon!



# Professionalisation milestones

- 2005 BASIS PROMPT introduced, but take-up is slow;
- July 2010 certification for users of metallic phosphides for vertebrate control (Phostoxin and Talunex) announced. Deadline for all to hold the certificate is November 2013;
- 2011-12 membership of BASIS PROMPT and CPD takes off;
- June 2013 HSE invites CRRU UK to coordinate the development of a UK Rodenticide Stewardship Regime;
- From Jan 2015 all BPCA member company frontline staff must hold relevant qualifications and be part of a Continuing Professional Development scheme;
- March 2015 CRRU publishes a new Code of Best Practice for rodenticides;
- March 2015 the European Standard EN16636 covering pest management services and CEPA Certified are launched;
- July 2015 UK Rodenticide Stewardship Regime launched;
- January 2016 onwards proof of competence and ID is required for the purchase or use of professional rodenticides with new stewardship labels;
- April 2016 CRRU publishes guidance on permanent baiting;
- January-December 2018 all retail outlets are audited by BASIS for compliance with rules on point-of-sale competence checks;
- January 2018 CRRU publishes justifications for non-standard uses i.e. permanent baiting, burrow baiting, use of covered and protected bait points. These are accepted by HSE and added to product labels;
- September 2018 revised permanent baiting guidelines published;
- From April 2019 NPTA makes certification and membership of a CPD scheme compulsory.



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# TERMINIX – a new force in UK pest management



Dion Persson, who is based in the USA

At **Pest** we have learnt from experience that any news on our website about Rentokil is read avidly! The stories posted over the last 18 months to do with the sale of Mitie to Rentokil, the involvement of the Competition and Markets Authority and the subsequent sale of the national accounts to US-based ServiceMaster have been, by far, the most read news items this year. Rentokil we are all very familiar with, but, who is ServiceMaster with its Terminix brand. **Pest** editor Frances McKim set out to discover.

Start at the top is always a good place to begin. So on my recent trip to PestWorld 2019 in San Diego, I arranged to meet US-based Dion Persson, the senior vice president of business development and international operations. His title might be something of a mouthful, but Dion proved to be a most charming and helpful individual and the one most intimately involved with the Mitie acquisition. In fact, he had only recently returned to the US following the successful launch of the new business to ex Mitie staff on 8 October in Cheltenham.

ServiceMaster is the company that has bought part of the Mite business, but for pest management it trades as Terminix; a name soon to return to the UK high street.

In the US, Terminix is the second largest pest control company with annual revenue not far behind the number one company, Rollins (Orkin). Although its growth in the US has been stellar over the last 20 years or so, Rentokil comes in at number three but with a revenue roughly half that of Terminix. (See table on page 21)

## Global player?

Terminix is undoubtedly a big player in the US but is this true internationally? No – is the simple answer – although this should be accompanied by the phrase... not yet!

As Dion explained: "Pest control is rapidly becoming a global business. Many of our customers are global. They may be based in the UK or in Asia for example, but they are also served in the US. Plus, we need to know what is going on around the world. What can we learn by participating globally?"

"When Nik Varty became the ServiceMaster chief executive officer in July 2017, he was more than surprised to discover our lack of a global presence. He had spent more than ten years based in Brussels, Belgium working internationally for WABCO, the global technology leader in commercial vehicle technology, so was well aware of the international opportunities. So the strategic decision was taken to serve our customers globally."

A quick flick through the 2018 ServiceMaster annual report clearly records these intentions as it says of commercial pest management: 'We will continue to leverage the significant capability investments we made in 2018 to build a world-class commercial pest management business that delights our customers. Growth through innovation and international expansion: Our innovation center is driving dozens of new offerings across our businesses. In addition, we are developing market entry strategies to expand our businesses in attractive global markets, leveraging our strong brands, size and scale.'

## Expansion plans

This therefore explains ServiceMaster's interest in acquiring the national accounts part of what was Mitie Pest Control Ltd (MPCL). If any further evidence is required, look no further than the news that broke on 9 September this year when it was announced the company had acquired Nomor Holding AB, a Stockholm-based pest control company, with operations in Sweden and Norway. Nomor is the fourth largest pest control company in Europe.

At the time Nik Varty, CEO of ServiceMaster said: "We are incredibly excited to have the Nomor team join us as we launch our global expansion strategy and enter the large and growing European pest market."

As Dion explained: "At ServiceMaster our commitments are: We Serve, We Care, We Deliver. So we look for companies with similar cultures, and strong

management teams and people who want to grow with us."

## So what of plans for Europe?

All the signs indicate these are not likely to be ServiceMaster's only acquisitions.

"Yes, we are looking at the acquisition of further companies," confirmed Dion. "We need to grow both organically and also by acquisition to be able to service our national accounts. We aim to be number three in the UK, namely after Rentokil and Ecolab. And if former Mitie staff left during the acquisition upheaval we'd be pleased to welcome them back."

Quizzed about the acquisition earlier this year of Pest Pulse, the Dublin-based developer of remote pest monitoring systems (see pages 30 & 31) Dion said: "Senior members of the Pest Pulse team spent time working with us in the US. We liked what they did. We can learn and collaborate with them. We can offer them access to resources that otherwise they would find hard to locate."

So, from my chat with Dion I feel confident we will be hearing of further acquisitions, not only in the UK, but around the globe. So, if you are thinking of cashing in and selling your servicing business, Dion's your man!





Seen celebrating at PestTech. Ex Mitie staff sporting their new Terminix T-shirts. Left to right: Graham Abbott, Steve Strawbridge, Lee Nattrass, Grahame Turner and Fred Robinson

## Terminix UK ready for take-off

After the many months of uncertainty, on 22 August 2019 the Competition and Markets Authority (CMA) finally announced that it had accepted the undertakings proposed by Rentokil Initial covering the divestment of the national accounts part of Mitie Pest Control Ltd to ServiceMaster. Transitional arrangements had to take place within a period not exceeding 38 business days, meaning by 15 October 2019.

What this relatively simple statement fails to convey is the months of uncertainty and upheaval faced by all those caught up in this saga, which had run since 9 October 2018 when the CMA stepped in with an enforcement order. This was served a matter of days after the announcement of the sale of Mitie to Rentokil on 1 October. Quite what the practicalities meant for staff who still had to try to run the business was explored by **Pest** editor, Frances McKim, who spoke to David Wareing, now managing director of Terminix in the UK.

"It's been a very difficult and disruptive time," David Wareing explained. "Since 9 October 2018 no-one has known what the outcome would be, nor which direction

we should go. It's been an extremely stressful and uncertain time for the Mitie employees caught up in this, but I'd like to compliment them on how magnificently they have coped – they have been truly sterling."

To give readers some idea of how difficult this has been, not only has the company had to keep the business running and its national customers happily serviced, staff had a whole raft of restrictions placed upon them by the CMA. For example, they couldn't use any of the same suppliers as Rentokil, nor employ anyone from Rentokil. The business had to be run entirely separately to the extent they couldn't use any Rentokil facilities or services.

As far as back office arrangements go, a Transitional Service Agreement was set up with Mitie, as all services were being provided by Mitie – amongst these were such crucial functions as all finance and payroll operations. Head office facilities have had to be reorganised, with a new lease now in place at the Cheltenham office. Still to be implemented before the year-end is a complete change of all handheld devices and network infrastructure. And, in this digital age, the domain name and all emails also need to be changed. You feel quite tired at the thought of organising it all

So it must certainly have been a day of celebrations when over 70 of the soon to be ex-Mitie staff gathered on 8 October at the Cheltenham office to be briefed on what the

future held for them. With a total head count of around 300, 250 of whom are field based, the presentations were webcast to those not present. Judging by the very chirpy faces of Terminix staff spotted at PestTech, there certainly seems to be a very positive attitude within the company. The uncertainty has been lifted, with the commitment and resources being pumped in by ServiceMaster very evident.

### Terminix transformation

From now until the end of the year the total transformation to Terminix will be completed – for example all vans will be rebranded, all uniforms changed and head office will sport new signage.

For David Wareing himself, this whole exercise has been somewhat more than he anticipated! A chartered accountant by training, he had worked as a finance director for Rentokil for over 20 years – first in the textiles side with Initial and then switching to the pest control business as regional finance director for Europe, Australia and South Africa. This was followed by acting as chief financial officer for the North American business as well as operations director for the distribution business in the US until 2012.

He must be something of a glutton for work, as he has retired no less than twice already. Each time he has been invited back by Rentokil to facilitate some large acquisition – on this occasion that of Mitie.

With all the twists and turns in this he soon found himself as Mitie Pest Control's interim managing director following the departure of the previous interim incumbent, Howard Sedgewick. Quizzed as to the future, the 'interim' title has been eliminated and David is to be the managing director of Terminix UK Ltd for the foreseeable future. Good luck to you all.



David Wareing is to be MD of Terminix UK

### ServiceMaster in the UK

The existing ServiceMaster business in the UK is head quartered near Leicester. It consists of ServiceMaster Clean, Merry Maids, TruGreen, Furniture Medic and Rosemary Bookkeeping. All are franchise businesses.

The 2018 annual report shows a total of 52 employees and a turnover of £12.2m.

Those with long memories will recall a Terminix pest control business existed before in the UK. This was sold to Minnesota-based Ecolab in September 2002. What goes around, comes around!



## New Quicklock UltraPro-SL



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Break back Traps

\*Removable lid option - Quicklock UltraPro (RC1018) - Spring Lid option - Quicklock UltraPro-SL (RC1055)

# Measuring the global market

As discussed on the previous two pages, ServiceMaster (Terminix) has ambitions for European, nay, global expansion. This begs the question why? How does this company compare in scale in the global market? When considering pest control worldwide, five companies command between a 35-40% market share, namely Rentokil, Rollins (Orkin), ServiceMaster (Terminix), Ecolab and Anticimex. The remaining 60-65% of the market is accounted for by literally hundreds of thousands of smaller companies.

Careful examination of the published accounts (2018 reports) of these five leading companies is highly revealing (all reports are available in the **Pest** Library). First, pest management activities have been singled out from the company's other activities. These pest management only revenue figures have then been broken down between those from within the USA, as opposed to those from the rest of the world.

If the most reliable, and the most frequently quoted value, of the total worldwide servicing market of \$18bn (£13.9bn) is applied, estimated global market shares by company, can be calculated.

Alongside this readers must bear in mind the dominance of North America in the global pest management servicing market estimated at 50% of the total. Elsewhere, Europe accounts for c19%, Asia 14%, Latin America 8%, Pacific 4.5% and the rest of the world 4.5%.

Readers can draw their own conclusions from the figures shown in the table above. What hit us in the **Pest** office was:

- The revenue and market share of the three leading companies (Rentokil, Orkin and Terminix) is very close, the remaining two fall well behind;
- All of the Rollins' revenue comes from pest management (Orkin) with 92% in the US;
- 87% of ServiceMaster's revenue comes from pest management (Terminix) of which 97% is in the US;
- Rentokil may be the world's number one company, but their US pest management revenue is only 56%;
- Ecolab is a massive company with pest management accounting for just 4%\* (max). What is their future?
- Although a significant player, Anticimex is smaller.



The market structure captured in one picture! Larry Treleven, left, from Sprague Pest Solutions, Washington, USA, now a 4th generation family business with Gary Rollins, CEO of the 2nd largest publicly-quoted servicing business in the world

The global pest management servicing market by company and revenue

Company	Total annual revenue	Global revenue from pest management		Global market share	Pest management revenue from outside USA		Pest management revenue from within USA	
		£m	%		£m	%	£m	%
Rentokil	£2,493	£1,571	63	11	698	44	873	56
Rollins (Orkin)	£1,407	£1,407	100	10	113	8	1,294	92
ServiceMaster (Terminix)	£1,470	£1,280	87	9	39	3	1,241	97
Ecolab	£11,346	£667*	6*	4*	227*	34	440*	66
Anticimex	£521	£417	80	3	339	81	78	19
Others - 1000s of companies		c£9,000	100	c63				

\* Ecolab's Pest Elimination is included in 'others' with Colloidal Technologies Group  
\*\* Figure for pest management from the PCT Top 100 list (2018)

From this, the recent strategy of these leading players, if they are to grow their businesses, becomes obvious, notably:

- The aggressive acquisition of companies by Rentokil, and to a lesser degree by Anticimex, in the US so as to increase their market share;
- Conversely, the strategy of both Rollins and ServiceMaster to grow their non-US market presence.

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NPMA's Dominique Stumpf



The UK's Dr Richard Naylor spoke



David Loughlin from PestTrader, left with Killgerm's Rupert Broome



Murray Hern from Sumitomo, left with consultant, Raja Mahendran



From Lance Lab Phil Bowman, left and Glenn Pickering

# PestWorld 2019 goes to sunny San Diego

Exhibitors and delegates representing the world of pests gathered at the annual PestWorld event, organised by the US trade association, the National Pest Management Association (NPMA), and held between 15-18 October. After all the recent rain and grey skies in Europe, the wall-to-wall sunshine in southern California was a very pleasant interlude.

As ever those attending came from across the globe with representatives from over 50 countries. The official figures released by NPMA recorded 2,206 pest professional attendees and a further 1,564 exhibitor personnel, giving a grand total of 3,770. Whilst there was a relatively large contingent from Australia, Europe was well represented including a select few from the UK. In fact the only non-native presenter in the technical sessions was the UK's Dr Richard Naylor who gave an excellent presentation on bed bug foraging and dispersal behavior.

As well as the dazzling array of concurrent technical sessions, the Global Pest Management Coalition gathered to review progress and plan ahead, whilst World Pest Day (WPD) featured strongly in the international session the previous day.

PestWorld events always have some razzle dazzle and this year was no exception. It opened with a Broadway set with singers and dancers based on The Greatest Show. NPMA CEO, Dominique Stumpf, officially greeted delegates who were then led to the exhibit hall by a mariachi band.

For a vast number of those attending, the exhibition is the star of the show. With over 230



The only UK pest controllers spotted, Cliff Eccles, left and Dave Clements from Pestokill



From Bell Laboratories, Patrick Lynch, left with Sara Knilans and Bell president, Steve Levy



For many delegates the star of the show is the exhibition. There were more than 230 displays to visit this year in San Diego – it was a tall order to get round them all



stands, visitors are hard pressed to get around them all. As usual the large international manufacturers were well represented along with several from Europe including regular attendees PestWest, Pelsis, Plastdiversity, Igeba and Birchmeier. Russell IPM had its own stand along with UK first timers, International Pheromone Systems. From Italy though, there were no less than three well-known companies making their debut appearance – OSD, InPest and Ekocommerce.

If attending PestWorld appeals, next year's event is 13-16 October 2020 in Nashville, Tennessee.

See the **Pest** website for six detailed reports from PestWorld 2019

read more  
on the web  
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Karin Ouwehana (left) and Catherine Howard from Hockley International join Maarten Crezee of Dimosystems for a drink



From Pelsis were, left to right, Filipe Ferreira, Andrew Milner, Paco Nuche and Bill Lash promoting Infiniti



Left to right: Serge Simon from Edialux France, Jürg Zwahlen from Birchmeier and Armelle Simon, also from Edialux



Bell and Killgerm swap notes! Cassie Meloy from Bell with Jochen Halle, Mark Van Zanten and Kent Gutzmer (Bell)



Internationally renowned bed bug experts Stephen Doggett and Dr Dini Miller



The Colamartino family from Italy were out in force



From Russell IPM, Gina Taylor, left, with IOT enterprise consultant, Sarah Allo



Left to right: Sean Paker AP&G, with Marie-Laure Biannic and Stephane Cheverot from Lodi



GEA from Italy was exhibiting for the first time. GEA's Tommaso Broglia, left, with Kim Hon Fong from Malaysia





© James Gathany CDC

The malaria mosquito: a female *Anopheles*

# How has mosquito control changed since the millennium?



Better known for his work within the worldwide pest management industry, Rob Fryatt has been involved with international mosquito control projects for over 25 years. Initially involved with some of the earliest development of products for bed net treatment, Rob has subsequently contributed to strategic reports for the Boston Consulting Group (Gates Foundation Report), IVCC and WIN organisations as well as assisting many companies developing commercial mosquito management and control systems.

It is unbelievable that, less than 20 years ago, before the turn of the millennium, mosquitoes and their control weren't seen as a major market for the global pest management industry. For the British, mosquitoes were something generally only encountered on tropical holidays! Rob Fryatt of Xenex Consulting and a **Pest** Technical Advisory Board member casts an eye over what has changed.

Over the last 20 years, not only has the technology of mosquito control changed, but both public and industry awareness has risen significantly. One good example of raised public awareness in the UK is the number of mosquito nets donated by Comic Relief to Sub-Sahara Africa – over 600,000 in Uganda last year alone!

But the counter to this is how many people are actually aware each one supplied is embedded with a long-lasting insecticide, a fact seldom, if ever, picked-up by the media.

The positive impact of integrated programmes of spraying and use of bed nets, especially for young children and pregnant women, has resulted in the number of deaths since 2000 from malaria in sub-Saharan Africa dropping by 70%.

But the changes and increased awareness has not been driven by malaria alone. Over the last 15 years awareness of what are known as 'Neglected Tropical Diseases', or

NTD's, has risen equally. These NTD's include dengue fever, West Nile virus and Zika virus, amongst others.

Again public perceptions have been shaped by the media, with significant coverage of the potential harm to competitors and visitors alike visiting the Rio Olympic Games, rather than on the impact on the population of Brazil!

## Commercial game-changer

Awareness alone does not create a market, nor, indeed, fund programmes for eradication or control. The threat of virus transmission by infected mosquitoes has been a commercial game changer in the USA. *Culex* sp. carrying West Nile virus (WNV) started to spread in 1999. That spread was so rapid that, by 2012, according to the US Centre for Disease Control (CDC), over 5,000 infected cases and over 200 deaths were occurring annually right across the USA. Prior to the

spread of WNV few American pest management companies were involved with mosquito control. It was left to the Government Mosquito Abatement Districts. But, with the spread of WNV, demand was so elevated that by 2012 over 30% of the members of the US National Pest Management Association (NPMA) were involved, creating a new market worth in excess of US\$ 500 million!

### WNV already in Europe

Today in small pockets in Southern and Eastern Europe, WNV infected mosquitoes have already been detected and their spread continuously monitored.

With climate change driving temperatures higher towards 'warmer winters', ideal overwintering conditions for mosquitoes, the potential threat within Europe is expected to significantly increase over the next 10 years. This is already creating an increasing mosquito treatment market in Southern France, Spain and Italy, both within the domestic market and increasingly with commercial programmes for hotel and leisure complexes.

Treatment approaches are also changing. Traditionally malaria transmission was managed through extensive and labour intensive rural house spraying programmes of residual insecticides to kill adult mosquitoes. This has not only been supplemented by the significant cultural change to extensive sleeping under bed nets, but with significant use of chemical and biological control of mosquito larvae in standing water.

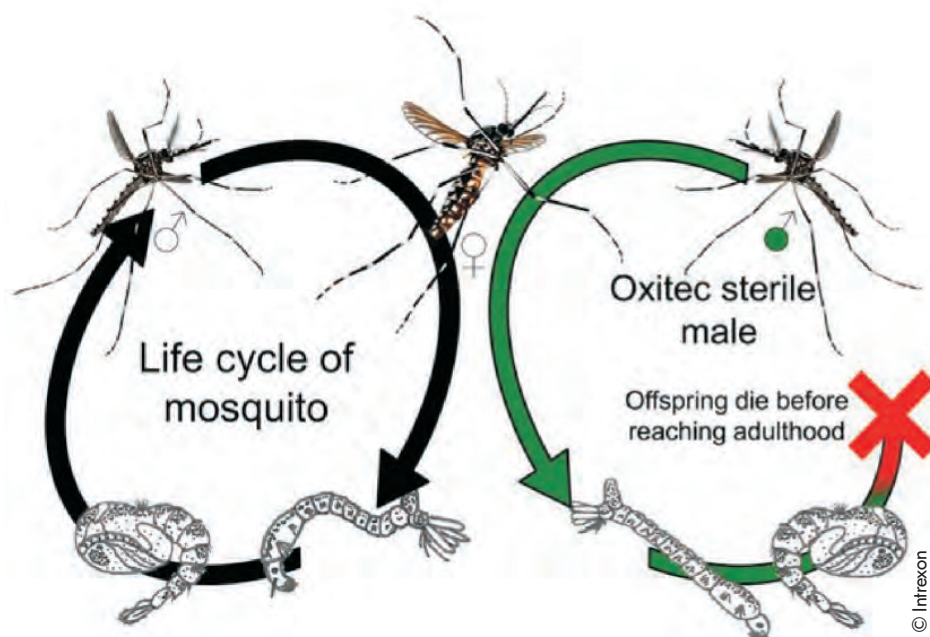
The water treatment is not only focused on larger expanses of water where larvae breed such as lakes and ponds, but also car tyres and water storage tanks – harbourages often much closer to the humans they infect.

Controlling mosquito larvae prevents and delays the build-up of mosquito populations. This is especially important in urban epidemics, such as with dengue fever, which can spread very quickly through areas of poor housing.

### Sterility gene

One of the many NTDs transmitted by different species of mosquito to malaria is dengue fever. High technology systems have been developed for programmes to limit the spread and build-up of *Aedes* sp. that transmit dengue. One example is a commercial breeding programme for large numbers of male mosquitoes that carry a modified sterility gene.

These modified males are then mass



Populations of mosquitoes are being dramatically reduced through the use of British-invented technique known as RIDL (release of insect carrying dominant lethal gene)

released in target areas. Breeding occurs but does not produce viable progeny. This dramatically decreases population numbers and potential infection, but has the additional effect that the modified gene cannot be passed on into the wild population. This technique known as RIDL (release of insect carrying dominant lethal gene) is a British invention from research at Oxford University. Intrexon, now owners of the technology, has successfully commercialised its use in Brazil on a mass scale and is currently extending this experience to other markets.

But what of the future of mosquito control in the UK? There are 34 species of mosquito

native to the UK according to Dr Clare Strode of Edge Hill University in Lancashire. Responsibility for mosquito monitoring rests with Public Health England (PHE) but for England only. PHE collates data on the distribution of all British mosquitoes, working to fill the gaps in current understanding of their distribution.

The key aims of PHE in mosquito abatement are:

- To promote the surveillance of mosquitoes in the UK;
- To understand the impact of mosquitoes and their biting nuisance on people;
- To detect exotic mosquito species. ▶ ▶ ▶



The use of insecticide impregnated bed nets has been a cultural change across sub-Saharan Africa that has resulted in a massive drop in the number of deaths from malaria



Both individuals and groups are invited to help in the development of a database of mosquito distribution. This can be done by submitting photographs, or by sending in any mosquitoes collected.

In addition, PHE conducts surveillance for invasive mosquitoes, as there is considerable concern about the number of exotic mosquito species that have recently become established in Europe.

Over the last few years the Asian tiger mosquito (*Aedes albopictus*) has spread across Europe, with increasing reports of disease infected mosquitoes being trapped.

The Asian tiger mosquito is able to vector WNV and has been identified as a species that could potentially establish itself in the UK. Prior to 2016 there had been no confirmed reports of this mosquito in the UK. But, as a result of its routine surveillance, PHE has confirmed small numbers of eggs of the species in Kent in both 2016 and 2017.

### Impact of climate change

The spread of mosquitoes is clearly impacted by climate change. As mosquitoes don't understand country boundaries or laws, any response cannot be successful by any one country acting alone – a co-ordinated, pan-European activity is required. This is led by the European Centre for Disease Control and Prevention (ECDC) through a system called VectorNet. But what is emerging very quickly, alongside and complementing professional networks, is the integration of 'Citizen Science'. This is where interested and committed citizens contribute sightings and pictures through mobile Apps to add to the collective knowledge.

Whereas 'Research Science' looks at small samples through expert collection and data interpretation, Citizen Science brings together much larger data blocks with the acceptance that the data will not pass scientific rigour, but it will complement, enhance and verify scientific data.

This is but one example of how technology is changing mosquito surveillance and control. Another new technology, used especially in China but also in Europe, is the use of drones for targeted application. Interesting though, since the millennium, the use of aerial application worldwide has significantly reduced due to consumer



The Asian Tiger Mosquito (*Aedes albopictus*) has spread across Europe with increasing reports

resistance and an increased understanding of the impact of insecticides in the wider environment.

One final factor in the changes since the millennium, and maybe the most significant of all, is what is increasingly known as 'The Gates Effect'. The US-based Bill and Melinda Gates Foundation has invested and encouraged others to invest significant billions in mosquito control, surveillance and awareness. Within a holistic approach to disease control that covers vaccines, insecticides and information technology, mosquito control has been a key platform.

### Impact of the Gates Foundation

Bill and Melinda Gates have together led the assertion that Malaria can and should be eradicated. The Gates Foundation has funded direct research itself and through the Liverpool School of Tropical Hygiene (LSTH) based Innovative Vector Control Consortium (IVCC) funded product development.

This has supported many small innovators alongside encouraging the major chemical corporations such as Bayer, Sumitomo, Syngenta and BASF to increase resources directed toward novel chemical actives as

increasing resistance to pyrethroids is the single largest threat to all the progress made in disease control. This has included companies going back into their chemical libraries and retesting old inventions, developing novel actives and the 'repurposing' older chemistry in an attempt to create resistance management programmes.

The Gates Effect continues to influence global thinking, such as supporting the recent creation of a dedicated worldwide mosquito resistance consortium – WIN – to share good practice, education and to bring together influencers and researchers on a regular basis.

Much has changed in mosquito control over the last 20 years, even more will change in the next 20!

In the UK, mosquitoes may well become a regular treatment pest. This will mean changes to our education and qualifications process. It may well create specialist companies as we see today for fumigation and bird control.

For our great industry it will be a challenge to understand these new pests, to use different application equipment, techniques and to integrate modern technology even further into systems. One thing is for sure, it has the potential to add further revenue to any business ready for the challenge.



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# A first time for everything!

Say what you like about pest control but one thing it never is, is boring as this case study, sent in by **Pest** reader, Ryan Rickard, demonstrates.

Having been involved with practical pest control for over 20 years, Ryan Rickard of Redruth-based Propest Solutions came across something he had not experienced before – a wasps' nest built down a gas drain!

When the call came this summer to go to treat a wasps' nest at a commercial plant hire unit in Tolvaddon, a small town near Camborne in Cornwall, he thought no more about it. When he arrived he discovered the nest was located in a hole that contained the gas meter and very near the staff car park. The gas engineer had discovered it when attempting to take a meter reading and had been stung.

Ryan treated the nest with permethrin dust, returning 48 hours later to remove it. Much to his surprise when he did, he discovered the nest was about 18 inches deep and packed into the hole from side to side. Quite a sight. "It was amazing," explained Ryan, "the nest was a unique tower shape and fitted the hole perfectly. I've never seen anything like it before."

Ryan has been involved with pest control since he left school at 16, starting out working alongside his father at County Mole Pest Control; a business he ended up managing himself. Then in 2019 he rebranded the business and launched it as Propest Solutions. Ryan looks after customers in the Cornwall, whilst Steven Cooper, who joined in 2015, takes care of customers in Devon.



Looking straight down the gas drain hole after removal of the wasps' nest



At least 18 inches long, the nest fitted the hole perfectly



The Propest Solutions team. Owner Ryan Rickard (right) accompanied by Steven Cooper



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# Get set for the digital age!

Digital technology is poised to disrupt the way rodent pest management is conducted in future. In this article, which is summarised from an interview in the Futura *Talking Pest Management* series, Peter Trotman, until relatively recently managing director at Mitie Pest Control and now MD for the digital technology-based business, Pest Pulse, explains why digital is the way forward for professional pest managers.



## A bit more about Peter Trotman

Peter Trotman was born into the pest control industry.

From the age of just 13 it was just him and his father catching rats on farms in the Cotswold Hills as Gloucester Pest Control and he is now in his 37th year as a pest control person.

The business developed into a regional company then Peter put a plan together to go national, got some finance in place and rolled out Eagle Pest Control, which became the third largest pest control servicing company in the UK with a turnover in the low millions.

But the market was changing with big corporate clients opting for bundled services so it was a choice of either retract into a regional pest control company or get into bed with one of the big boys which in 2003 was where Mitie Pest Control came in.

In 2018 he left Mitie and today is managing director of Pest Pulse.

The costs associated with the traditional eight or 12 visits a year pest control contract are rising but the price clients are prepared to pay has pretty much hit a glass ceiling. This is not a recipe for sustained growth in a pest control business, so what can be done?

Speaking in an online interview with Daniel Schroeer from Futura, Peter Trotman explained why he believes that digital remote sensing technology offers a credible solution allowing the pest control business to reduce its costs through fewer and more targeted visits, whilst providing a value for money service that actually reduces the risk for clients.

Peter said: "There's a glass ceiling on the price that corporate customers want to pay and that's not budging. The big pest control players are competing and there are always new boys coming in to bid at a price the client wants. The cost of transport is rising, not just fuel costs, but congestion costs. The time it takes to get from A to B is only going to get worse. Labour costs are also increasing. Generally pest controllers are underpaid compared to those with a similar skill set in other industries and we are competing for their labour. That means we will have to increase what we pay. That's a good thing; most technicians deserve a higher wage, but, for the business it means less profit, or even no profit at all and that's not sustainable.

### Digital is the way forward

"The way forward is to use digital technology which reduces the visits required by around 30% saving on labour and transport costs. Yes there's a capital cost and at first this was prohibitively expensive but the technology has been around for a while and the costs are now much more in line with the labour savings available."

There's also a saving to be made on rodenticides. When Peter was at Mitie he was one of the first to introduce an integrated approach to pest management. "I'm not anti-rodenticide, he explained: "It has its place but it is a tool with diminishing effectiveness because of increasing

resistance and label restrictions on its use. Blanket baiting and heavy rodenticide use doesn't equal a sustainable business for the future. Rodenticides should be one of the last tools in your service bag."

What Peter did at Mitie was to start to speak to clients about how to make their buildings less attractive to pests. But he wasn't just talking about the odd bit of bristle strip being added to a door. Proofing was an upsell package with a proper survey and report with plenty of photographic evidence of the problems. Then the right proofing materials were applied so the finished result looked good. "Sold as a rounded package, clients got it," he said.

Peter quoted the results of a case study from that time. This involved a client with over 1,600 outlets. The customer was very engaged with pest management, but he was frustrated that whilst the rodent problem could be solved for a while at one site inevitably another would be infested. Across all 1,600 sites the level of rodent activity never got below a certain level. "We brought in our proofing survey team and whenever there was a refurbishment of an outlet we worked with the building contractors to make sure the building was in a pest proof state," explained Peter.

"Proofing alone brought rodent activity down by 86%. We measured this over six months on 300 sites so I know proofing works. Add this to the fact that trapping was

our first method of control and we reduced our use of rodenticides by 90%."

Peter was also an early adopter of remote sensing technology: "But," he warns, "It's not simply a matter of swapping one black plastic box for another digitally enabled black box. Because they are more expensive it makes you think about box placement. At one site we reduced the number of boxes from 600 to around 80 digital traps. This cut the servicing time from 1.5 days to 0.5 days and, more importantly, the level of sightings was down by about 80% because the boxes were in the right place."

"The technology removes the need for technicians to needlessly visit, open and date, box after box where nothing has happened. That's a mindless task and one of the worst parts of a technician's job. Sensors allow technicians to spend more time thinking about the problems and engaging with clients."

### Change is coming

Many businesses are still very reliant on the old ways and there is still a place for them but change is coming. More agile disrupter companies are entering the marketplace and arguably Pest Pulse is one of those.

Peter explained: "Digital technology allows us to have real time data and that, combined with historical knowledge of a site, allows management to happen which, in turn, allows a risk-based deployment of resources. The industry has been selling eight to 12 visits a year for 50 years but if we can reduce routine visits for the low and medium risk sites and supplement them with technology we get fewer visits but more meaningful recommendations. We are also using staff better, technicians are more engaged and clients get better service."

This management is essentially what Pest Pulse supplies with local partners delivering the onsite servicing, as required. Pest Pulse acts as account manager and technical adviser and specifies the pest management a client needs. The company has developed algorithms for dynamic risk assessments which allow it to apply the right resources to

the right sites at the right time meaning the technician is there when he or she needs to be there and not just for 12 contracted visits a year.

### Problem sites are the exciting sites

"I remember back when I was a technician and it was the sites with problems that were the most exciting. Those sites are where you can do something and solve a problem so this approach is much better for everybody," adds Peter.

In addition, many corporate customers would like to have the benefits of working with local servicing companies but they also need the big picture across all their sites. The Pest Pulse model allows them to have both.

"Information about a trap going off doesn't go to the client who will then only be anxious about it, it comes to us at Pest Pulse as a sort of triage service. We can look at the history, what proofing and hygiene recommendations are outstanding and can to engage with the client. So, for example, we can say to the client not only are we sending in your technician at two o'clock to solve that one problem but are you aware of x, y and z."

Digital technology is here and it's not a case of if, it's when, it will take off.

In the meantime Peter's advice is to get an understanding of the product: "Put your hands on it, put it into a site to make sure it works and get the comfort of being familiar with it and having faith in it. Then you can see how the technology fits into your portfolio of clients. Take it to clients and talk to them about it, put it on their desks. Some will not be ready and will fight against it. Don't go there. Apply it into a select number of your client portfolio. Then, whether your five year plan is written down, or in your head, try to understand what part digital pest management has to play in it. Digital pest management needs to be in the forefront of your mind because unless you start to engage with it you will lose market share. Not immediately but over the next five years," concluded Peter.



## What is Pest Pulse?

Pest Pulse is a technology-led pest control startup headquartered in Dublin, Ireland. Founded in 2017 by Brian Monaghan, Tim O'Toole, John O'Gara and Wassim Magnin, Pest Pulse has developed internet-connected smart pest traps aiming to revolutionise the pest control industry. Pest Pulse provides smart pest control services directly to commercial customers in the UK and Ireland. Clients include international brands such as Five Guys, Brewdog, CRH and Cafe Leon. The company was recently (May 2019) acquired by the American giant, ServiceMaster (see pages 18 & 19). Find out more at [www.pestpulse.com](http://www.pestpulse.com)



## More about Talking Pest Management from Futura

Futura is a family-owned business based in Germany with a long history of innovative pest management. It all started in 1993 when Biotec Klute was founded as a professional servicing company with a focus on the food and pharmaceutical sectors. When the need for alternatives in routine servicing was recognised, Futura was founded. The company is now an independent and internationally recognised player in the field of

pest management innovation including eMitter remote sensing technology, the non-toxic NARA range and Green Hero. Visit their B2B webshop at [www.futura-germany.com](http://www.futura-germany.com). CEO Daniel Schroeer has so far recorded eight fascinating interviews with a range of pest management professionals from across the globe. To see the full interview with Peter Trotman, or to watch the other interviews, search for 'Futura Talking Pest Management'.



# PestTech in pictures

PestTech returned to Milton Keynes and the MK Dons stadium on 6 November for a second year in what, for the next few years at least, is its permanent home. And it's a great venue. Plenty of space, good seminar facilities and loads of areas to network and/or hold business meetings. Overall exhibitors and delegates alike seemed in buoyant mood. Read our reports from the event at [www.pestmagazine.co.uk](http://www.pestmagazine.co.uk)

read more  
on the web  
[www](http://www.pestmagazine.co.uk)





## Border Control gets thinner!

David Loughlin of PestTrader was keen to demonstrate that a thinner 15cm version of the original 30cm version of Border Control is now available. "Following requests from customers, we have just released a narrower, more compact product. Both versions offer a multiple-use, adhesive barrier to temporarily quarantine goods, for insect monitoring and product protection, helping customers to quickly spot any trouble spots," explained David.



Both variations are 20 metres long and can easily be cut to desired lengths for maximum flexibility.

[www.pesttrader.com](http://www.pesttrader.com)

## Maarten is now less remote

A frequent visitor to PestTech and other exhibitions around the globe, Maarten Crezee was demonstrating his remote monitoring rodent trap product, Xignal.



He was to be found on the Killgerm stand, as Killgerm is now selling Xignal in the UK. Killgerm already sells Xignal in other European countries.

Xignal detects the status of a mouse and rat trap – armed, unarmed or unarmed with a catch. Using LoRa technology, the trap communicates via a private or public network to a mobile phone or tablet, so giving 24/7 reports about rodent activity.

[www.xignal.com](http://www.xignal.com)



## Dropped in from Denmark

Niels Hasager and Hans Vestergaard from Sewatech, based in Denmark, had jetted in with their range of rat blocker products.

Sewatech is a privately owned Danish company that develops, manufactures and sells barriers that prevent rats from entering homes and buildings through sewer pipes.

They not only brought their products to show, but are also actively looking for distributors.

[www.sewa-tech.com](http://www.sewa-tech.com)

## Giving you the Edge

The latest addition to the Bell Laboratories range, Protecta Evo Edge, was being shown-off by Shyam Lakhani on the company's stand.

Shyam explained: "This new station is a versatile rodent bait station that's easy to use and service. It opens and locks quickly with an Evo key."

The station has a large bait capacity holding up to eight 28g or four 225g blox securely inside the station and comes with vertical securing rods. Its designed for more than just bait, as it can also accommodate two Mini T-Rex mouse snap traps, or one T-Rex rat snap trap.



[www.belllabs.com](http://www.belllabs.com)

## A new bait tray

On the Rat Pak stand, Howard White was keen to show the new Ultrabait VR bait tray which was about to be released.

This features separate entry and bait trays for easy servicing.

It comes with three separate bait compartments, with five securely fitted bait rods – four vertical bait spikes and one long horizontal rod.

The new liner will accommodate most rat snap trap types.



[www.ratpak.co.uk](http://www.ratpak.co.uk)



## A double act from Lodi!

Husband and wife team of Shelly and Tony Knight were doing a double-act on the Lodi stand promoting new Phobi Caps. If you could get a word in edge-ways you found out that this is not only a new product, but also contains a new pyrethroid insecticide to the Lodi range, prallethrin. Combined with cypermethrin, Phobi Caps comes as a micro-capsulated liquid concentrate insecticide for use against crawling and flying insects, such as cockroaches, bed bugs, ants, flies and mosquitoes.

With fast knock down and residual activity it is odourless, non-staining and active on porous and non-porous surfaces. The microencapsulation ensures long-term stability of the active against light, temperature and humidity.



[www.lodi-uk.com](http://www.lodi-uk.com)



## Beam me up Scotty!

Despite looking a tad worried about her new head gear, Helen Ainsworth was delighted to at long last be able to reveal to customers Storm Ultra Secure. Much had already been heard about this new addition to the BASF range, but now it's here!

As Helen explained: "Based on single feed flocumafen at 25ppm, Storm Ultra Secure is a new, highly palatable formulation, at least twice as palatable as leading anticoagulant block baits. The patented formulation employs an innovative BASF binder with superior performance ensuring it is durable and stable under extreme temperatures."

[www.pestcontrol.basf.co.uk](http://www.pestcontrol.basf.co.uk)



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## Fame and Fortis

Spotted on the Killgerm stand was product development manager, Mark Ward, with the new Fortis steel bait station. It comes with a one-piece removable plastic liner which can accommodate all bait formulations – pasta, loose grain, blocks and liquid bait. Four metal rods are supplied for use in both horizontal and vertical positions. Snap traps



can also be fitted, as shown in the picture.

[www.killgerm.com](http://www.killgerm.com)

## All ready to scare the birds

On the Pestfix stand, Sean Byrne (left) and Tom Dacey were giving customers their first viewing of the new automated laser, Avix Autonomic Mark II. This is a permanent, humane method of bird control, with minimal environmental impact and replaces the original Agrilaser Autonomic.

Enhancements offered include wireless connectivity up to 20m and variable strength laser, so allowing it to be tailor-made to each site.



[www.pestfix.co.uk](http://www.pestfix.co.uk)

## And just around the corner...

Several EFK manufacturers had new LED machines on display. However, readers will



have to wait a little longer before they can get their hands on this new technology as



the products were only prototypes. Sorry! Wait for next year.



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  - 1 TRAPPER® T-Rex® Rat trap
- ▶ Baffles help protect bait from non-target animals
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## Clever system for the birds

BirdAlert is an intelligent system that recognises specific bird species by listening to them through the special BirdAlert microphone up to 250 metres away. The system detects rooks, gulls, geese and starlings from their unique calls.

As soon as unwanted birds are detected, BirdAlert will activate its bioacoustics system and can activate connected scare products in a varied pattern that best intimidates the target species.

BirdAlert is the complete system of detection, consisting of box and microphone. In order to benefit from the large, built-in library of scare-sounds, the system requires the connection of at least one loudspeaker. The box is made ready for mounting of a loudspeaker-arm for this purpose.

The system reports activity remotely and can be updated and programmed by smartphone or computer.

[www.bird-alert.co.uk](http://www.bird-alert.co.uk)



## New Romax addition

The latest addition to the Barretine Romax range is Romax Venom fresh bait containing 0.029% brodifacoum. It can be used both indoors and out, including around buildings, as well as in sewers.

Venom fresh bait pack is sold as a 60g place pack all ready for baiting. Simplicity itself. The pack is designed to be pierced through the lid to enable the aroma to diffuse into the surrounding area. It is slug and snail resistant and is available in a 3kg pack containing 50 x 60g trays.



[www.barrettineenv.co.uk](http://www.barrettineenv.co.uk)

## New stylish steel bait box

The Quicklock UltraPro-SL has a modern, stylish, compact appearance making it at home in prominent high-street, commercial or industrial locations.

The box has an all steel, vandal resistant casing and features a new torsion spring-loaded lid and space saving stainless-steel locking mechanism creating a compact footprint whilst maintaining big bait tray capacity and function. The lock, which cannot be blocked by dirt or debris, can be opened and re-locked in under five seconds using the Versa key.

It can accommodate break back traps, block and loose bait and has lift out plastic bait liners. It is available with wall fixing, cable or ground stake options.



[www.ratpak.co.uk](http://www.ratpak.co.uk)

## Two new Ninjas!

### For fruit flies...

The first, the Fruit Fly Ninja mimics a feeding and breeding place for fruit flies. The flies crawl in but then cannot get out, so offering a totally non-toxic trap. It is effective for up to three weeks.

The biodegradable bottle has a self-adhesive strip on the back for easy placement, and when finished, it can be thrown away with ordinary plastic waste.

### For silverfish...

The second is the Silverfish Ninja. Just as with the fruit fly product, this too is non-toxic. Likewise, it mimics feeding and hiding places, but this time of silverfish. The trap comes with an attractant lure and, once in the trap, they stick to the adhesive layer.



[www.1env.co.uk](http://www.1env.co.uk)

## Testing times

At PestTech, Syngenta took the opportunity of testing three different designs of packaging with pest control professionals visiting its stand. The packaging is for a new ant product.

Francesca Scappini, marketing communications manager, was seeking feedback on the company's ready-to-use Outcast Ant bait station. Each bait station comes pre-filled with a gel formulation, designed for use to control ants – both indoors and out.

Containing 0.05% indoxacarb, it is registered for professional and amateur use and is an 'ideal extra' pest professionals could consider leaving with a customer after treatment, to mop up any further ant activity.

Keep a look out in the spring for which pack got the public vote.





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PPC Live 2020

WHEN?

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WHERE?

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[bpca.org.uk/ppclive](http://bpca.org.uk/ppclive)





# Muribrom comes out on top

**Pest** readers have had their say in the 2019 **Pest** Best Product Award and it was 1env Solutions who carried off the trophy for their Muribrom wrapped rodenticide blocks.



The 2019 **Pest** Best Product Award winners. From left: Glenn Pickering and Phil Bowman from Lance Lab, joint second with the AR8 Pro telescopic dusting lance, James Mendoza from 1env Solutions, who took first place with Muribrom wrapped rodenticide blocks and, joint second for RatMat, is inventor, Toby Bateson with Francis Dufort from Dufort Associates who worked with Toby on design and product development. RatMat is distributed by Killgerm

Eleven fabulous new products competed for the title of **Pest** reader's Best Product Award 2019, but it was Muribrom wrapped rodenticide block, from 1env Solutions that came out top in the readers' poll. In joint second place were two other great products, the AR8 Pro telescopic dusting lance from County Down-based Lance Lab and RatMat, the innovative solution to rodent problems, invented by Toby Bateson, manufactured by Hammer Technologies and sold by Killgerm.



Readers will recall that 1env took first place two years ago with Rotech Ranger dual trap mouse

best product award 2019  
pest



station and were on the podium last year in second place with Rotech Sentry.

It's five long years since Lance Lab took third place with their Mini Flex in 2014. They were outright winners in 2013 with the XL8 dusting lance.

James Mendoza, operations director at 1env commented: "We are over the moon to have won the Best Product Award. We had some fantastic feedback over the past year for the Muribrom wrapped blocks and we feel that the award is truly deserved.

"We would like to thank everyone that has supported the product and voted for it. It's so much more rewarding when a product is voted as best product by the people who have actually used it. This highly respected award will take pride of place, along with other award winning products, that are only available from 1env."

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## Pest Test 66

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 *Stewardship monitoring reports*, page 11, *Stewardship review* pages 13 to 17 and *How mosquito control has changed* on pages 24 to 26 then 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 Which two active substances are house mice now widely resistant to?
 

<input type="checkbox"/> a) Difenacoum & difethialone	<input type="checkbox"/> c) Brodifacoum & difenacoum
<input type="checkbox"/> b) Difenacoum & bromadiolone	<input type="checkbox"/> d) Bromadiolone & flocoumafen
- 2 Which two active substances are the only ones found in products that are approved for permanent baiting against house mice?
 

<input type="checkbox"/> a) Difenacoum & difethialone	<input type="checkbox"/> c) Brodifacoum & difenacoum
<input type="checkbox"/> b) Difenacoum & bromadiolone	<input type="checkbox"/> d) Bromadiolone & flocoumafen
- 3 What percentage of owls that died in 2018 had detectable anticoagulant residues in their livers?
 

<input type="checkbox"/> a) 67%	<input type="checkbox"/> c) 81%
<input type="checkbox"/> b) 78%	<input type="checkbox"/> d) 87%
- 4 When was the UK Rodenticide Stewardship Regime launched?
 

<input type="checkbox"/> a) August 2012	<input type="checkbox"/> c) July 2015
<input type="checkbox"/> b) June 2013	<input type="checkbox"/> d) January 2018
- 5 How long do rodenticide users have to demonstrate that stewardship is working?
 

<input type="checkbox"/> a) Up to the end of 2020	<input type="checkbox"/> c) Up to the end of 2022
<input type="checkbox"/> b) Up to the end of 2021	<input type="checkbox"/> d) Up to the end of 2023
- 6 How many species of mosquito are native to the UK?
 

<input type="checkbox"/> a) 14	<input type="checkbox"/> c) 34
<input type="checkbox"/> b) 24	<input type="checkbox"/> d) 44

Name: \_\_\_\_\_

Organisation: \_\_\_\_\_

Tel: \_\_\_\_\_

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PROMPT account number: 200 \_\_\_\_\_

## Another side to wasps...

Wasps are a bread-and-butter insect for professional pest controllers but they do have a more lyrical and artistic side, as this charming 208-page book explores.

Despite their iconic form and distinctive colours, wasps are surrounded by myth and misunderstanding. Often portrayed in cartoon-like stereotypes, wasps have an unwelcome and undeserved reputation for aggressiveness bordering on vindictive spite. This mistrust is deep-seated in a human history that has awarded commercial and spiritual value to other insects, such as bees, but has failed to recognise any worth in wasps.

Leading entomologist Richard Jones redresses the balance in this enlightening and entertaining guide to the natural and cultural history of these powerful carnivores. He delves into their complex nesting and colony behaviour, their unique caste system and their major role at the centre of many food webs. Drawing on up-to-date scientific concepts he successfully shows exactly why wasps are worthy of greater understanding and appreciation.

ISBN: 9781789141610. Copies at £12.95 from Reaktion Books  
[www.reaktionbooks.co.uk](http://www.reaktionbooks.co.uk)



## A late Black Friday sale...

Mike Kelly of Acheta, the author of these handy and highly instructive books, is having a sale for a limited period. So, if you haven't got a copy and would like one, or all of these, now is your moment.

### Mite Handbook

This fully illustrated guide has been written to help identify mites found indoors – from domestic situations to food manufacturing and storage. £8.25 plus £1 P&P

### Indoor Insect Pests Handbook Vol 1

Illustrated with detailed drawings and photographs. Wire bound for ease of use in a working environment. £9.50 plus £1 P&P

### Fumigation Handbook

The industry standard? If not, then maybe it should be, since all the knowledge of one of the UK's leading experts in the field of fumigation is brought to bear in this wonderfully written and illustrated book. £18 plus £1 P&P

Or buy all three together for £30 plus £2 P&P

Offer only lasts until 31 January 2020. Orders by email to [astridkelly.hamburg@gmail.com](mailto:astridkelly.hamburg@gmail.com)



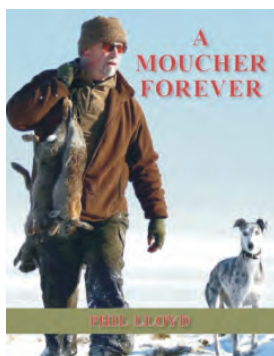
## Hidden talents

Those working in pest control never cease to amaze us! Phil Lloyd, who operates as Hampshire Wasp Control based in Hayling Island, turns out to also be a prolific author and has just released his latest title – *A Moucher Forever*.

In this, Phil, a life-long lurcher enthusiast, relates a series of humorous anecdotes that both inform and entertain the reader. It is very much a personal piece of descriptive writing solely intended for the rough and ready, roustabout, rabbit hunter and as such, it focuses mainly on the various disciplines which are allied to this ancient pursuit.

Nearly 260 pages of lurcher days and nights, illustrated with numerous full-colour photos and nostalgic sepia images. Chapter headings such as *Letters to a Lurcherman* and *The Internet Experience* make this a genuinely thought-provoking read.

Copies at £25 inc P&P from [www.chalkwarren.co.uk](http://www.chalkwarren.co.uk)



## Timely flood help

Very timely, Killgerm has updated its booklet on floods.

This is an ideal publication to refer to if you have customers that have been affected by flooding.

Whilst the recent floods may have subsided for now, there is every chance floods will occur again and, of course, even after the water has gone the effects on pests can be long-lived. Rodents and insects can take advantage and there are obvious infection risks.

A suggested clean up procedure for pest controllers is included, along with details of Killgerm products that would prove useful.

Copies from Killgerm at [www.killgerm.com](http://www.killgerm.com) or from the **Pest** Library.



## Asian hornet awareness

A very useful addition to the range of booklets from the Chartered Institute of Environmental Health (CIEH) is their latest which covers Asian hornets. All the experts involved with this non-native species have contributed.

It covers the arrival of this species, what it looks like and life cycle. Of particular relevance to readers are the sections detailing with the significance to bees, what to do if you think you have found a nest, followed by required monitoring.

Copies can be downloaded from CIEH or from the **Pest** Library.



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## Here's to another year... Spain is the place to be!

In this issue of **Pest** we have reported on the two key events of the autumn – PestWorld and PestTech – now our attention moves to 2020. Certainly the first half of the year is going to be busy judging by the events listed opposite! However with two events in a matter of months, Spain is the place to be.

### Expocida in February

First up is Expocida, the biennial conference and exhibition organised by the Spanish trade association, Anecpla. It will be held in Madrid on 20 and 21 February 2020. The exhibition is open throughout the two days. Running alongside is a full conference programme, with simultaneous translation into English, so don't worry if your Spanish is a little rusty, or non-existent!

The conference programme combines both plenary sessions and concurrent technical talks, plus plenty of time for discussion. One of the key note speakers is to be mountaineer Edurne Pasabán. A great motivational speaker, in 2010 she became the first woman to climb all 14 of the 8,000m high peaks in the world, which includes Mount Everest.

Later in the year, and with a greater technical edge, is the 10th International Conference on Urban Pests (ICUP). This will be held between 29 June to 1 July in Barcelona. Only held once every three years, the event is again based at an academic venue – this time at the prestigious Pompeu Fabra University.



The 2020 organising team, chaired by Dr Rubén Bueno from Laboratorios Lokímica, has put together a cracking technical programme which is now nearing finalisation. Delegate registration is already open, so those quick off the mark can benefit from the early bird registration that ends on 28 February 2020.

### For home birds

However, if your passport has retired, come along to the main UK event of the spring – PPC Live 2020 on 11 March.

## 14<sup>th</sup> Fumigants & Pheromones Conference

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# Diary dates

20-21 February 2020

## Expocida Iberia 2020

IFEMA - Feria de Madrid Av. Partenón, N° 5, 28042 Madrid, Spain [www.expocida.com/es/](http://www.expocida.com/es/)

11 March 2020

## PPC Live 2020

Yorkshire Event Centre, Great Yorkshire Showground, Harrogate HG2 8NZ [www.bpca.org.uk/Upcoming-Events/ppc-live-2020-professional-pest-controllers-live/](http://www.bpca.org.uk/Upcoming-Events/ppc-live-2020-professional-pest-controllers-live/)

18-19 March 2020

## Pest-Protect 2020

Arena Berlin, Eichenstraße 4, 12435 Berlin, Germany [www.pest-protect.eu/en/trade-fair-symposium.html](http://www.pest-protect.eu/en/trade-fair-symposium.html)

22 April 2020

## Benelux Pest 2020

NH Conference Centre Koningshof, Loch 117, 5504 RM Veldhoven, Eindhoven, The Netherlands [www.beneluxpest.nl/en/](http://www.beneluxpest.nl/en/)

12-14 May 2020

## 14th Fumigants & Pheromones Conference

Victoria Falls, Zimbabwe [https://www.insectslimited.com/14th\\_fumigants\\_pheromones\\_conference\\_-\\_victoria\\_falls\\_zimbabwe\\_2020](https://www.insectslimited.com/14th_fumigants_pheromones_conference_-_victoria_falls_zimbabwe_2020)

14-15 May 2020

## ConExPest 2020

Centrum Targowe Park, Szosa Bydgoska 3, 87-100 Toruń, Poland <http://conexpest.pl/en/conexpest-2020-2/>

## Collecting PROMPT 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 2019 is: PC/79634/19/g

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# ... and finally Christmas is coming How dare they!



Oh no, the Christmas decorations ruined!

Don't these mice know whose loft they've invaded! That's the **Pest** magazine editor, Frances McKim's Christmas decorations you're destroying or, maybe, we should say, have destroyed!

The picture above was taken some 12 months ago. You know, when you have to go up into the loft to get the Christmas things down.

Since then our editor has put out mouse boxes with bait and, despite the now often accepted pest control wisdom that mice don't go into bait boxes - guess what? They went in and they thought it was cosy so set up home using the editor's expensively installed loft insulation as bedding material!

Thankfully there was some bait take so she was sort of confident the mice had learned their lesson and from now on would know who's in charge!

But, as we packed up for the PestTech exhibition at the beginning of November, it was clear the mice had decamped to the editor's garage.

This is where back issues of **Pest** magazine are stored. Whilst the copies were fine, the handle of the trolley used to transport the heavy boxes of magazines was not!

Those mice were, irritatingly, back again!







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