pest
The independent UK pest management magazine

Bed bugs beaten?

Issue 22
July & August 2012

"I don't want to know their names. I want them out of my apartments."

Simon, Building Administrator.

"I'm begging you-stop these cockroaches from invading my kitchen!"

Bethany, Writer

"No matter their kind, there is no place for them in my restaurant"

James, Professional Chef

"To my customers, a cockroach is a cockroach. Thankfully, Advion® sees things the same way."

Michael, Pest Management Professional

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Helen Riby *Frances McKim*

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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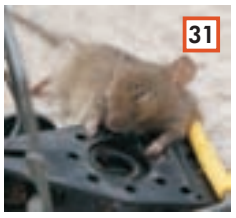
Use pesticides & biocides safely. Always read the label and product information before use

Contents



Bed bugs keep us on our toes

Bed bugs are a truly remarkable pest. Most pest controllers from the younger generation had never seen one until very recently. Quite where they have been and why they have suddenly made such a reappearance still remains a bit of a mystery. But one thing is clear – they are the pest of the moment. The recent National Pest Management survey of pest controllers, undertaken jointly by BASF and ***Pest*** publications, showed they accounted for a mere 5% of all pest control activities. Yet, this figure bears little relationship to the number of pages they occupy in the trade press. And in this issue ***Pest*** makes its own contribution!

In our special 15-page feature, we include some pretty straight-talking material. We ask which techniques to choose, is heat the answer and provide an update on UK research at Sheffield. Also included is a listing of all the monitors available on the UK market, from all distributors. Readers tell us they appreciate our all-encompassing reviews, and as an independent publication, this is something we can undertake. But, don't worry. If bed bugs are not your thing, we do also have our usual range of news and articles. In short – something for everyone.

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NPTA has a new home

After two years of searching, the National Pest Technicians Association (NPTA) moved into new premises over the weekend of 23/24 June. As chairman, Iain Turner explained: "The new offices are bigger, easier to find and belong to the association. They will be a major asset for the NPTA for years to come."

Their new home is situated less than five miles from Junction 26 on the M1. The address is NPTA House, 12 Farrington Way, East Link Office Park, Eastwood, Nottingham NG16 3BF Tel: 01773 717716.

Anyone phoning the new number is likely to find themselves talking to Donna Alvey. Donna has taken over from Margaret Coleyshaw, who retired at the end of June.

Badger cull given legal green light

It was announced on 12 July that the badger cull in England can go ahead. This was the verdict given by Mr Justice Ousley following a judicial review, instigated by the Badger Trust, into the Government's proposed cull, planned for this autumn.

The plans for a cull of badgers in two pilot areas – West Gloucestershire and West Somerset – to prevent the spread of bovine TB in cattle, was challenged by the Badger Trust in the High Court in June.

The challenge to the 'legality' of the decision by Defra secretary, Caroline Spelman, to allow culling this autumn was on three grounds. These were that: it would not meet the strict legal test of 'preventing the spread of the disease', but may in fact increase it; that Defra's cost impact assessment was 'flawed' and that Defra did not have the legal power to issue statutory guidance to the licensee, Natural England, to cull badgers.

read more on the web WWW

Bromsgrove contract captured

James Ostler, director and owner of Herefordshire-based Positive Environmental, has something to celebrate. His company was recently awarded the contract to provide pest control services on behalf of Bromsgrove District Council. Awarded through the new Worcestershire Regulatory Services, this is one of four new contracts to improve pest control in Worcestershire.

Hearing he had won the contract, James explained: "This is an important contract for me personally. Having worked as an environmental health officer in my early career, I am very pleased to now be providing this important public health service on behalf of Worcestershire's environmental health departments."

James Ostler (left), with Steve Jorden, head of Worcestershire Regulatory Services

Also happy bunnies...

London-based Shield Pest Control has been awarded a three-year extension to its contract for the royal households. Shield was granted a Royal Warrant in 2008 for its services across Buckingham, St James and Kensington palaces.

Based in Westerham, Kent, and servicing most of the south east of England, Safeguard Pest Control is celebrating its 25th year in business this year.

The industry welcomes

PelGar International has strengthened its regional sales staff with the appointment of Richard Applegarth. Acting as a territory sales manager, Richard will be covering the eastern counties of England.

Richard previously worked for Battle, Hayward and Bower and, latterly, for CWG in the East Midlands.

All in a good cause

Land cycle supports sea charity

John Simmons – sunny at last!

In what he may well have come to see as a moment of madness, Dr John Simmons of Acheta Consulting decided to celebrate his half century (yes – that is 50!) by cycling from Lands End to John O'Groats. That's a total of 1,013 miles in only 14 days, so an average of 72 miles per day.

John would like to thank all his sponsors – which included ***Pest*** – and says he has raised over £2,000 in aid of the Royal National Lifeboat Institution. He'd also like to point out that it was far from sunny most of the way, as he braved July's deluge.

24 hours to go....

The 'Barrettine babes' team consisted of small and large, young and old

Organised by Steven Bailey, Barrettine managing director, a group of staff, friends and their children – christened the 'Barrettine Babes' – spent the weekend of 30 June/1 July taking it in relays to run, or maybe walk, around the track at Yate Sports centre.

As Steve said: "The weather was shocking at times (hardly news this year!) but despite the wind and rain, no-one faltered and everyone completed their allotted laps. Many of the team members completed over 26 miles and the combined total mileage must have been well over 500 miles, much of which was during Saturday night and through the early hours of Sunday morning." In excess of £10,000 was raised for Cancer Research.

Paul turns his hand to decorating

Youngsters from The Children's Trust in Tadworth, Surrey were joined by Paul Bates, director of servicing company Cleankill, when the ribbon was officially cut to open their new dining room. "This year marks the tenth year that we have been contracted to work for The Children's Trust, " explained Paul. "We felt it was important to make a contribution in some way so we got stuck in and painted the dining room, not the most glamorous of projects, but something that needed to be done," added Paul.

Diana's target

If you've attended any pest control exhibitions over the last couple of years will probably have been collared (ever-so-nicely) by Diana Al-Zaidi of Russell IPM to buy a raffle ticket, or similar.

Diane is raising funds to support Leukaemia and Lymphoma Research and the reason is close to her heart because her four-year-old grandson, Callum Gosling, was diagnosed with the illness at the age of two.

With £37,000 raised so far, Diana is making progress on her declared target – £100,000 over five years.

All the Russell team has pitched-in fundraising

Paul Bates with some of the happy children from The Children's Trust

Drunk pigeons? Or maybe pigeon pie?

A serious proposal has been put forward by a city in the Ukraine to rid themselves of the pigeons which, for many years, have been causing a problem. Get them drunk!

The idea is to feed the pigeon's wine-soaked bread, then catch them and deport them to somewhere else where they will wake-up the following day. Sounds like a waste of good wine!

Nearer to home, the council in Royston, Hertfordshire is debating how to rid the town centre of pigeons. Proposals are on the table to cull the pigeons and then to introduce a ban on people feeding them. Ex councillor, John Smith, hit the deadlines as he said that having a cull sounded very negative. He proposed the dead pigeons should be collected and used to make pigeon pie!

Time to make sure glueboards are used professionally

To the general public, press reports of an iconic UK bird, a robin, caught on a rodent glue board is not only disgraceful but also attracts the 'Ah' factor. On 19 July such a story appeared in the *Daily Mail*.

And to make matters even more sugary for the tabloid, our red breasted friend was found and taken to the RSPCA by two 12-year old North London school boys. Fortunately, despite the loss of some of its feathers, the bird recovered.

The article also featured a grass snake in Middlesex which had also been caught on a glue board but subsequently died. The upshot was a call by the RSPCA to ban the use of all glue boards.

© Cascade News

Pictures like this trapped robin splashed across the tabloids, whether it was a result of amateur or professional use, do our industry no good

To the professional pest controller these types of incidents illustrate exactly how glue boards should not be used. The suspicion is that the boards were placed outdoors with little protection to prevent the attraction of non-target species and, apparently, they were not being checked regularly either.

Whether this was a 'so-called' professional or an amateur user, to those who would like to see glue boards banned entirely, such incidents provide ammunition which is hard to argue against. It is essential that professional users consider carefully why and where to use this 'last resort' technique. If not, abuse and lose the option has to be a possibility.

Guidelines regulating the use of glue boards have been produced by the industry and issued by the Pest Management Alliance. It is essential that all professionals abide by these. At the same time shouldn't the industry also be campaigning that their use be limited to professionals only?

Disappearing starlings

Some years ago, starlings were treated as an urban pest, much along the lines of pigeons. But no more.

In 2002 the European starling (*Sturnus vulgaris*), was added to the UK 'red list' of Birds of Conservation Concern. Despite this action, figures revealed in the RSPB's latest Big Garden Birdwatch show that their numbers in the UK have declined by 80% since 1979 and by nearly a third in the last ten years.

This is not just a British phenomenon. Across Europe over the last three decades, an estimated 40 million birds have vanished.

© Daniel Plazanet (Daplaza)

Buzzard cull reversed

Not totally surprisingly, the agreed cull of buzzards sanction by the Government earlier this year has been reversed. The proposal was to allow buzzards' nests to be destroyed and for adult birds to be taken into captivity. Research by the National Gamekeepers Organisation found that 76% of gamekeepers believed buzzards have a harmful effect on pheasant shoots. Public outcry was such that the decision was reversed. If this is the case with buzzards, good luck to all those involved with the badger cull!

Liverpool council flap

In a report prepared by Liverpool City Council, as part of its Street Activity Management Plan, it stated: 'Pigeon feeding – often undertaken by individuals with mental health needs.' This statement led to a flurry of complaints coming from the mental health organisation, MIND and the Time To Change project. In a follow-up statement made by the council, the said that what they meant to say was that following a previous survey when prosecuting persistent pigeon feeders was debated, they decided this was inappropriate as many of the people involved had mental health issues.

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EU developments influence future of UK pest control

Like it or loathe it, there can be no doubt that the European Union has a huge influence on just about every aspect of UK life and pest control is no exception. Indeed there have been a number of significant developments this summer which will impact our industry. We review what's changed.

The piece of European legislation which has the most direct affect on pest control is the Biocidal Products Directive 98/8/EC. First adopted in 1998, Member States had to transpose the rules into national law by May 2000. However, this Directive has been undergoing something of a make-over and on 27 June 2012 the Biocidal Products Regulations 528/2012 were published to replace it. These new regulations will apply from 1 September 2013

As is the way with many EU projects, the new regulations have been some years in the making. Work started back in 2009 with the laudable objective to improve the functioning of the internal market in biocidal products while maintaining high levels of environmental and human health protection.

New Biocidal Products Regulations

So what's actually changed and how will it impact on the availability of products for the UK's pest professionals?

On the face of it the fist change sounds like an excellent idea. It provides for EU-wide product approval. This will mean companies can apply centrally for authorisation to sell a product in all 27 EU countries, so avoiding the time consuming process of mutual recognition (see box). However closer examination shows that the rodenticides are excluded from this UA (Union Authorisation) arrangement.

UA is expected to appeal to multinational companies with smaller organisations sticking with the old system. However, speaking to Bayer's European regulatory strategy and advocacy manager, Jennifer Anne Hopkins, she sees little benefit in UA: "At the moment we cannot see any benefits to it. UA will not be quicker than a normal national authorisation plus mutual recognition, nor is it likely to be significantly cheaper. In fact, we consider that when you see the proposed fees from ECHA (the European Chemical Agency that will administer the process) it will work out considerably more expensive than the existing route. In addition, we do not currently sell any single product in all 27 Member States and therefore we have to question whether having a UA for countries were we won't sell products is financially beneficial"

There is also the problem of demonstrating in your application 'similar conditions of use' across the Union. Jennifer added: "What does 'similar conditions of use' actually mean? Unfortunately, it is still to be defined and therefore many products might not even get through the initial filter for UA. Even if they do, many countries might not want the product and therefore the discussions could take a long time to get agreement and some countries may still say no. There are options for derogation from UA within the regulations so it can't be forced through."

Killgerm Group's Jonathan Peck added: "In theory this is an important step and to be welcomed, but by the time it affects public health insecticides, most will already be approved and on Annex 1 with products authorised or going through the 'old' system."

The second big change is the new role for the ECHA. This Agency has been involved in chemical regulation in general, but not in the biocides arena, until now. The claim is that it will reduce the financial and administrative burden and speed up the process, but will it? ECHA says it will be recruiting 100 people 'to work on biocides', but ECHA has no responsibility to evaluate products or active substances. All the evaluation work will still be done at Member State level so, effectively, all that has happened is another layer of bureaucracy has been introduced. With all the work still being done by the same people, how is the ECHA going to reduce the time taken? Yes they will have more people to draft guidance and provide better communication which may help, but...

As Jonathan Peck also pointed out: "The Biocidal Products Regulations mainly affect manufacturers and formulators so users of biocides will not see much difference in their day-to-day working." However, with so many hurdles to be successfully negotiated to bring any new product to market, pest controllers should not expect to see loads of new chemical solutions introduced.

EU assessing rodenticide resistance

June also saw the UK's Rodenticide Resistance Action Group (RRAG) submit a new 35-page report on rodenticide resistance to HSE. It was prepared by Dr Alan Buckle and Dr Colin Prescott from the Vertebrate Pests Unit at the University of Reading in response

Approval is a two step process

The new Biocidal Products Regulations maintain the existing two-step authorisation process brought in by its predecessor.

Step 1 requires a dossier on an active substance to be submitted for evaluation by the competent authority in a Member State nominated by the Commission.

Step 2 involves an application for first product authorisation in a Member State of the applicant's choice. At the same time the applicant can apply for mutual recognition in other Member States or this can be done once the first product approval has been achieved.

to a request from The Netherlands to the European Commission (EC) for an EU-wide update on rodenticide resistance. It formed the basis of the UK response to the Commission's Technical Committee on Biocides made by HSE in its role as the country's competent authority under the Biocidal Products Directive. The hope is that this EC initiative will raise the profile of anticoagulant resistance and, even more importantly, encourage the implementation of practical resistance management strategies.

As RRAG points out in the report, we are now almost completely reliant on anticoagulants for chemical rodent control in the EU and there is plenty of evidence that the incidence of resistance among both Norway rats and house mice is increasing. In fact, it was the publishing of new Dutch research last September which prompted the initiative. That research showed that 56% of Norway rats in Holland carry anticoagulant resistance mutations with 39% of rats carrying genetic mutations that are known to affect the efficacy of anticoagulants. The two mutations, Y139C and Y139F, most commonly found in Holland, are both also found here in the UK.

Resistance to anticoagulant rodenticides has been studied in the UK for over 40 years, giving the UK an understanding of the phenomena which is second to none. The RRAG report summarises the findings over those 40+ years, including the preliminary results from the new genetic techniques, which provide a definitive means of identifying resistant genotypes. It also considers the alternatives to anticoagulant rodenticides and concludes that, whilst habitat manipulation, removing food sources and preventing access is part of sustainable rodent pest management, such techniques cannot be used to remove any sizeable rat infestation and, for practical reasons, their use against house mice is problematic.

Agriculture gets Sustainable Use Regulations

The final example of EU influence is the UK Plant Protection Products (Sustainable Use) Regulations 2012 which came into force on 18 July 2012 to implement the EU Sustainable Use Directive. Whilst these only impact on the agricultural use of pesticides (including rodenticides) they are relevant to pest controllers for two reasons.

Firstly, there are plenty of pest controllers who do business on-farm who will be directly impacted but, secondly, these new regulations are a useful indicator of 'the way things are moving'. Whilst there is no Sustainable Use Directive for Biocides, by July 2015 the Commission is required to report on how the biocides legislation contributes to the sustainable use of biocidal products. That report must specifically consider whether there is a need to introduce additional measures for professional users to reduce the risks posed to people, animals and the environment. The expectation is that by 2018 there will be similar Sustainable Use Regulations for biocidal products.

So what's in the new regulations? Those who follow such things will remember that at PestEx 2011 there was genuine concern that Plant Protection Products (Sustainable Use) Regulations were going to water down the requirements for certification and training in the agricultural sector. Fortunately, successful lobbying by the industry has prevented this. The new regulations confirm that users, sellers and suppliers of agricultural pesticides must continue to hold the appropriate certificates of competence, but they also go further.

They set a deadline of 26 November 2015 after which everyone who uses a professional product, including those who previously relied on 'grandfather rights', must hold a specified certificate. The way in which those with 'grandfather rights' will obtain a certificate is still being debated. It may be that these will be issued on the basis of the experience and skills gained on the job, rather than requiring them to undertake full scale training and an assessment.

The regulations also formalise requirements for regular spray equipment inspection, although this excludes knapsack and hand-held equipment, and there is a new requirement for those who purchase products for professional use to ensure the end-user holds an appropriate certificate.

Certification requirements for storekeepers continue as before, but, in addition, by 26 November 2015, distributors must ensure that they have sufficient numbers of qualified staff (i.e. holding the appropriate certificate) available at the time of sale to provide information to customers. Distributors who sell professional products over the internet have exactly the same requirements as those who sell from warehouses or shops.

Previously, the UK's regulatory requirements for certification of pesticide users did not cover the use of vertebrate control agents or food storage products. Operators were required to be trained and competent but they were not obliged to hold a certificate. From 26 November 2013, anyone using those products will need to ensure that they hold a specified certificate. It is not yet clear which certificates will be 'specified', but a list will be published prior to the November 2013 deadline.

If you need to know all the details in the new regulations then CRD has produced a useful document *Guidance for those affected by the Plant Protection Products (Sustainable Use) Regulations 2012*, which is available on their website at www.pesticides.gov.uk.

As for professional pest control away from farms, the likelihood now is that any future Sustainable Use Directive for biocidal products will introduce legally binding training and certification requirements.

BPCA celebrates 70th AGM

On 27 June, the British Pest Control Association (BPCA) held its Annual General Meeting (AGM) at its offices in Derby. But this was something of a special year for BPCA, as it was the 70th AGM.

Before the 2012 AGM, BPCA chief executive, Simon Forrester, organised a lunch for past presidents of the association to celebrate the 70th anniversary. As a past president, ***Pest*** editor, Frances McKim was invited to join what proved to be a very enjoyable get together. In total, nine past presidents attended the celebrations, as seen in the photo opposite. However, be warned, never think there is such a thing as a free lunch. Over the meal, in-coming president, Henry Mott, led a discussion centred around past achievements of the association and views as to where the organisation might go in the future. As you might imagine, some lively debate ensued.

Changes to the board

At the meeting, the membership of the BPCA elected Henry Mott of Conquer Pest Control, based near Nottingham, to become its new president. Henry, who has served the last three years as deputy president, takes-over the mantle from Martina Flynn of BASF, who has been president throughout this time.

Also elected was Martin Harvey from Harvey Environmental Services who becomes deputy president, whilst Jenny Humphrey of DRE remains as honorary treasurer. Jim England of Protex Pest Control and Alan Morris of Bayer were elected to the board.

BASF's Martina Flynn hands-over the president's chain of office to Henry Mott of Conquer Pest Control

Awards time

The first presentation at the BPCA AGM was the Charles Keeble award.

This is given to the candidate who achieves the best result in the BPCA Accredited Technician in Pest Control examination. This year it was won by Tom Webster of Rentokil Pest Control.

The president was also delighted to present the John Bull award which is given to the candidate who achieves the highest mark in the Fumigation Diploma. This went to Andrew Wilson of Dealey & Associates.

It was with great pleasure that the meeting welcomed Barbara Norton, widow of Del Norton. She kindly presented the award, made in her husband's name, to Alan Beevers of Ecolab.

Henry Mott then made a special presentation to BPCA membership officer, Rachel Ayres who, in July this year, clocked-up 20 years of loyal service to the association. Rachel was taken totally by surprise.

Tom Webster , left, with Henry Mott

Alan Beevers and Barbara Norton

Andrew Wilson, left, and Henry Mott

Rachel Ayres and Henry Mott

A special award was also made, in his absence, to Paul Hoyes of Killgerm. Paul had just stepped-down as chairman of the Manufacturers & Distributors committee.

Past presidents who gatherd to celebrate BPCA's 70th AGM. The lunch was hosted by then president, Martina Flynn and deputy president Henry Mott (extreme left). The assembled group, seen below, cover a span of 30 years of the association's presidencies. Starting from the left, after Henry, and with the dates of their presidency are: Nigel Binns (2007/9), Peter Priestley (2003/2007), Frances McKim (1982/3), Dave Nubel (1989/90), Peter Bateman (1983/4), Jonathan Peck (1984/6), Andy Gibbons (1992/3), Kevin Higgins (1999/2002) and Tony Harman (1986/7)

Does destroying the nest solve the problem?

IWM challenges conventional approach to wasp control

Eradicate the nest – that's the orthodox approach to wasp control, but it is far from the whole story, as associate editor Helen Riby found out in discussion with WaspBane managing director, Karol Pazik.

"It is an interesting fact that the vast majority of people stung by wasps during the summer are stung when they are around food whilst comparatively few people are stung around nests," explained WaspBane's Karol Pazik. "So, whilst treating a wasp nest may be appropriate if it represents a direct threat to human health, it is only part of the story.

"The fact is that there can be as many as 1,000 wasps' nests per square mile so, given that wasps can fly up to two miles to find food, theoretically there may be up to 12,500 wasps' nests contributing wasps to a particular nuisance wasp problem. Clearly, the eradication of the odd nest in response to a nuisance wasp problem will have little, if any, effect, apart from putting pest controllers at risk of being stung themselves."

So if the objective is to prevent wasps stinging people what can be done? This is where, what WaspBane describes as Integrated Wasp Management (IWM), comes in and it is an approach which is now challenging the conventional wisdom on wasp control.

IWM has been developed through the application of a recognised, science-based, quality management system widely followed in the pharmaceutical industry – root cause analysis and CAPAs (Corrective Actions and Preventative Actions). Using his training as a pharmacist and his experience in delivering some 30,000 pharmaceutical formulations and clinical trials supplies using root cause analysis and CAPAs, Karol began to ask the sorts of questions of wasp management that are the corner stone of pharmaceuticals' quality management.

Workers do not enter the nest unless the sentries let them in, so wiping-out a nest when they are foraging is actually likely to increase a nuisance wasp problem

Asking questions

Why was it, for example, that outdoor attractions diligently following orthodox wasp control methods still perennially experienced monstrous wasp problems with thousands of visitors being stung? Why was it that the regular cleaning of bins made no impact on any given wasp problem? Why was it that visitor attractions were reporting wasp problems much earlier in the season than other parts of the country? Why did wasp traps only work in some situations.

It has been by applying standard root cause analysis to these and a myriad of other such questions, combined with almost a decade of comprehensive research and experimentation in the field that has led to the development of IWM.

So, what is IWM and what are the problems that it claims to address? The easiest way to explain the concept is through actual examples as Karol pointed out.

"One of the interesting observations made relatively early on at major theme parks and zoos was that the nuisance wasp season seemed to start much earlier. Initially it was thought that this was down to an abundance of food at such attractions. However, the application of root cause analysis discovered something quite different and counter-intuitive.

Understanding wasp behaviour is key to control, says WaspBane's Karol Pazik

"The one thing that all these attractions had in common was a pro-active nest eradication programme with pest controllers actively seeking out and treating nests on site as early as late May. It transpires that during the colony founding and colony growth phases of the wasp life cycle, adult wasps are predominantly fed by the grubs in their nest. When a wasp nest is treated, it's usually the sentries that are incapacitated and killed first. The problem with this is that returning worker wasps will not re-enter their own nests unless given permission by their sentries to do so.

"Initially these worker wasps can be seen hovering outside their treated nests without flying in only to eventually disperse to find shelter and, more importantly, food elsewhere. With visitor attractions treating as many as 100 nests on site and with each nest holding between 2,000 to 5,000 workers on average, it's easy to see how such pro-active nest eradication programmes result in the creation of thousands of nuisance wasps."

Eradicating nests in this fashion actually increases the nuisance wasp problem and results in more people being stung.

"IWM teaches that when nests are to be eradicated, eradication should be conducted at the crack of dawn before worker wasps leave the nest so that they are caught and

killed within the nest. But the practicalities of achieving this make it difficult so, in situations where nests can only be eradicated during the day, whilst workers are out foraging, additional measures must be considered to ensure that the resulting nuisance wasps are properly managed."

Finding solutions

Root cause analysis dispels another wasp control myth. It clearly shows that nuisance wasps cannot be controlled through cleaning and good housekeeping.

Karol explained: "Without deploying a secondary means of nuisance wasp elimination at the same time as cleaning and good housekeeping, the nuisance wasps just get displaced from one location to the next. Consequently, the background population remains static and healthy and people remain at high risk of being stung.

"Yes, cleaning and good housekeeping are essential but in terms of nuisance wasp management they are ineffective without the integrated use of high efficiency wasp traps."

Intense root cause analysis has also been used by WaspBane to shed light on the hugely variable results that can be achieved from wasp traps.

The cumulative outcome of that analysis was that there are so many variables in managing nuisance wasps it is unreasonable not to apply a variable approach.

"A common misconception about wasp traps is that they are static devices to be hung and left in one place. This belies the complexity encountered in real life where conditions on the ground are regularly changing.

"People behave and eat differently at different times of the year so different foods will be on offer at different times. Spillages are not static and bins get filled at different rates. The use of wasp traps has to reflect this. They need to be used, with skill and knowledge, as dynamic tools rather than a static commodity," he said.

IWM exploits two common feeding traits of wasps.

- The first is that scouting wasps, which find food, will return to their nests to recruit fellow wasps, thus creating a feeding swarm.
- The second is that once wasps find a food source they will keep coming back to within millimetres of the same food source until it is consumed and they will do this to the exclusion of other food sources.

Protecting the public

For much of their lives, wasps are useful insects. In early spring they are important pollinators and in late spring and summer they help to control vast numbers of invertebrate pests. However, come the autumn, wasps change their dietary habit and begin to scavenge for sweet foods. This turns them into not only a nuisance pest, but also a health hazard. In the UK each year, between 200,000 and 400,000 people seek medical attention afer being stung by a wasp, around 1,000 are admitted to hospital and 12 people a year die from direct reactions to wasp stings. Recent medical discoveries (the Kounis syndrome and Takotsubo cardiomyopathy) have linked wasp stings with heart attacks. The number of people who die each year from a wasp sting-induced heart attack is estimated at around 1,000.

Perhaps the most common non-allergic, non-Kounis syndrome life threatening situation is where people are stung in the mouth, throat or neck. The resulting swelling can be sufficient to asphyxiate the victim. What is particularly concerning is the frequency with which this happens with opaque glass bottles, paper cups and drinks cans accounting for nearly all such incidents; all of which could be prevented by the simple use of a straw.

IWM includes:

- **Inteception techniques,** which seek to intercept the wasps before they reach sensitive areas – for example, the placement of diversionary interceptors such as bins, waste skips, plants/trees or WaspBane traps, or a combination of these. Siting of any interceptor needs to take account of the prevailing wind direction. Failure to do this could result in the interceptor actually drawing wasps into the sensitive areas.
- **Interruption techniques** which break the wasps programmed feeding behaviour by removing food sources where the wasps are already swarm feeding to facilitate their capture. Simple examples include, removable bin liners, blocking access points and pressure cleaning.
- **Roving techniques** are a form of interruption technique whereby, for example, bins or food sources are moved in tandem with WaspBane traps to interrupt programmed feeding.
- **Comfortable drop zoning strategies** whereby bins coupled with a trap are placed a comfortable distance away from the food outlet being protected.
- **Management of food sources** and, in particular, the conversion of indiscrete sources such as litter, open sugar trays, cartons of open fruit and so on into discrete sources by for example the proper use of sealed refuse sacks and food packaging.

To conclude, IWM is the sum of all those Corrective and Preventative Actions (CAPAs) required to remove the risk of people being stung by wasps in outdoor environments.

It is a philosophy geared to reducing the background population of wasps to negligible levels because, where there are no wasps, there can be no stings. It requires an active commitment from all stakeholders but, above all, it is about pest controllers having a knowledge and understanding of wasp behaviour and knowing how to apply this to protect the public from wasp stings.

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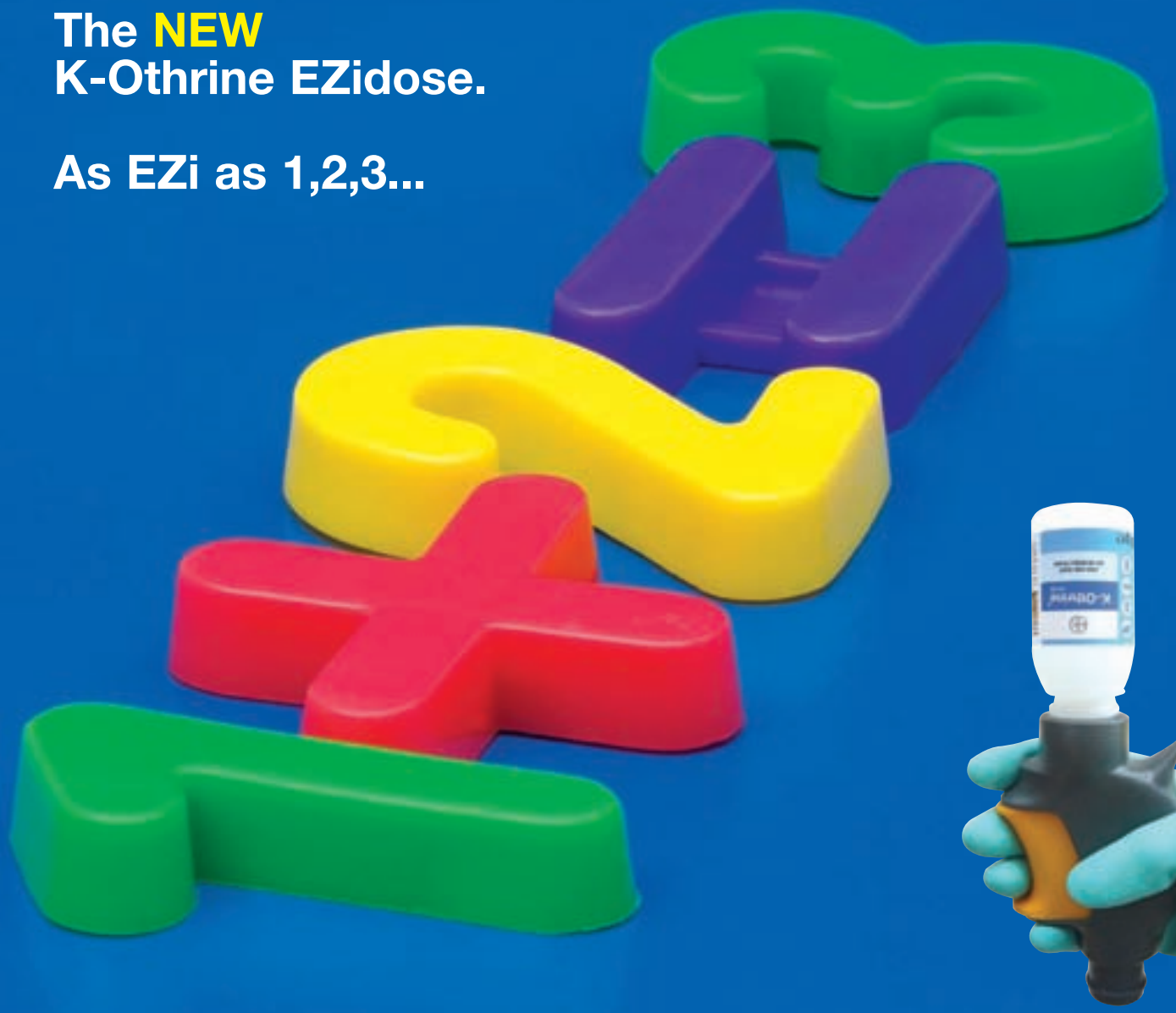

With one pull of the trigger the new EZidose simply dispenses exactly the right volume of K-Othrine® WG granules (0.5g) to mix with 1L of water.

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Our bed bug special 2012

Fifteen pages on bed bug monitoring and control techniques

A global phenomena

Leading-light honoured

It is only fitting that the industry should publically acknowledge the personal contribution made in the battle towards beating the bed bug by Australian, Stephen Doggett, from the Department of Medical Entomology at Westmead Hospital, New South Wales.

The team, led by Stephen, was the first in the world to develop a Code of Practice (CoP) for the control of bed bug infestations. The Australian code, now awaiting finalisation of its fourth edition, has been made available globally to allow other international and national groupings to formulate their own codes. Stephen has also made something of a name for himself by being one of the few researchers who critically examines and then publishes the findings following the testing of bed bug control devices – as demonstrated on pages 16 and 17 of this issue. To his surprise Stephen's achievements were recognised with a presentation during the recent

David Gay (left) presents the 'excellence award' to Stephen Doggett on behalf of the global pest management industry

Federation of Asian & Oceania Pest Managers Association (FAOMPA) conference held in Adelaide, Australia in July.

David Gay, president of the Australian Environmental Pest Managers Association (AEPMA) said: "The work that you, personally, have put into the bed bug CoP is rewarded by the success of both the document and the process, and although our CoP is not the only document out there, we believe it to be the most important advancement globally, because it was the first sound, scientifically based, logically formatted document, that 'made a difference'. For the first time in a long, long time, the industry turned to science and the industry association for a solution to a challenging technical problem – and not the marketing departments of chemical companies or distributors (no disrespect intended)."

Global nature of bed bugs emphasised at BPCA meeting

Immediately after the BPCA's AGM on 27 June (see pages 10 and 11) there was a presentation on the aims and objectives of the Bed Bug Foundation, given jointly by consultant Rob Fryatt and Richard Naylor then at Sheffield University. The international nature of the war against the bed bug was further emphasised. As Rob said: "The pest control industry must become more global. Bed bugs are a global pest and so require a global solution."

One of the main achievements of the Bed Bug Foundation, a not-for-profit foundation, dedicated to raising awareness of bed bug management, was the production last year of a European-wide Code of Practice. Based heavily on the Australian version, a second code has been drafted and made available throughout the industry for comment. All comments made by the 31 July deadline will be considered and the second edition is expected to be available before the end of 2012.

Caveat Emptor!

bed bug product buyers beware

The worldwide explosion in bed bug numbers has been followed by a similar growth in bed bug-related management devices and products. But not all of them are what they claim to be, as straight talking Australian bed bug expert, Stephen Doggett, explains in this candid review.

In the USA, bed bug business accounted for $258million of the total pest revenue in 2009. However, the sad fact is that you cannot simply assume that a product or a device being sold for bed bug management will work as stated.

The reality is, there are many unscrupulous people out there who wish to cash in on a fast buck and you, and your business, are being targeted. Even when questions are raised about a product or a device, the manufacturers' response is often not to withdraw it, but just to increase the spend on advertising.

What's not said is most revealing

Thus, when a new bed bug device, or product, is released, it is ill-advised to totally believe the company hype. Often insecticide efficacy data will be produced but it will have been conducted on old bed bug strains which are not relevant modern insecticide-resistant bugs. For example, most field strains are highly resistant to the pyrethroids, the most commonly used group of insecticides today. The information not stated about a product is often more revealing than what is stated!

With any new product before you even consider employing it against bed bugs, there are several questions that should be considered:

1 Is the product conceptually sound?

Bed bug barriers such as the Climbup Interceptor or the BB Safe Ring, are based on the fact that bed bugs have no aerolium (the suction like footpad that enables insects such as flies to walk up glass and other smooth surfaces. This means that ultra smooth surfaces can act as a barrier to bed bugs.

Mattress encasements make conceptual sense too as they provide fewer harbourages and, being white, aid in the visual detection of bed bugs.

Heat will kill any insect so the use of containment heat makes also conceptual sense.

2 Is the product conceptually flawed?

Current populations of bed bugs are often highly resistant to the pyrethroids and so the use of an older generation pyrethroid, such as permethrin, is simply conceptually flawed. This was borne out in recent investigations where permethrin impregnated fabrics failed to control a modern strain of bed bugs (Doggett *et al*. 2011).

3 Is the product conceptually weak?

Almost every week a new bed bug trap comes onto the marketplace. Many are simply pieces of cardboard tarted up and sold as the next miracle device to detect bed bugs. The reality is that most provide a very small harbourage area and the obvious question is: why would a bed bug go into these when so many other competing and more attractive harbourages are available? Additionally, bed bugs lay down aggregation pheromones and tend to go back to those areas where they have been before rather than to previously bed bug free areas. Many traps have sticky gels or tape, yet bed bugs have a negative tactile response with sticky surfaces and thus tend to be repelled. This is why sticky based monitors are simply not very effective.

However, could conceptually weak products be made conceptually less weak? For example, with the harbourage traps, if there are fewer harbourages available through the installation of mattress encasements then perhaps harbourage traps will become more effective. If the trap is strategically located, or made much bigger to provide a greater harbourage area for detection, then what is an initially weak idea becomes conceptually stronger.

4 Is the product operationally flawed?

A product may use a technology that, in theory, should kill bed bugs, however, operationally, some devices become less than effective due to a flawed design, or, quite simply, may be dangerous. For example, there are various gaseous devices that are claimed to freeze bed bugs. The problem is that some can only be employed at very high pressures. As the spray must displace an equivalent volume of air, this results in a powerful wave of air ahead of the gaseous jet, which can blow bed bugs about non-lethally. This can potentially spread the infestation, thereby making control more difficult.

Heat is a very sound method of killing bed bugs, yet, if undertaken without due care, there can be major hazards to people and property. Several fires have been started by pest managers in the US attempting bed bug control with heat, in one case this resulted in multi-million dollar damages. Beware of companies promoting the use of heat for controlling bed bugs and ask if they have been trained by leading experts in the thermal control of insects.

5 Is the product morally flawed?

Insect growth regulators (IGRs) work by disrupting the insect's physiology. Typically such products when applied to the juvenile stage (i.e. the nymphs) have no effect until the insect moults. However, for an IGR to take effect on a nymphal bed bug, one thing is essential: the insect must take a blood meal.

To look at this in an alternative way, for an IGR to work, your client must be bitten. Where is the morality in this? To extend this idea even further, what would happen if the client was extremely litigious and found out that a product was being used that only works through their suffering; this could be a legal threat to your business.

6 Are the other company products sound?

It is hard to trust a company for example that markets ineffectual devices such as ultrasonic insect repellers; how could you trust anything they state about any product they market?

7 Is the product economically flawed?

A conceptually sound product can be economically flawed. For example, if a baited trap existed that detected bed bugs with 100% accuracy (none have been demonstrated to be this effective), but was too expensive to use on an everyday basis in all hotel rooms, then it would be economically flawed.

In many three star hotels, housekeeping takes an average of around eight minutes to clean a room. If a trap requires a few minutes to examine for bed bugs, then this could substantially blow-out housekeeping costs, and thus the device becomes economically unviable. An ideal trap should be capable of being checked within a few seconds.

8 Is the product aesthetically challenged?

They say that beauty is in the eye of the beholder, however, if a technology looks ugly to you, then it will also look ugly to your client. For this reason for example, an insecticide dust would not be applied in obvious areas within a hotel room.

Even great technologies can look unappealing to clients; think of the number of videos of bed bug detection dogs walking on or scratching at beds. This is simply not a good look and one of the reasons why many hotels in Australia will not permit dogs onto their premises.

9 Does the technology look, well, just plain iffy?

Recently, several new electronic bed bug 'sniffing' detection devices have made it onto the market. Some of these only detect carbon dioxide and not other more specific bed bug compounds such as pheromones. Viewing these devices in action on YouTube (e.g. www.youtube.com/watch?v=Yl3eklUwOx0) does not inspire a lot of confidence. In this case, the detector has to be placed almost on top of the insect to register. Move it a few centimetres away and the device no longer signals the presence of bed bugs.

© Stephen L Doggett

Stephen Doggett is based in the Department of Medical Entomology, Westmead Hospital, Westmead, New South Wales. Since the beginning of the modern bed bug resurgence he has been at the forefront of documenting the rise and impact of bed bugs in Australia. He has produced over 80 articles for industry and scientific journals and given more than 70 presentation on bed bugs and their control. Over the last five years, he has worked with a distinguished team of Australian pest controllers in producing the industry standard on bed bug management; *A Code of Practice for the Control of Bed Bugs in Australia*.

Pest professionals play key role

Even the most conceptually sound product can fail if the pest control technician is not trained in its use or does not know how to monitor its effectiveness. For example, with heat, not monitoring the temperature and not ensuring that the heated air is circulated will result in uncooked bed bugs, while fire can be a real risk as mentioned above. Every product has limitations, we know this as there is still a bed bug problem; the perfect technology is not here and unlikely to be for some time (if ever).

Knowledge of a product's weaknesses is just as important, if not more so, as knowledge of what it can achieve. In introducing a new technology, ensure that you evaluate its effectiveness in a rigorous manner independent of other technologies currently employed. Do not simply trust company hype. Look for those products where there is independent data on efficacy; do not rely on company advertising, or articles pretending to be science but which are simply advertorials.

In Australia independent guidance on product efficacy is available within the *Code of Practice for the Control of Bed Bugs in Australia*. The Working Party behind this code regularly reviews the literature and, where there is independent evidence of efficacy, incorporates new products into the latest edition. Thanks to the internet, you don't have to operate in Australia or, indeed be Australian, to benefit form this guidance. However you do need to check that any insecticides listed are approved for use in the UK. The Australian code is free to download from www.bedbug.org.au. The first edition of the European bed bug code (www.bedbugfoundation.org) does not provide insecticide listings as it would be too difficult to list all the products registered in different countries, however, the draft of the second edition does provide information on the various formulations available in Europe.

To conclude, never, ever assume that a product will work; there are too many companies out there who wish to make a fast buck, and you are the potential sucker. In the meantime, CAVEAT EMPTOR – BUYER BEWARE!

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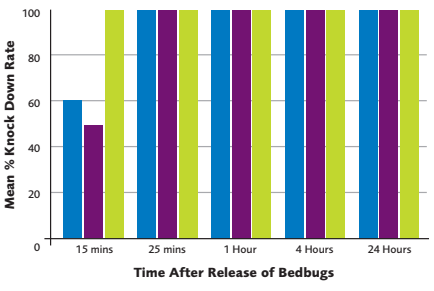
LABORATORY TESTS

The following test results detail the efficacy of Phobi Dose on three types of surfaces. Phobi Dose was sprayed on each surface and left to dry before bedbugs were released. The first graph details results immediately after treatment – the second shows results 14 days after treatment when bedbugs were re released.

Textile (ie carpet) Plywood Ceramic Tiles

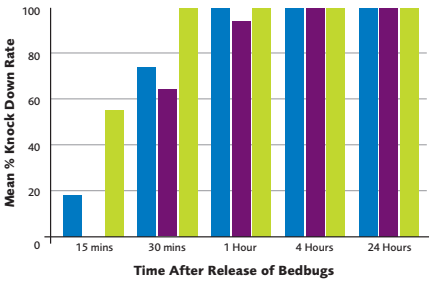
Trial at Day 0

Knock down speed of all bedbugs after treatment.



Trial at Day 14

Knock down speed of all bedbugs 14 days after treatment.

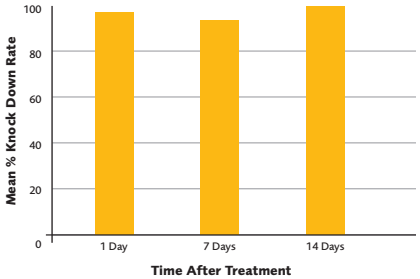


FIELD TEST

5 separate apartments were treated independently within a multi storey block of flats. 5 apartments in the same block were untreated to act as a control. Bedbug infestations averaged medium to high in each apartment.

The graph shows the average control in all 5 apartments within 14 days from the initial treatment.

Phobi Dose



PHOBI Dose

Phobi Dose contains 0.1% Imiprothrin and 0.15% Cyphenothrin. Use pesticides safely always read the label.

Navigating the monitor maze

What's available and at what price?

Devices to monitor for bed bug infestations abound. Fancy cardboard, moulded plastic, CO_2 devices, simple traps with glue – the array is amazing. Also amazing is the range in cost. To help readers negotiate their way around this monitor maze, *Pest* has hunted around and collected together the range currently available in the UK.

The quest for a monitor for bed bugs goes right back to the start of this century.

In a paper published in *Pesticide Outlook* in August 2001, Clive Boase identified the need for a monitoring tool. Yet it was not until 2009 that the first monitoring device appeared – the BB Alert Passive. Since when, they have arrived thick and fast.

Developing and producing these types of monitors is attractive to the manufacturers. Not only could they sense a hungry market, but also one they anticipated would be profitable. Also of considerable attraction is the comparatively short length of time required from idea to finished product on the market place – as unlike all the chemical treatments – there is no form of lengthy, time-consuming and costly regulatory hurdle to be overcome. Linked to this, again unlike chemical treatments, is the fact that there is no requirement to provide any sort of data proving the product actually works! When thinking of purchasing a monitor, enquire of the supplier/manufacturer for technical trials data and see what reply you receive? At best you might get some limited information regarding their own monitor, but a hunt to discover any independent technical data comparing the products will reveal nothing.

This is not to say that research work has not been carried out – only that it is not freely available. As a bed bug researcher, Dr Richard Naylor at Sheffield University has lab tested several of the monitors on behalf of the manufacturers. Commercial secrecy arrangements prevent identifying any of those tested, but as Richard explained: "Some of those I have tested have successfully trapped many bed bugs – others were not nearly so successful. But products frequently go to market irrespective of how well they work."

In this review we have included those monitors we were aware of – our apologies if any have been overlooked. The bulk of the information has come from either the manufacturer or the product's UK distributor. All prices shown are net of any special discounts or promotional offers.

One thing that is certain – there's plenty of choice out there and at a variety of costs – but at the end of the day, success largely depends on the expertise of the operator. Good hunting!

How to choose your monitor

Bed bug monitoring is no longer in its infancy, but is still definitely in its adolescence. The range of technologies used is broad, with little sign yet of a consensus emerging. So how do you decide which monitors to use? The Pest Management Consultancy's Clive Boase provides a few tips:

What do you want your monitor to do?

Different monitors suit different situations. Are you thinking of widespread pro-active monitoring of numbers of rooms in a hotel, or housing block? If so, then one of the simpler devices may be sufficient. The absence of sophisticated attractant technology, will be compensated by the length of time they are left in place. However, if you are looking for a quick decision on infestation status in a particular room, then you could use one of the more sophisticated devices, or even use several of the less expensive adhesive monitors placed around the room.

What type of monitor will your customer accept?

Hotels, for example, may be concerned about leaving conspicuous or 'suspicious looking' devices in occupied guest rooms, especially if they require an electrical supply. Monitors that can be secured very discreetly, e.g. behind the headboard, or within the divan base, may be more acceptable in this sector. By contrast, domestic customers may be much less concerned about the appearance of the monitor.

Which monitors can you afford?

Of course your customers are looking for good bed bug control, but they are also looking for a competitive price. The available monitors vary very widely in price; for one of the more costly monitors, you could buy many of the less costly detectors, and place them in several locations around the room. And bear in mind also, that no matter how much you explain your monitoring to the customer, residents, guests or cleaners will often dispose of monitors before you return. The more costly the monitor, the greater your loss.

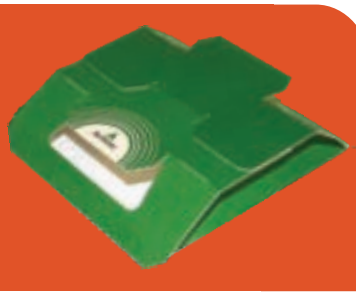
Are they easy to check?

Some monitors virtually require dismantling to see if bed bugs are present. Others are much easier to check. Remember that young nymphs are very small and neutral coloured; they are not easy to spot on coloured backgrounds or textured surfaces. If possible, compare different types of monitor in the same infested room. Keep a record of how well each type of monitor has worked for you. Ask suppliers about the detail of any testing they have done. You will soon develop your own expertise.

Bed Bug Moat

Made by:	The Bed Moat (Canada)
Distributed by:	Killgerm
Price:	Pack of 4 moats £11.60 = £2.90 each
Description:	Made of durable white plastic. Square so allows placement under furniture legs. Textured exterior wall lets bed bugs climb in, but polished interior prevents climbing out.

Bedbug monitor



Made by:	Suterra (formerly AgriSense)
Distributed by:	Killgerm, Barrettine, SX
Price:	Box of 10 monitors £7.55 = £0.76 each
Description:	These no-nonsense cardboard monitors come flat-packed and are assembled into triangular monitors. Each trap contains a refined blend of active ingredients plus sticky glue to retain the pests once caught.

Bed Bug Inn

Made by:	SX Environmental Supplies
Distributed by:	SX Environmental Supplies
Price:	Each trap £1.90
Description:	Used for over ten years as an insect monitor, it has been now modified so as to detect the presence of bed bugs. Made from white rigid plastic, this shows up marks left by insects.

KEY to monitor type

Orange header boxes = Passive devices

Green header boxes = Active monitors

Bed Bug card monitors

Made by:	Barrettine, Killgerm and SX
Distributed by:	Barrettine, Killgerm and SX
Price:	Box of 10: £18.40 = £1.84 each (Barrettine) £14.70 = £1.47 each (Killgerm) £14.00 = £1.40 each (SX)
Description:	Layers of precision-cut corrugated cardboard are used to provide an ideal harbourage for bed bugs.

BB Alert Passive monitor

Made by:	Midmos Solutions (Brandenburg UK)
Distributed by:	Barrettine Environmental Health
Price:	Each unit £13.50
Description:	A moulded plastic monitor containing corrugated pulp-based tunnels to provide an ideal bed bug harbourage. Unit surrounded by a white detection skirt designed to clearly show any bed bug faecal staining.

Bed Bug Alert

Made by:	Bird-X (USA)
Distributed by:	Bird-X UK
Price:	Case of 12 monitors £65.99 = £5.50 each
Description:	Containing a chemical lure and made of sturdy plastic, this monitor is transparent so the user can easily check to see if bed bugs have been detected and trapped. The sturdy construction prevents the glue and the monitor from being crushed while in use.

Bed Bug Barrier

Made by:	Bed Bug Barrier (Australia)
Distributed by:	Barrettine
Price:	Either model £3.99 each
Description:	Available in two models, the Caster Barrier and the Screw In Barrier, these products perform not only as an impassable floor barrier but also as a trap, so acting as a monitor.

Bed Bug Beacon

Made by:	PackTite (USA)
Distributed by:	Barrettine Environmental Health
Price:	Each kit £34.90. Refills £8.45
Description:	Resembling something similar to a school chemistry set, chemicals are included, which once mixed in the bottle provided produces five days worth of CO_2 lure which is fed via the pipe to a bed bug pitfall trap.

BB Alert Active monitor

Made by:	Midmos Solutions (Brandenburg UK)
Distributed by:	Killgerm, Barrettine, SX
Price:	Each trap £13.50. Replacement activation packs (2 pads) £1.10
Description:	Plastic monitor base incorporating three rows of teeth and glue to capture attracted bugs sealed by insulated top cover. An activator pad is placed in the base which gives off heat aiming to mimic a host. Six to eight hours activity claimed for the activator pad. Recommended for use on two nights out of five, ideally in conjunction with the BB Alert Passive.

Silvatronic Bug Dome

Made by:	Silvandersson (Sweden)
Distributed by:	Killgerm
Price:	Bug dome, mains adaptor and 3 adhesive traps £24.95. Refill pack of 10 adhesive traps £24.95
Description:	This uses a small heating element placed underneath a dome to attract bed bugs. The dome recess is coated with a special glue to hold the bed bugs for inspection. Once the bed bugs have climbed into the dome trap, they are stuck in the glue.

Other monitors on the scene

Although not (yet) available from the main pest control distributors in the UK, the internet opens-up a worldwide market place for the purchase of these products. Included here is a selection, by no means comprehensive, of some of those available – the majority of which come from North America.

The ClimbUp interceptor

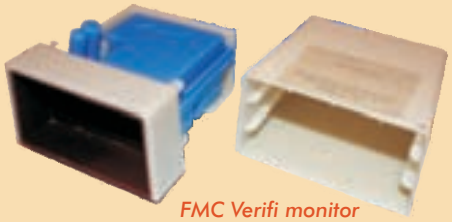
TDS-II Professional bed bug detector

BBD-100 personal bed bug detector

The BEAP Terminator

The Catchmaster passive monitor

The BEAP Detector



FMC Verifi monitor

Real scent but no bed bugs

Bed bug detection dogs are highly trained 'sniffers'. But even once trained and fully operational, refresher training is essential at regular intervals, so a supply of bed bugs is needed. Using live bed bugs is the preferred method, but on frequent occasions this is not possible. Hotels, for example, are understandably reluctant for live bugs to be brought onto their premises for fear of escape. ICR, an independent pesticide efficacy testing laboratory based in Baltimore, USA has come up with a novel solution – CimexScent.

"We have supplied live bed bugs to canine trainers for over three years," said Dr Reg Coler, business development & research director for ICR, "but some people find them difficult to keep alive. Unless fed on blood, a colony may only survive a matter of a few weeks. We came up with the idea of CimexScent as a practical and easily transportable alternative."

The CimexScent product, a package of five 3x3 cm square filter papers impregnated with real bed bug scent, is now being supplied to canine handlers. The production of CimexScent involves immersing bed bugs in a solvent which extracts their scent. This extract is then spread onto the filter papers, allowed to dry, then sealed in a zipped bag and placed in a freezer until required. Once frozen, the scent remains active for at least six months. Once opened and at room temperature, it will last about ten hours.

CimexScent is an extract, but is used in a fashion similar to the pseudo-scents that are well known to most canine handlers. ICR is working alongside some third-party US-based canine certification groups to collect more data on its performance in the field.

To date, one shipment has found its way to Europe, with more to follow should the demand be there.

Part of the formulation process for CimexScent

Mist cleared for foggers

In a paper recently published in the *Journal of Economic Entomology*, researchers from Ohio State University, USA presented the first scientific data supporting the position that over the counter total-release foggers should not be recommended for the control of bed bugs.

The reasons given for this recommendation from study authors, Dr Susan Jones and Joshua Bryant, were firstly because many field-collected bed bugs are resistant to pyrethrins/pyrethroids and so were not affected by brief exposure to low concentrations of these insecticides dispersed by the foggers. Second, there is minimal, if any, insecticide penetration into typical bed bug harbourage sites.

Have dogs – will travel

When Adam Juson from Merlin Environmental began using dogs to detect bed bugs some three years ago, little could he have dreamt where it was all going to lead. Based in Carshalton in Surrey, Adam and his pair of labrador dogs – Charlie Brown and Basil Brush – are familiar sights around the top hotels in London, but they have now spread their wings (or is it paws?) to extend their detection services to other top European locations.

In the UK Adam's work falls into two categories. He is either working for a pest control company, as part of their team, servicing their client's premises, or he is undertaking inspections for direct clients, such as hotel chains, checking out their rooms to ensure they are bug free. But as Adam explains, that's a service which is in demand in other countries too: "Much to our surprise, we came way from PestEx 2011 with a clutch of contacts from overseas pest controllers who wanted us to check-out their client's properties. At the time the veterinary requirements of the Pet Travel Scheme (PETS) made this impractical. But, in January this year, the requirements were relaxed, meaning we can take our dogs abroad and then bring them back again without, having to quarantine them."

The first trip with Basil and Charlie, who now have their own doggy passports, was to a series of French hotels in Paris. Since then inspections have been completed in Belgium, Spain, Sweden and Malta. "We have also had requests to work in Australia and the United Arab Emirates but have turned these down as the Pet Travel Scheme, without quarantine, only extends to Europe. We did get asked to go to America which I found quite amusing, as that is where this technique originated and they have a far larger number of canine bed bug detectors than we do," said Adam.

Adam accompanied by Basil, trying to cool-off on a very hot day in Malta

Taking his dogs for a stroll along some palm-lined beach in between inspection jobs might sound idyllic, but as Adam explains working his dogs abroad is no stress-free holiday.

"Flying dogs on planes is not easy. When we went to Malta they had to travel as cargo in a crate, which got left on the runway in the intense heat, meaning the dogs got dangerously over-heated. Then, having flown they didn't have their usual kennels and so had to share my hotel room," details Adam.

For the future, Adam has learnt that overseas trips using his own customised van is by far the best solution. The world really has become a smaller place.

Whatever next? Bed bug dogs go electronic!

Far left, from the USA, the original electronic dog nose and near left, the new turbo version

It had to appear – and in the USA of course. An electronic canine bed bug detector. On their website for these two products, the manufacturer says: "The Electronic Dog Nose is the device which replicates the way dogs pick-up scents, enabling it to sniff-out bed bug pheromones. By detecting a unique concoction of methane, CO_2 and bed bug pheromones, The Electronic Dog Nose is able to locate and pinpoint bed bugs even more accurately than a dog."

No doubt this US company would accept orders from Europe but at $199 (£130) for the smaller device and $499 (£320) for the turbo model they may not get knocked-down in the rush.

UK bed bug research delivers

The majority of the recent scientific research work on bed bugs has come from the USA. However, in the UK a small group of researchers at Sheffield University has been studying many aspects of bed bug biology since the mid 1990s. And what's more this research has resulted in some useful, practical guidance for pest controllers. Keen to find out more, *Pest* editor, Frances McKim, paid them a visit.

Based in the Department of Animal and Plant Sciences at Sheffield University, Dr Richard Naylor is probably the most well-known amongst the group. Richard recently graduated with a PhD based on his bed bug research and he has already spoken about his work at several of the international scientific pest control events. Even after his imminent departure from the department, research on this troublesome pest will continue at Sheffield.

Upon my arrival at the Department, first on the agenda was an invitation to see the 'stars of the show' – the bed bugs themselves.

Small but perfectly formed

First impressions can be deceptive, as what hits you is that much of this work is undertaken in a basement insectary no larger than a family bathroom! But the size belies the pest, as bed bugs as we know, are small and happy to live in high density populations – meaning large colonies can be kept within a relatively small space.

Dr Richard Naylor adds a whole new meaning to the: 'Do something amazing: Give blood' slogan. Yes it's feeding time at the Sheffield bed bug insectary!

The bed bug's bizarre mating behaviour – traumatic insemination

In fact, the insectary at Sheffield is something of a bed bug 'museum' as the ancestry of some of the colonies can be directly traced-back to strains collected in the 1970s. These invaluable strains collected prior to today's wide-scale use of insecticides, provide a baseline for measuring resistance, since they are susceptible to all the current classes of insecticide.

It was the bizarre mating behaviour of bed bugs that first caught Richard's attention when he was casting around for an insect to study. As he quickly discovered one of the main challenges of bed bug research is related to the unique nature and biology of this pest. Specifically, to be reared successfully, they require regular access to fresh blood – preferably human!

One thing Richard never considered when choosing his study organism was that he had not only selected an insect whose behavioural habits were only lightly studied, but also one which was about to rocket into significance and become the internationally important pest we know today.

Practical guidance

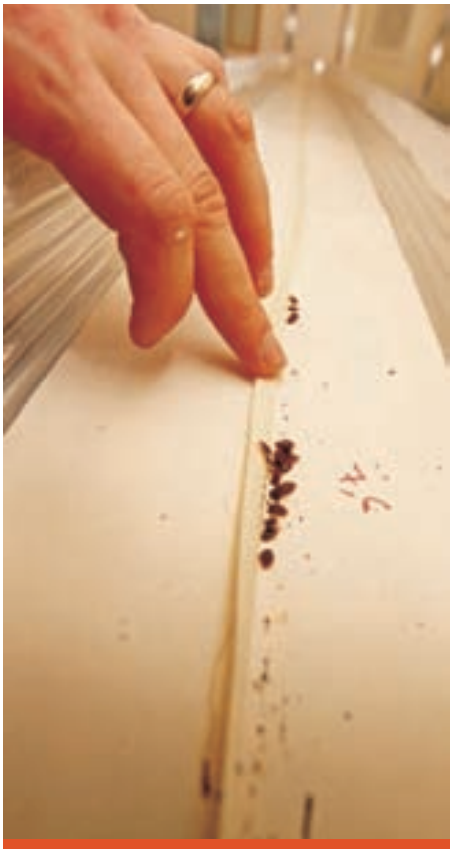
Over the years bed bug research at Sheffield has sought to provide practical guidance for commercial pest control

The three metre long troughs in the laboratory used to study bed bug dispersion

operators. The first study which drew attention was the evaluation of bed bug elimination following various methods of laundering (washing), dry cleaning or freezing. This proved that whilst nymphs and adults are relatively easy to kill, eggs are much more resilient.

The sensitivity of individuals to bed bug bites has also been studied, and, soon to be reaching publication stage, is new work using genetic DNA testing to evaluate bed bug population dynamics.

Also, part of Richard's PhD studies has been an investigation into why bed bugs actively disperse away from one host in search of another.



Within each trough a continuous narrow fold of paper provided suitable bed bug harbourages

Bed bugs proved virtually impossible to study in a real-life field situation so Richard set about designing a laboratory set-up. What he constructed was a series of three metre long troughs (known as arenas). One end was fitted with an artificial host (representing a human host) and along the length of the arena was a narrow fold of paper, providing the bugs with a long crevice in which to hide between feeds.

Unfed adult bed bugs were released close to the host and then the population size and distance from the host recorded over time.

As to be expected, the greatest number of bugs occupied harbourages close to the host, but even within the first 24 hours, distinct satellite populations were starting to be established some distance away. Over the next two weeks further distinct population locations sprung-up.

Similar pattern in recent strains

The establishment of these new bed bug 'camps' followed a similar pattern between the two relatively recently collected strains (London 2006 and Kenya 2008 – see Table 1) but a strain dating back to the 1970s from Cambridge showed a much more continuous distribution. "It seems that over time, this long-term laboratory population has lost its tendency to aggregate," explained Richard.

From a practical point of view, what is interesting to note is the fact the bed bugs establish a clustered distribution. So, in the field, pest controllers must look carefully for outlying clusters away from the main aggregation.

This brings into question the wisdom of pest controllers demanding a location should be cleared and tidied-up prior to their arrival for treatment. By doing this, the inexperienced householder may unwittingly move bed bugs in the outlying ▶▶▶

It doesn't take much space to house a complete individual bed bug strain

clusters around, potentially spreading the infestation. Maybe it would be wiser for the experienced pest controller to carefully identify the locations of all aggregations prior to any movement of possessions for treatment?

From this work we can also infer that there is a fixed 'window of time' for treatment of an infestation. This is prior to competition for harbourage space drives the creation of a new 'break- away' clusters. The longer the infestation remains, the larger the number of individual colonies and the further they will be away from the host.

Also clear to see is the difference between 'old' and 'new' populations. Any research work to establish product efficacy needs to be undertaken on representative field strains rather than laboratory populations.

Where next for Richard?

Although Richard's time at the University is almost up, bed bug research will continue in the Department of Animal and Plant Sciences at Sheffield University.

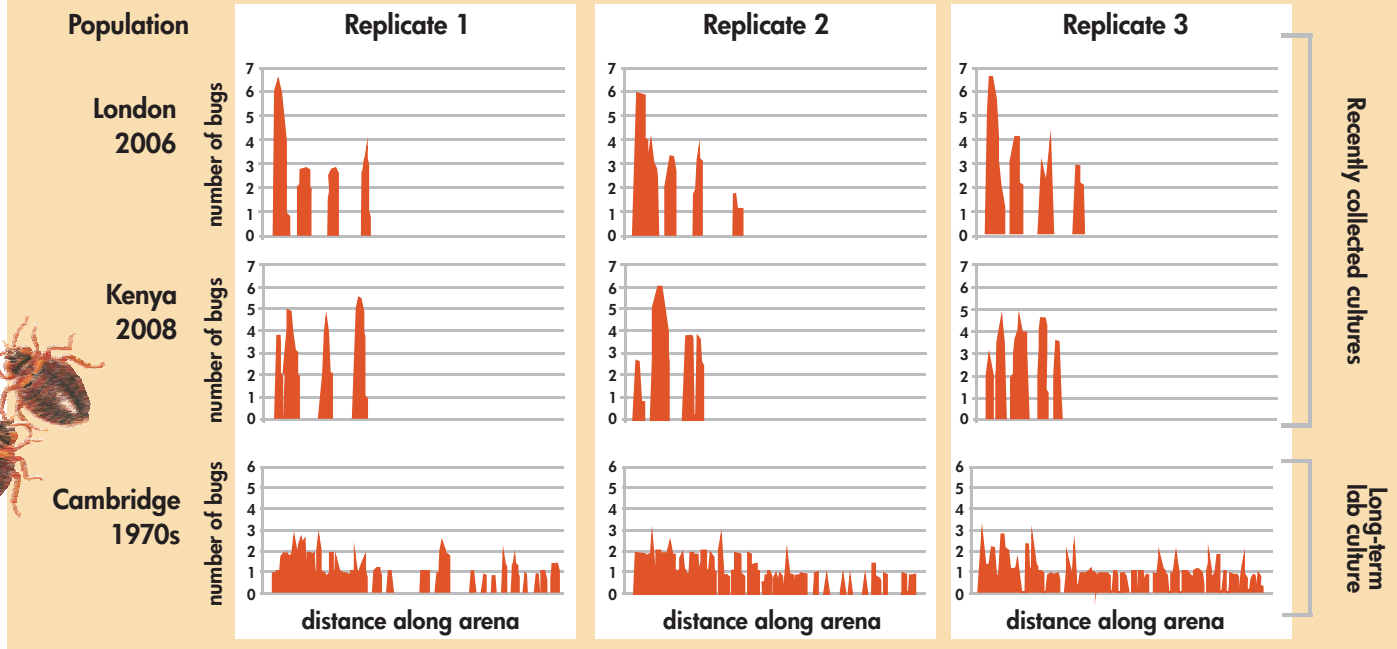
Richard too intends to continue in his research and will be supplying live bed bugs to others working in the industry. He has also become involved in the technical side of the work being undertaken by the Bed Bug Foundation, responsible for producing the *European Code of Practice for Bed Bug Management*.

Some key lessons

- The older the infestation, the greater the likelihood of 'break-away' colonies away from the host.
- Pest controllers must look carefully for outlying clusters away from the main aggregation.
- Pest controllers might like to think again about whether householders are asked to clear and tidy-up a location before treatment as that may just spread outlying clusters into new locations.
- Any research on product efficacy needs to be on representative field strains.

Pest editor provides a blood feed. "I didn't feel a thing," she said. But it can take up to two weeks for any sensitivity to show, so fingers crossed!

Table 1: Bed bug population dispersion over time



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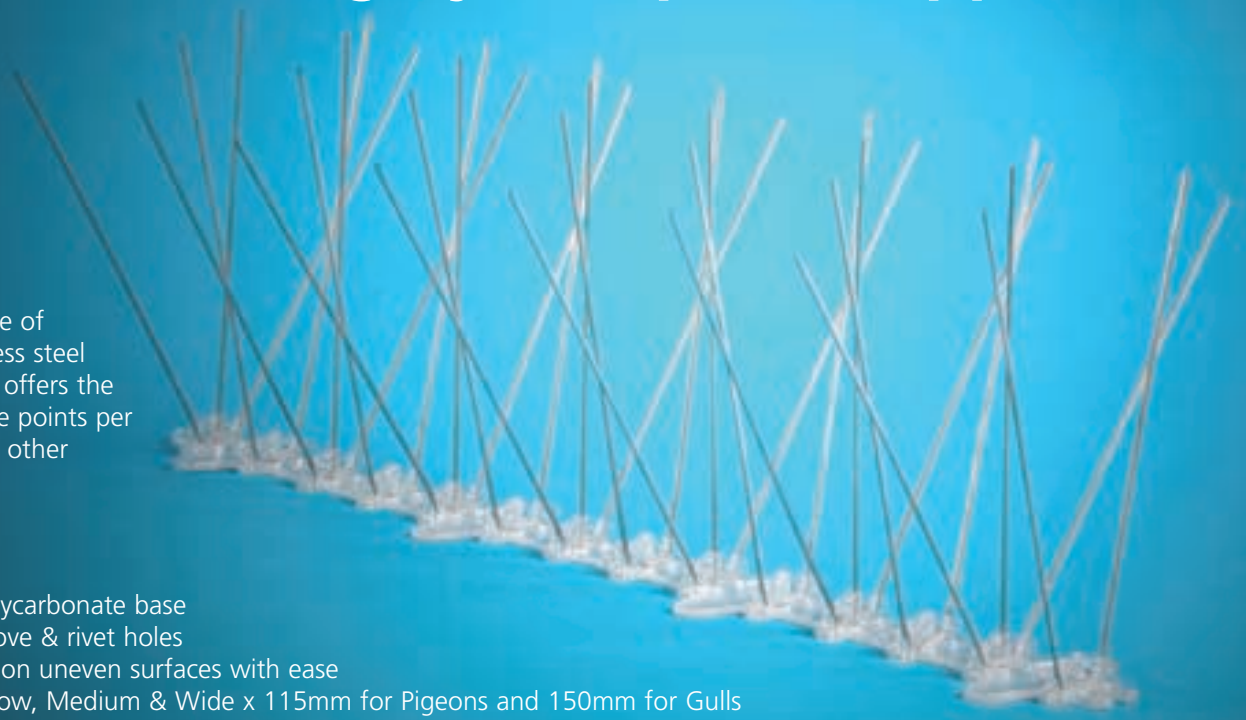

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Bed bugs & heat the ugly truth!

In the right circumstances a well-executed heat treatment is an effective control for bed bugs so, in this special bed bug edition of *Pest,* we wanted to include it. But when we spoke to heat treatment specialist Dave Hammond of Thermokil we sparked such a robust response that we asked him to put his thoughts into writing. Bad practice, blatant commercialism and a total lack of customer care are giving heat a bad name, he says.

When ***Pest*** editor Frances McKim rang me for an update on the use of heat for this bed bug special she caught me on the rebound from viewing yet another terrible heat treatment, by a big name company, and I let both barrels go.

She felt I ought to put my thoughts down on paper so, here we go… and yes Frances, I'll try to avoid naming names, but big bad companies and individuals, if you feature here … you know who you are and I still have the negatives!

Thermakil's MD Dave Hammond

Used properly heat is fantastic but...

Let's start at the beginning; heat treatment, used properly, is fantastic in many situations. It assists in the control of bed bugs and, of course, a whole range of other insects in specific situations in food factories, mills and bakeries and for timber pests.

The main purpose of heat is to penetrate those areas which conventional sprays and dusts cannot reach and where phosphine or sulphuryl fluoride fumigation is not feasible.

If you want to eliminate an insect problem quickly you have to be able to kill eggs and larvae (and nymphs) in those inaccessible areas which cannot be treated with conventional insecticides.

In such circumstances here heat or gas are the only options, which brings me to bug bear number one. This is a new observation for me, brought to my attention by my new Thermokil operations manager, Ryan Overton.

Being relatively new to the pest control industry Ryan asked me whether some companies were actually interested in eliminating pest problems or just 'managing' them, so contracts could be justified and extended?

So how does this work for bed bugs?

Now that heat treatment (introduced and pioneered by yours truly since 1998) has become popular, all sorts of clowns, who previously had derided it, have decided to get on the band wagon. This ranges from PLCs to one-man bands.

The one thing many of these outfits seem to lack is any form of training or understanding of basic heat treatment techniques. Or, indeed, any knowledge of the basic laws of physics. Whilst 50°C for two hours is indeed a legitimate target temperature, that temperature refers to where the bed bug eggs are hidden, not the air temperature and not some spot meter temperature taken from a convenient hot surface that you can show a customer.

> "Are some companies actually interested in eliminating pest problems or are they just 'managing' them, so contracts can be justified and extended?"

Just dreadful!

Recently I was asked to witness a treatment by a big name company. It was the fourth time they had been called back to carry out the treatment because the client had been totally dissatisfied with their first three attempts. It can only be described as dreadful.

The technicians had only two combined air/food probe sensors to measure temperatures in four rooms and a corridor. They placed a single 18 kW heater in the corridor and, when the air got to 50°C, started counting the two hours until they could go home.

I started kicking up a stink, moving the sensors into cold spots where they dropped to 18°C! Eventually the local manager was called. His explanation….. wait for it ….. and I quote: "But if you put the sensors in the cold spots, the job will last longer." Need I say more!!!

There was absolutely no interest in actually controlling the insects, no back-up treatment, and zero training from head office. They had been given a heater and been told to get on with it. It was trust in the company's name and so called reputation that brought in the work.

Morally just plain wrong

The other popular scam involves those in the weakest of positions, Joe & Jane Public. They ring a call centre, pay upfront by credit card and wait for some men in a van with a heater to come along and solve their problem.

Unfortunately, what they don't know is that these men actually have no intention of tackling the bed bug problem. All they are contracted to do is to heat up the room, house, or whatever, to an agreed temperature and then bugger off.

Quite often, these companies will try to just heat up individual rooms, with no supporting insecticidal work, measuring only surface temperatures and making no provision for insects being moved on down cable conduits or pipe ducts to adjacent areas, where, of course, they spread the infestation, developing more work!

If you are going to heat up individual rooms you have to:

a) allow enough time for heat to penetrate cracks in wall floor junctions (normally 12 hours plus), or
b) support the heat with insecticidal treatment.

Treating whole buildings 'Ecolab-style', is a legitimate, if expensive, strategy because the insects are left with nowhere to go and here treatments can last for days. But it does allow for proper heat penetration into the deep recesses of the building. However these types of treatments are not without risk, sometimes considerable risk.

It is reputed that one major company has been reviewing its heat treatment operations because claims for damage have exceeded revenue! I used to be a QA Technologist for a large pest control company and we used to do all the training for their numerous technicians and biologists. I remember sitting at the back with the manager for London whilst my partner was talking and I commented that three days in a hotel for all these technicians must be expensive – the comment back from this crusty old gentleman was in broadest cockney: "You think this is expensive son, you wanna see the cost of ignorance."

I really think that some companies should take this on board.

When we sell a Thermokil heat treatment kit, the normal training programme is for five days. We won't even sell a basic bed bug heat treatment kit without three days of combined classroom and field training because, without it, we know people will cause damage.

Heat gives effective insect control but only when it's used properly. Right, the furniture to be fumigated is sheeted to produce a fully enclosed and sealed bubble. Then heat is introduced from outside using either one 18 kW or 25 kW heater per stack

I've recently had a couple of distraught ladies asking my advice; both having spent over £10,000 with pest control companies and they've still got their bed bugs. This sort of lack of customer care and blatant commercialism is to my mind morally unacceptable and a blight on our industry. Whilst the BPCA understands its role to be protecting the interests of its members and is reluctant to step in against individual members, it really is in everybody's interests that the pest control industry doesn't get a bad press. I genuinely believe that there is a potentially damaging 'Rogue traders' exposé on the cards if those companies with dodgy practices don't reign in their actions – and the sad thing is, often they aren't doing wrong intentionally, they really do think they know what they are doing, which quite frankly is arrogance in the extreme.

Heat treatment can produce spectacular results, however, the range of situations where heat alone is appropriate is finite or conditional. There are all sorts of constraints, largely relating to the laws of physics, which introduce limitations, and these all need to be understood before heat can be used successfully.

Get trained

BPCA also offers heat treatment training. The next two day course for technicians is scheduled for October in Derby. Full details can be found at www.bpca.org.uk or call Tammy Pratt on 01332 225113

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Dave Hammond set up Thermokil in 2001 following four years of research in New Zealand and Germany. From day one he has taken an ethical stance, building the business on good science, personal relationships and trust.

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Having graduated from Leeds University with a degree in Zoology, Dave went on to join Rentokil in 1982 and rose through the ranks to become national fumigation manager. A specialist in the control of Stored Product Insects in flour mills and bakeries, he went on to found Igrox's Pest & Hygiene Management Division.

Five years later he struck out on his own, working a pest control consultant in many countries around the world including New Zealand, Australia, Israel and Romania and developing his ideas for organic pest control techniques and, in particular, heat treatment.

Dave has successfully introduced new heat treatment technology and ideas into the UK and campaigned for the elimination of the ozone depleting gas methyl bromide and other dangerous pesticides.

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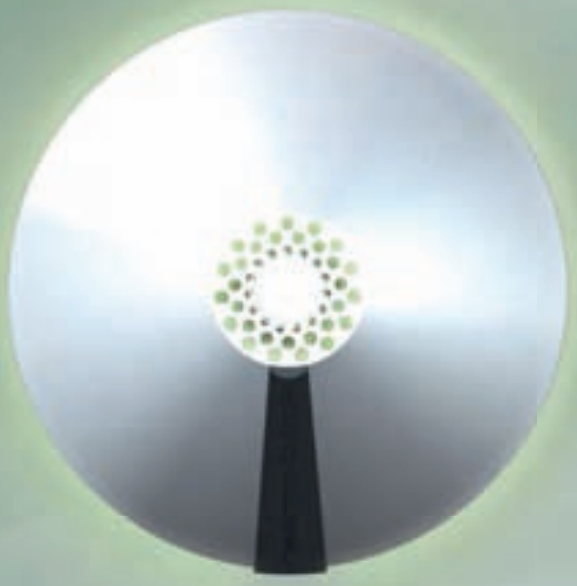

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Remote rodent monitoring

Established practice requires pest control technicians to regularly inspect rodent bait stations – to such an extent they can be classified as purely 'bait box checkers'. With advances in technology, remote monitoring methods are coming onto the market. Chris Swindells, a consultant with Acheta Consulting, relates his experiences and explores the potential benefits of one such system from a trial undertaken at a UK food manufacturing site.

Managed appropriately, remote monitoring systems can offer an alternative and potentially cost effective approach to rodent monitoring and control, that's the conclusion from an independent trial by Acheta Consulting, as Chris Swindells explains.

The background

As a consultant with Acheta there is opportunity to work with a varied client base and to see the service provided by many pest control contractors and in-house teams. This has two benefits. Firstly, we can help clients improve existing practices to get the best information and value from their current monitoring systems. Secondly, we can observe and pass on any new examples of good practice.

Rodent control on the majority of sites we inspect employs toxic baits, break-back traps or non-toxic monitoring points. Although the exact choice depends on customer requirements, all these measures need a pest control technician to regularly inspect and maintain the monitoring point. The technician must have integrity and common sense. These qualities are essential if evidence of rodent activity is to be accurately reported and acted on.

In the trial the break-back traps were initially installed where bait would usually be placed. Later they were relocated into the run of the box

Important evidence missed

Unfortunately there are pest control technicians who end up spending all their time checking bait boxes or hunting down wall labels. As a result they miss important evidence of rodent activity in the immediate area of the monitoring points.

This led me to wonder whether a remote monitoring system was available, which we could use to understand specific rodent issues on a customer site.

Earlier attempts to develop remote monitoring systems have never really caught on. This could, in part, be due to inadequate technology, not helped by frequent battery changes and dedicated bait boxes containing bulky detection and transmitting devices. However, the perceived cost of introducing this technology has also held it back. The perception that permanent internal baiting was cheaper and acceptable as an industry standard, has also meant that alternative monitoring solutions have generally not been considered by most businesses.

Acheta's Chris Swindells sees potential in remote monitoring

Remote monitoring options

One idea was to manufacture a simple data logger, similar to the Rentokil Mouse Monitoring Unit (MMU). This device would count the number of times a mouse passes through the box, but manufacturing costs would make this expensive for a small production run. Also, there would still be a requirement to physically attend the site and inspect the monitor to recover the data.

At PestEx 2011, however, two

different systems were exhibited both allowing real time remote monitoring, using less bulky equipment. One of the exhibitors, Green Trap Online from Århus in Denmark, proved to be very enthusiastic about their product. Their rodent detectors promised versatility, accuracy and long battery life (potentially eight plus years!) and we decided to work with them to conduct a trial.

The trial

Using a demonstrator kit provided by GTO, it quickly became apparent that not all UK USB modems can automatically run with the GTO software. The problem was eventually overcome with a USB modem supplied by GTO. Once we were confident that the basics worked, we collaborated with GTO and one of our clients on a field test.

Seven GTO monitors on mounting brackets were installed in existing external rat boxes associated with the intake area of a grain silo. An inspection of the intake area of the grain silo prior to the installation of the GTO system revealed no evidence of any current resident infestation.

Initially the break-back traps had been installed as per the left hand trap, in the photo on page 31, where you would expect to place rodenticide bait. However, for reasons that will become apparent, these were later relocated into the run of the bait box. A log of captures was kept by site personnel.

The results

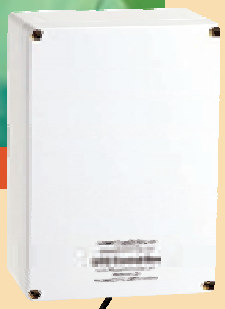
During the first night following the installation there was considerable excitement. Email alerts started to come in just before 21.00, with a total of 27 detections by 23.00. Was this evidence of an undetected infestation, or one rodent running around and investigating all the boxes? Had the rodent(s) been caught, or

The GTO system

The system consists of one control box, additional routers if required, rodent detectors and a web interface.

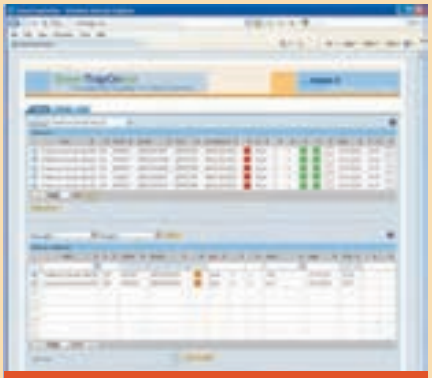
- The control box and additional routers can be plugged into a mains electrical socket and the former can accept a USB modem, or can be directly connected to the internet, to allow the transfer of data.
- The detectors can be mounted on, or in, bait boxes. Alternatively, if you think that rodents may be avoiding the boxes, the detectors can be mounted within conduit or, on suitable brackets, on the fabric of the building, along suspected rodent runs.
- Health and safety benefits include the potential to monitor areas where human access may be difficult or dangerous, for example, unmanned sites, roofs, voids and areas where automated machinery is present.
- The GTO system uses ZigBee, which is a well known wireless standard. Using this wireless technology, the system allows detectors to automatically connect with the routers, so you don't need to individually pair a detector with a router. The detectors work like security sensors, by detecting a combination of heat and movement, thus reducing the likelihood of accidental activation. Each detector has its own unique ID, which gives traceability in the system. GTO system is very easy to install and use; a real plug ´n play solution.
- Additional routers or extended router aerials may be needed if solid structures weaken the signal strength between the router and the detector.
- The web interface displays the identity of all the detectors, their operational status, and the number of detections that have been recorded. Searches can be carried out to identify recent and historical activity. This is one aspect of the system where further development is both possible and planned.

GTO's Poul Martin Bertelsen


GTO control box (also contains one router)

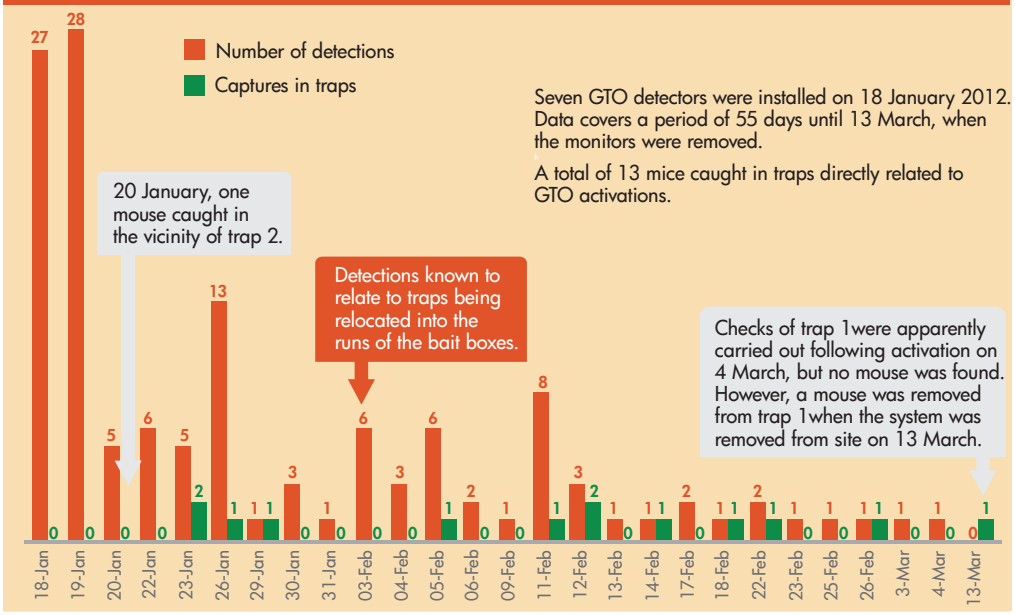

GTO router

A GTO detector


GTO web interface


Bait box with GTO detector fitted

Fig 1: Number of detections v captures of mice



had they gone to bed? The pattern was repeated the following morning with detections starting at 06:35 and continuing until 10:14; a total of 28 detections. It was therefore very surprising, and somewhat disappointing, to discover that nothing had been caught in the boxes!

First mouse caught

The first mouse was caught two days later in the vicinity of trap 2. This capture, as all others, was accurately linked to a known activation of the relevant GTO sensor.

The initial data led us to speculate that the positioning of traps within the boxes might affect the capture rate. They were initially located where you would expect to place any rodenticide bait, but were not themselves baited with any food or attractant.

At the start of February the break-back traps were relocated into the run of the bait box and this seemed to coincide with an improved capture versus activation rate. Activations and captures recorded during the trial are summarised in Figure 1.

Examining the data on a trap-by-trap basis (Figure 2), it is apparent that the two boxes with the highest capture counts (traps 1 and 2) were either side of the wheat intake screens. These screens carry-out a primary clean of the wheat after it is tipped. This suggests that the pattern of mouse activity experienced at this location is a result of mice being introduced on bulk deliveries, and possibly being expelled by the screens outside the silo block.

Further analysis of the detections recorded by the GTO system also highlights when captures are more likely to occur; perhaps unsurprisingly, on a Sunday, (Figure 3), when the site is at its quietest.

In total there were 124 detections and 13 mice were captured in traps over the 55 day trial. This equates to a 10.5% success rate. It is believed that the success rate could be further improved with better trap placement at the start of the monitoring programme and, possibly, by baiting the traps.

Six additional detections were known to be due to deliberate activation during the movement of traps within the bait boxes. It is assumed that there were no further deliberate activations, though there is a possibility that these could have occurred during inspections of the bait boxes. In the future it might be better to have a procedure where the monitoring system could be temporarily deactivated whilst inspection of the bait boxes is carried out.

It would appear reasonable to conclude that, when set up properly, the GTO system allows 24/7 remote monitoring and reporting of rodent activity. More importantly, as we have tentatively demonstrated, interpretation of the results can help us to understand specific rodent issues and improve monitoring systems. Could the time be approaching when a system such as this is recognised as an adequate form of permanent monitoring, with increased intervals between inspections by pest control technicians?

Ultimately, this system will never completely replace the need for human input by an experienced technician or consultant. Each environment is unique and there will always be a need to identify other signs of rodent activity, advise on proofing and hygiene as well as to interpret and respond to the data generated by the system.

Managed appropriately, however, a system such as GTO offers an alternative and potentially cost effective approach to rodent monitoring and control.

Fig 2: Trap numbers v number of detections and captures 18/1/12 to 13/3/12

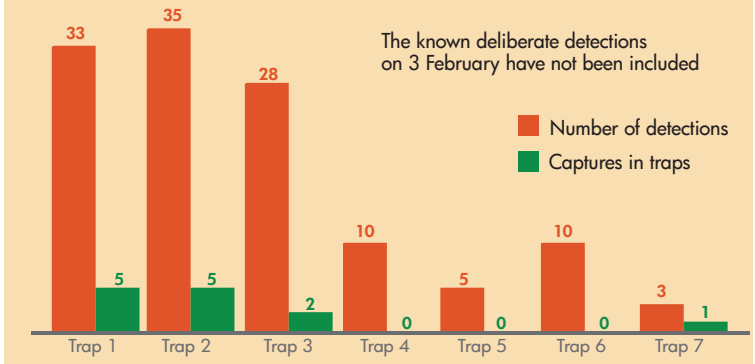
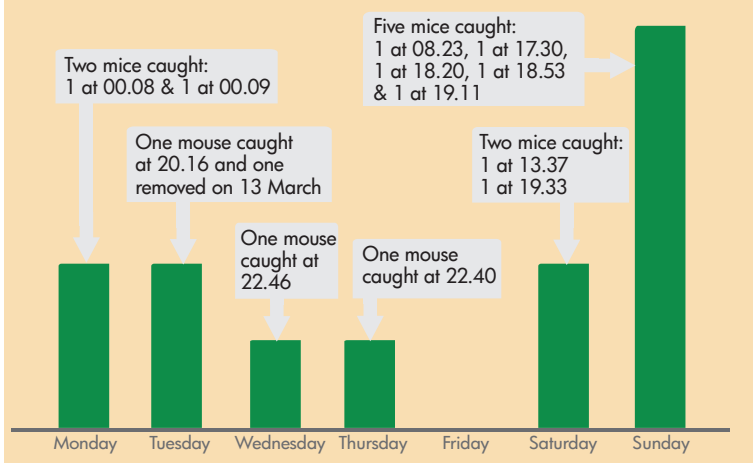


Fig 3: Captures of mice v days of the week



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Map your rat with Bayer

Following the launch last summer of their range of Rodilon rodenticide products, Bayer has produced a helpful 28-page ring-bound user guide. Although primarily aimed at the farmer, it is of value to all pest controllers.

The booklet covers the familiar subjects of rat and mouse behaviour, indications of activity and effective control measures along with details of the various Rodilon products.

Perhaps of greatest value are the last ten pages of the book which are designed to allow those placing baits to map the specific baiting locations, log their individual baiting programmes and jot down their notes.

Copies free from Bayer at pestcontrolexpert@bayercropscience.com

Vital grain store information

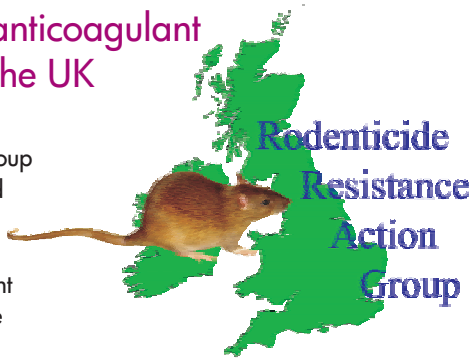
The Home Grown Cereals Authority (HGCA) has updated and re-issued their grain storage guide which was first published in 1999 and has become a key reference for most farm assurance schemes. This third edition, running to 28-pages, includes the results of a five-year Defra and industry-funded LINK research project in a new risk management approach to grain storage based on HACCP principles.

Also updated and reprinted is their excellent grain store pest identification wall poster produced in conjunction with Fera and Gafta. It divides the insects you might encounter into primary grain damaging pests, secondary pests which are likely to cause mould or hygiene problems and finally, non-damaging or stray pests.

***Pest* verdict:** If involved in anyway with the control of stored product insects or treatment of grain stores, these are ideal for you

Both items are free from HGCA. www.hgca.com/grainstorage

Status of UK anticoagulant resistance in the UK



The UK's Rodenticide Resistance Action Group (RRAG) has prepared a unique 35-page report covering the status of anticoagulant rodenticide resistance in the UK.

With results going back 40 years to the 1960s, in no other country in the world is the understanding of the resistance phenomena so extensive or profound.

Prepared in response to a request from The Netherlands to the European Commission for an EU-wide update on rodenticide resistance (see pages 8 and 9 of this issue), the report covers resistance mechanisms and then charts the rise of resistance in both Norway rats and house mice over this 40 year period.

It brings this issue bang up-to date, with a final section on the development of genetic techniques used to detect resistant genotypes amongst rodent populations.

Copies can be downloaded from the RRAG website www.bpca.org.uk/rrag/documents.html

***Pest* verdict:** A unique review of the build-up and implications of resistance in the UK. Most suitable for researchers in this area.

Alternatives to culling

Published in June by Animal Aid, the UK's largest animal rights group, this report was posted to 1,000 local authorities right across the country. Titled *Alternatives to Culling*, it urges councils to seek humane, cost-effective, long-term solutions to complaints relating to wild species, and to encourage residents to do the same.

The 24-page, colour report focuses on foxes, squirrels, rats, mice, pigeons, gulls and geese and details some simple steps that householders can take should unwanted animals take up residence in their homes or gardens. For each pest there is a section covering its history, behaviour, facts useful references and, as expected, control methods and recommended humane deterrents. It is interesting to note that in the pigeon section, the recently introduced Bird Free optical gel receives a positive mention.

The full report and its accompanying advice sheets can be downloaded from www.animalaid.org.uk/go/wildlife or hard copies can be ordered free of charge from 01732 364546.

***Pest* verdict:** Although maybe a slightly surprising choice, this booklet provides sound information on deterrent methods and certainly warrants a place on pest controllers' bookshelves.

Rats and squirrels dead without poison

Two new innovative products have come onto the market – both use a cylinder of compressed air and a powerful air ram to do the killing. One is designed for rodents and the second for squirrels.

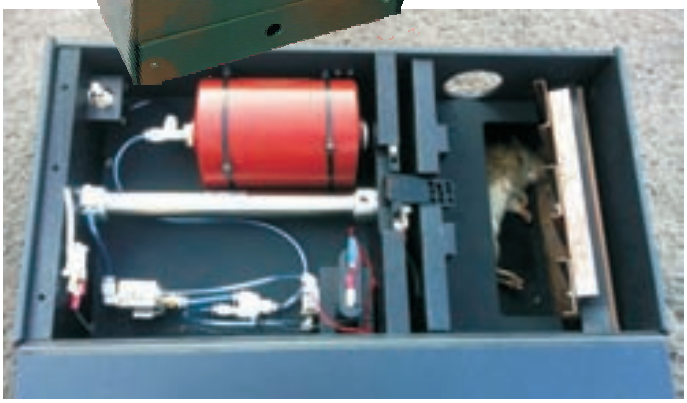
Developed by Dasher Developments in Yorkshire, both are pre-baited to attract the pest. As soon as the machine detects the pest's presence, the air-ram triggers, propelling a moving plate against a static one with massive force, so killing the pest quickly and humanely.

With the squirrel trap, the dead animal drops to the ground for collection later. Meanwhile the trap readies itself for its next victim.

With the rodent version, the carcass drops through a hole at the bottom of the unit and lands in an enclosed tray.

A red/green light on the machine indicates when it has been activated.

www.dashertraps.com



Have a dust-up with Rentokil

Rentokil has extended their Insectaban powder range by introducing a 3kg tub. Insectaban contains 1% bendiocarb, a broad spectrum, non-repellent insecticide. It is active against a wide range of insects and is ideal for use in a selection of situations, including bakeries, restaurants, laundries, food stores, ships, hospitals, kitchens, boiler houses, flats, houses, canteens and hotels, says Rentokil.

At this time of year, it is excellent for use with wasps' nests.

www.rentokilproducts.com

Bamboo provides a contemporary look

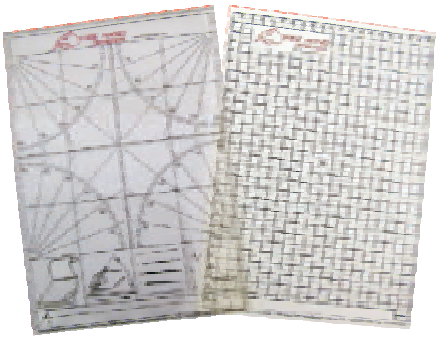
PestWest Electronics has launched a unique front-of-house sticky trap made from bamboo. Called Sunburst Naturale, it is designed to be environmentally responsible, with a distinctive look that can be matched to a wide range of decors. Hidden from view is the glueboard and fly catch.

It comes equipped with a compact 20 watt UV tube and for added flexibility, it can be either wall-mounted or free-standing, with both options offering a coverage area of 35m^2.

With this fresh, modern and unobtrusive look, the Sunburst Naturale offers effective front-of-house fly control, ideal for bars, cafes, delis and restaurants, says PestWest.

www.pestwest.com

Lets you go freehand



Recently introduced by SX Environmental Supplies is the Freehand Design Sheets pack.

SX says these pre-printed robust plastic sheets are good for anyone who needs to produce drawings on paper, as opposed to on your computer! They are ideal for use in survey and audit reports, for example.

One sheet has four large protractors printed on the surface which enables the drawing of precise angles. The second sheet, has a 1cm grid printed on it, which is see-through so allowing drawings to scale.

www.pestcontrolonline.com

best product award 2012 pest

Last chance to nominate your favourites

Three more products have been added to the nomination list for the ***Pest*** Best Product Award 2012. In alphabetical order they are: Advion Ant Gel from DuPont, the bed bug monitor from Suterra (formerly AgriSense) and Formidor, the new ant product from BASF.

These three join: Birdfree Optical Gel from JJ Bio, Rodilon Wheat Tech from Bayer CropScience, Maxifly fly trap from Russell IPM, the Vulcan EFK from Bower Products and Black Pearl mousekiller from Lodi on the nomination shortlist.

Don't forget you can nominate any product that was introduced onto the UK market after 1 January 2011 and before 31 August this year. Nominations must be in by midnight on 31 August. Please email your selection to editor@pestmagazine.co.uk or use the nomination form that was printed in the January & February 2012 edition of ***Pest***.

Take the Pest Test

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*** and answering all our questions correctly. So read our articles on the EU biocidal products regulations, wasp management and bed bugs in this issue of ***Pest*** and answer the questions below.

Try to answer them all in one sitting and without referring back to the article. **Take care as some questions may have more than one correct answer so tick all the answers you believe are correct.**

SEND COMPLETED QUESTIONS to: ***Pest*** Magazine, Foxhill, Stanford on Soar, Loughborough, Leicestershire LE12 5PZ. We will contact you with your result and, if your answers are correct, we will credit your CPD points.

1 When will the new Biocidal Products Regulations apply?

- ☐ a) 1 September 2012
- ☐ b) 1 January 2013
- ☐ c) 1 September 2013
- ☐ d) 1 January 2014

2 How many wasps' nests per square mile does Karol Pazik estimate there are?

- ☐ a) Under 1,250
- ☐ b) Up to 12,500
- ☐ c) Around 50,000
- ☐ d) Over 125,000

3 In which year did the first commercial bed bug monitor reach the UK market?

- ☐ a) 2001
- ☐ b) 2005
- ☐ c) 2009
- ☐ d) 2012

4 What reason caused Richard Naylor to select bed bugs as his research species?

- ☐ a) He thought they were pretty
- ☐ b) He found he was infested at home
- ☐ c) They were an easy species to keep
- ☐ d) The bizarre mating behaviour of bed bugs

5 What is the main reason for using heat as a means of insect control?

- ☐ a) To penetrate areas where sprays and dusts can't reach
- ☐ b) So pest controllers can keep warm in the winter
- ☐ c) We have the equipment so might as well use it
- ☐ d) The customer asked for it

6 When heat treating for bed bugs, what temperature is a legitimate target to reach and then hold for two hours?

- ☐ a) 5°C
- ☐ b) 25°C
- ☐ c) 50°C
- ☐ d) 75°C

Name:

Organisation:

Tel:

Email:

PROMPT account number: 200

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Month	Day	Event	Venue	Find out more
September	6-7	Third Annual Bed Bug University Summit	Red Rock Casino, Las Vegas USA	www.bedbugcentral.com/summit
	26	Benelux Pest 2012	Voorthuizen, Holland	www.beneluxpest.nl
October	17-20	PestWorld 2012	Boston USA	www.npmapestworld.org/pestworld2012/
	23-24	The Biocidal Products Regulations	Mainz, Germany	www.akedemie.com/2080
November	7	PestTech 2012	National Motorcycle Museum Birmingham	www.pesttech.org.uk
	14-16	Parasitec 2012	Espace Champerret Paris, France	www.parasitec.org
	22	SOFHT Annual Lunch	The Savoy, London	www.sofht.co.uk
	23	Urban Fox conference	Old Harlow, Essex	www.urban-wildlife.co.uk

Two premier pest events: PestWorld 2012 & PestEx 2013

Held on different sides of the Atlantic, both of these events are not only key affairs in their home market, but are also meeting places for the international pest control fraternity.

PestWorld 2012 comes around every year and this time it is being held in Boston, Massachusetts between 17 to 20 October. Organised by the American trade association, the National Pest Management Association (NPMA), PestWorld boasts a very extensive series of general sessions and technical seminars – certainly something for everyone.

But maybe the star of the show is the exhibition. Unlike the UK, this is only open when there are no educational sessions going on – so the 150+ exhibition stands are always packed.

But hurry, international delegates can book directly from the website and benefit from a reduced rate registration fee of $325 (£210) if booked before 3 September. Full details covering the programme, exhibition registration and hotel accommodation are on the PestWorld 2012 web site at www.npmapestworld.org/pestworld2012

Meanwhile, in the UK, the British Pest Control Association (BPCA) is gearing-up for **PestEx 2013.** Held only every other year, for 2013 it returns to what is becoming its regular location – ExCeL in London.

The dates are 10 and 11 April 2013. So make a note in your diary and consult the PestEx website for details as they are released at www.pestex.org

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"For pigeons to completely desert a habitat they had been frequenting for years flies in the face of all knowledge of pigeons and their roosting habits I have gained over 27 years in pest control. I am astonished at the results."

SENIOR PEST CONTROL OFFICER, HORSHAM DISTRICT COUNCIL

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