Bed Bug Special 2014

pest

The independent UK pest management magazine

A difficult foe?

Issue 34
July & August 2014

PROFESSIONAL
PEST MANAGEMENT

EFFECTIVE ANT CONTROL. APPRECIATIVE CUSTOMERS.

Advion® Ant Gel provides unmatched control of all key species of ants, including all sweet feeders.

- Labeled for food-handling establishments
- Perfect viscosity, for all situations
- For indoor and outdoor use
- Revolutionary mode of action
- Highly attractive to all key ant species
- Total colony control
- Translucent, odourless, non-staining

FOR LIFE UNINTERRUPTED™

Advion® Ant Gel

syngenta®

Syngenta Crop Protection AG, Basel, Switzerland.
Email: ppm.eame@syngenta.com. Web: www.syngentapmp.com

TM

pest
Pest is published six times a year

Editorial contacts:

Editor & publisher: **Frances McKim**
Associate editor & publisher: **Helen Riby**

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.

Send us your news

Send your news or views to:
Email: editor@pestmagazine.co.uk
Tel: 01509 233219
Or write to us at:
Pest, Foxhill, Stanford on Soar, Loughborough, Leicestershire LE12 5PZ
We'd love to hear from you.

Advertisers

Please contact the editor as above or visit our website at www.pestmagazine.co.uk

The legal stuff

Pest is published by Foxhill Publishing Limited Registered in England No: 6737319

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

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

Contents

Spotlight shines on pest control

It seems that the general media, including TV companies, have taken on board the message that pest control and public health are inextricably linked. Recent TV coverage (see page 10) has been well-balanced and, even, favourable towards the industry.

This attitude must at least partly be down to the increasing emphasis on professionalism driven by the industry itself, through voluntary initiatives like the CEN European Standard for Pest Management Services, which is currently going through its final adoption and publication stages (see page 7). As Martin Harvey, the new BPCA president, points out (see page 5), 2014 will be a momentous year, not least because by the year-end members will have to be properly qualified and signed-up to CPD to remain in the association.

It seems the establishment might also have got the message, although they prefer to talk of environmental health, as witnessed by the MBE appointment of the self confessed 'member of the awkward squad', Dr Stephen Battersby (see page 5). Whether regulators have taken it on board remains to be seen and the future for SGARs (see page 8) remains uncertain. Enjoy the read.

Be first with the news – visit www.pestmagazine.co.uk

Get more news at www.pestmagazine.co.uk where you see this symbol

read more on the web WWW

New National Environmental Health Board to be created

Speaking at the International Conference on Urban Pests in Zurich in July (see pages 30 & 31 for a full report), Joanne Fozzard on behalf of the National Pest Advisory Panel talked of a new organisation. This is to be jointly created by CIEH along with Public Health England.

It will be called the National Environmental Health Board. The aim of the Board will be to act as the national strategic body for pest control. It is expected to become the primary vehicle for delivering information to government relating to pests.

The creation of such a group was alluded to by Graham Jukes, chief executive of the Chartered Institute of Environmental Health at Jonathan Peck's memorial presentation. Further details to follow later this autumn.

Left, Joanne Fozzard

First new aluminium phosphide course run

Russell IPM has run the first course in the country leading to the new RSPH Level 2 Aluminium Phosphide qualification. The course, which took place in early July, was over two days and consisted of both classroom and practical assessment.

Delegates were examined with a written paper at the end of day one. Then, during day two, following an onsite survey, they completed relevant reports and were assessed individually by the trainer, Russell's Trevor Green.

Portfolio evidence for each candidate has now been sent to an independent external verifier, to confirm each individual's competence.

Trevor said: "I found the two days extremely full-on, as did the five pest controllers who attended, but very rewarding and fulfilling. Let there be no doubt this is not an 'easy pass', but, if you complete it successfully, you will have earned it, and be able to proudly state you are 'Professionally Trained and Qualified'". Anyone interested in finding oout more, or wanting to join a course, should contact trevor@russellipm.net, or call on 07834 540776, or call the office on 01244 281333.

New premises for Brown Y

Brown Y, the company behind the Vectorfog and Vectorshop brands, has relocated to a different unit on the same trading estate in Farnham. The company's Tim Tester explains: "The old address was split 75% warehouse to 25% office space, but since starting to work with a 3PL (Third Party Logistics) company for storage of our machines, we needed a different split. Our new location has more office space and less warehouse. This switch has allowed us to hire more sales, customer services and administration staff.

"Using the 3PL company makes it quicker when delivering goods from our factory in Korea to the UK and allows us to process orders faster," he adds.

The design and marketing department has also been expanded, speeding up the process of product innovation and development. The company continues to stock the smaller products and all spares and to provide servicing and repairs. The move has also allowed the creation of a front-of-house to display products and a larger meeting room making it more convenient for customers who wish to collect in person, or to call in to see a product demonstration.

CZP also on the move

Control Zone Products has also moved from Sheffield to new premises near Harrogate. Their new contact details are: Units 108 & 206, Pannal Business Park, Station Road Pannal HG3 1JL Tel: 01423 855600

Stephen Battersby MBE

Dr Stephen Battersby, CIEH vice president and visiting senior research fellow at the University of Surrey's Robens Centre for Environmental Health, has been appointed MBE for services to environmental health in the Queen's Birthday honours list.

Stephen, who is also a member of the National Pest Advisory Panel, is well known in pest management circles. He was active in the radical Public Health Inspectors London Action Group in the 1970s and currently chairs campaigning charity, Generation Rent. He said the award was recognition that, despite being a 'member of the awkward squad', his motives have always been to improve public health.

"I feel that pest management and adequate housing conditions are often forgotten aspects of public health, so it's my hope that this MBE raises further awareness of these issues."

A Liverpudlian by birth, after graduating with a science degree he returned to the city to train as a public health inspector. He worked for a number of local authorities in the 1970s and then came to work for what is now the CIEH. His PhD was on the implications of urban rat infestations. He went freelance in 1988.

Rokill safety win

Rokill's Chris Turner

Rokill was proud to receive The President's Award in the prestigious annual Occupational Health and Safety Awards 2014 run by the Royal Society for the Prevention of Accidents (RoSPA).

David Rawlins, RoSPA's awards manager, said: "The RoSPA Awards encourage the raising of occupational health and safety standards across the board. Organisations that gain recognition for their health and safety management systems, such as Rokill, contribute to a collective raising of the bar for other organisations to aspire to, and we offer them our congratulations."

Chris Turner, Rokill director, said: "Health & Safety is of paramount importance to Rokill. I was delighted to receive the award on behalf of my colleagues who ensure that we operate safely at all times."

New president for BPCA

Henry Mott hands over the chain of office to Martin Harvey

Martin Harvey of Harvey Environmental Services has become the British Pest Control Association's (BPCA) president.

He formally took over from Henry Mott of Conquer Pest Control at the annual general meeting (AGM) in June. Lewis Jenkins of Check Services is the new vice-president.

Taking up the chain of office Martin said: "I am incredibly proud and excited to be leading the association at a time when there are major changes both within the association and the wider industry.

"Increasing the level of professionalism has been high on the agenda for several years but we reach a point of the end of 2014 where all those involved in the application of pesticides (and their managers) will need to be enrolled on a recognised CPD scheme and to have passed their BPCA/Royal Society for the Protection of Health level 2 examination to maintain their membership of the association."

Two new board members were elected. Paul Rodman of Monitor Pest Control and Chris Corbett of Aderyn replaced Martina Flynn of BASF Pest Control Solutions and Phil Bowman of PPC Environmental.

Outstanding achievement awards

Three industry award presentations were made by the new president, Martin Harvey, during the BPCA AGM:

- The **Del Norton Award,** which is made in acknowledgement of an individual's contribution to the fumigation industry, went to fumigation expert and long-standing volunteer, David Heaton, previously of K&S Fumigation Services.
- The **Charles Keeble Award**, for best overall achievement in the accredited technician in pest control examination, went to Dan Roxby of Mitie.
- The **John Bull Award**, for best overall achievement in the fumigation diploma examination, went to Ian Weller of In Store Solutions.

read more on the web WWW

After 37 years, Brendon Towey is taking early retirement in September

Leaving, but not forgetting the industry

Bye bye Brendon

After 37 years with The Kellogg Company of Great Britain, based at the Stretford factory near Manchester, Brendon Towey will be hanging-up his boots and taking early retirement on 26 September. 35 of his years with Kelloggs have been spent working within the pest prevention department; a job Brendon admits to having loved. Brendan said: "I would like to say a big thank you to all the pest controllers I have come across over the years. Those who know me realise that there is a little devil inside me who pops-out now and again."

Never one capable of sitting still, we may well see Brendon back within the pest control world. He has taken-up a new hobby, or more accurately gone back to an old one, which may, or may not, keep him out of mischief. He is playing the double bass with a local folk group.

Crowe flies off

Another stalwart of the pest control industry who is giving-up active participation, although not with early retirement, is Graham Crowe. Since Graham 'officially retired' from Rentokil in 2001 he has acted as a technical auditor/consultant for Russell IPM, particularly involved with Dismate.

Having originally trained and practiced for some time as a teacher, Graham gained a zoology and botany degree in 1967 as an external student of the University of London. In 1970 he joined the pest control division of Rentokil as the company's first field biologist. He rose through the ranks to become a branch manager in East London, before returning to a technical role. In 1987/8 Graham was president of the British Pest Control Association.

Graham Crowe

More local authority expertise lost

We are all too well aware of the Comprehensive Spending Review local authorities have had to face since 2010. This has impacted hugely upon the provision of pest control services. One consequence has been the departure of personnel with years of experience and expertise and that's a major loss to the industry as a whole. Pest is sad to report the departure of two more such individuals. We make no apology for presenting, more or less in full, and in their own words, accounts of their careers.

Ray Page, London Borough of Newham

I started with Rentokil as a surveyor on the East side of town. I was lured into it by a certain Dave Nubel (now Protec Pest & Hygiene Services) who knocked on my door one evening offering excitement and riches and the rest, as they say, is history.

After diverting into the Rentokil Property Care Division, I joined Britannia on the service side, which then became National Britannia and then Terminex. The last 15 years I have been with the Newham Pest Control Service so I've seen our industry from both sides of the coin. I'd say the two used to be chalk and cheese but our latest economic woes have forced public sector services to become more commercially aware in the face of cuts or closure.

I definitely developed a bad case of 'pestitis' and I'm still hugely enthusiastic about the job, both service and sales. I've met many interesting people who I won't name for legal reasons but I've had some great laughs – you can't help but enjoy pest control!

Over my 40 years there's been a lot of changes in the products we use, I remember when rodenticides were real rodenticides, whereas now we have ever decreasing options, with even those under threat. Gel baits for cockroaches, and more recently baits for other insects, have been a tremendous step forward, so much safer than all the spraying and dusting we used to do – 'apply to run-off', more like 'apply and run off'! The future is bound to be interesting with ever more scrutiny of pesticides and bureaucratic requirements. I hope we, as the industry professionals, are listened to and decisions are made based on practical realities.

I may spend my retirement designing a (oh no, not another one) new rat box! My actual plans are time with wife and family, getting out and about (entertainment, museums,

Ray Page – cheers!

etc), tackling the list of things to do around the house and the kid's houses (groan) and gardening. I'll also keep an eye on the beehives we have at the cemetery. I've a feeling that I'll be keeping my hand in, either for old colleagues or perhaps back here on an occasional basis. As for the future at Newham pest control service, in late July Paul Michaels joined to head-up a somewhat redesigned operation. Paul comes from the industry, having worked for Rentokil and Mitie, in charge of the London area.

Steve Hughes, Liverpool City Council

I started work for Liverpool City Council in 1973, as a trainee public health inspector and, after qualification, worked on various sections within Environmental Health for the next 15 years. Most of this time I was involved with issues involving housing & public health, nuisance and health & safety enforcement. In 1989 I was asked if I would act as assistant to the principal officer (Pest Control and Animal Wardens) and was given a 'written assurance' that this would be for a period of 'up to 12 months'. Ten years later I was still in the same position! But in 1999 I was appointed to the post of public health service manager – a post that I held until I decided to accept a voluntary severance offer in March 2014.

I have been proud to serve the city of Liverpool over so many years and to work alongside so many dedicated pest control professionals. The city is proud of its strong links with the origins of public health within this country; namely Dr Duncan, the first medical officer of health and Thomas Fresh, the first inspector of nuisances. I have always found their pioneering work inspiring.

I have been fortunate to work within the Merseyside Pest Control Group, whose members strive to develop staff, protect services and offer quality advice and assistance to customers. Despite the difficult times we find ourselves in currently, I feel sure that these people will do all within their power to promote the fundamental importance of pest control and to ensure that local services are accessible and affordable to all those who need them.

During this time I was asked to serve on the CIEH National Pest Advisory Panel (NPAP). I found it a great honour and privilege and over the past ten years I have witnessed at first hand, so much work that has helped to raise the profile and professionalism of the industry. I feel sure that this period will one day be regarded as the 'golden age of pest control'. The enthusiasm, dedication and professionalism of the NPAP members and others working to improve the profile of the industry, is unbelievable. Long may their work continue.

Steve Hughes

I am missing the day-to-day contact with colleagues, but I am looking forward to spending more time with my wife, children and grandson. I have many interests, within the local sporting community. I am chair of the junior football league, member of the Sports Council, secretary of a badminton club and treasurer of the Sutton cricket club. So I think it will take some time yet before boredom sets in!!!

Editors Note:

Thomas Fresh (1803-1861) was a pioneer in British environmental health. He became Liverpool's first public health officer in 1844. Fresh was appointed 'inspector of nuisances' by the Borough's Health of the Town Committee in September 1844, over two years before the celebrated appointment in January 1847 of William Henry Duncan (1805-1863) as Britain's first medical officer of health.

CEN standard almost with us

In late June the TC 404 workgroup concluded its work on the final version of the CEN Standard for Professional Pest Management Services. This has now been submitted to the CEN Centre in Brussels for the final part of the process, its formal adoption and publication. It will be the first European standard written for the industry, by the industry. Publication is expected in early 2015, but once the standard has been endorsed by a formal vote through CEN later this year, it will be available for use and promotion.

You may well ask why does it take another six months? The process and timescale are prescribed by CEN so this is the timeline the industry must accept. It is the same with all standards!

There were over three hundred comments on the public draft, which was made available through the National Standards Bodies. These have been considered by the TC 404 group resulting in the redrafting of several clauses, improving the document. In general there has been overwhelming Europe-wide support for the draft.

Rob Fryatt, independent chair of the TC 404 committee, commented: "The work put in over three years by both TC 404 and the national mirror groups throughout Europe has been fantastic. The industry will have a professional standard it can be rightly proud of." He continued: "Now the hard work begins. First is to ensure we have a positive vote from all the national standards bodies, and this is very much in the hands of the individual national industry associations. Next we need an effective scheme to audit the standard and the Confederation of European Pest Management Associations (CEPA) has an excellent one under development. Finally, we must promote the value of the standard to the industry but, more importantly, to clients, audit bodies, governments and other stakeholders."

CEPA had the vision just five years ago to establish a standard. In the intervening time, it is estimated that over 200 industry experts have contributed to the national mirror groups and representatives from 18 European countries have attended the European workgroup.

Rob Fryatt, chairman of TC 404

Special thanks must go to ANID, the Italian industry association, for their vision and support, especially to Dr Sergio Urizio of ANID and to Roberto Ravaglia, from UNI, the Italian national standards authority. Not only have they provided the secretariat to the group, but they have also been its mentor and arbitrator, bringing all sides together.

One final word from Rob: "It has been a pleasure and an honour to chair this workgroup. The industry should be both proud and thankful for the standard they have developed. But, a word of caution, next year the group will need to start its work on the first revision!"

CEN presentation packed at ICUP

It was standing room only at the presentation given by Roland Higgins and Frederic Verwilghen, CEPA director general and treasurer respectively, at the 8th International Conference on Urban Pests (ICUP) in Zurich on 23 July. This was somewhat surprising, as ICUP is predominately a technical research-based event. See our more detailed report on pages 30 and 31.

In their presentation Roland and Frederic outlined the background to this initiative and also revealed a more detailed timetable, notably:

- Early December 2014 – vote by the national standards bodies and publication of results;
- March 2015 (at best) – official publication of the Standard.

Interestingly, once a Standard is ready to go to formal vote, certification is theoretically possible as from that moment onwards modifications to the text are no longer likely to occur. This could be as early as November 2014.

First Global Pest Summit announced

During his presentation, Roland also announced plans to hold the first Global Pest Summit in June 2015. This is to be a combined event involving both CEPA and the National Pest Management Association (NPMA) from the USA.

Further details will be revealed at a later date.

Roland Higgins, left, with Frederic Verwilghen

A long and winding road

The stewardship programme for Second Generation Anticoagulant Rodenticides (SGARs) has taken another small step forward, but, there are still some hurdles to get over, to make it acceptable to all parties.

The second version of the SGARs stewardship proposals was submitted in early June and was considered by the Oversight Group. This Group, which comprises Health and Safety Executive (HSE), the Department for the Environment, Food and Rural Affairs, Public Health England and Natural England provided feed-back for the Campaign for Responsible Rodenticide Use UK (CRRU UK) and the user Sector Groups on 7 July. Whilst the Oversight Group agreed that the proposals had been improved, they felt there was still more to be done before they could accept them for implementation. The industry was therefore asked to make amendments to meet the requirements of the government bodies. As this issue of ***Pest*** went to press on 31 July, this third version was due for submission.

Readers will recall that when the first proposals were submitted back in March, each of the four sector groups (agriculture, gamekeepers, professional pest control and the local authority & suppliers group) had prepared individual stewardship plans. For reasons we won't go through again, this approach was not considered appropriate and, at the request of the HSE, a single document was prepared, under the co-ordination of CRRU UK, covering all user groups.

It is this single, all embracing version which has now been further improved for the third submission. Should it prove acceptable then the next stage will be a further consultation followed by a Ministerial decision. The requirement for a further re-draft means another delay in implementation. Should this set of proposals be acceptable, it is anticipated that the stewardship will begin implementation around the end of the year.

One area where further work is needed is to meet the HSE requirement for a common approach to training for proof of competence across all users of professional products. This does not mean everyone who uses professional SGAR products must hold exactly the same qualification – gamekeepers and farmers, for example, tend to use rodenticides only occasionally and in one or two specific scenarios, whereas professional pest controllers in the private sector and in local authorities are using them across a much broader range. However some comparable proof of competence is being sought.

We understand that, if this third submission does not meet the Oversight Groups expectations, then the HSE will look at other regulatory options. Let's hope enough has been done and voluntary stewardship is given a chance to prove itself.

It's been a long and winding road to develop a stewardship plan for the SGARs which is both practical for those that apply these products and also acceptable to the Oversight Group. The final twists and turns are being gone through as you read this. If the proposals fail to win approval, one thing's for sure, it won't be for want of trying!

Justin Holloway does a 'piece to camera' for BBC1's 'How Safe is Your House'

Pest control on TV again!

When you hear there's going to be another pest control on TV story does your heart sink? There's always the danger that the programme makers will seek to over sensationalise or, worse, they might have a 'green' agenda and be looking to knock the industry. Associate editor, Helen Riby, assesses the impact of the industry's recent appearances on the goggle box.

More TV to come

BBC2 has commissioned a new four-part series which will follow four female pest controllers as they visit homes and businesses across the UK. It has the working title of ***The Ladykillers*** and is being made by KEO Films.

Keo Films are on the look-out for pest problems to feature in the Midlands, the North West & Yorkshire and in London & the South East. Henry Mott of Conquer Pest Control is providing advice for the series. So, if you have a pest problem that ***The Ladykillers*** can investigate, then please call 020 7490 3580 ext 1008, or email: pests@keofilms.com

As well as needing to be wary of programme makers' agendas, any pest controller who agrees to be on TV also has to brave industry criticism. There are always people who will disagree with the way the featured pest controller has gone about his or her business. But, whatever the dangers, it seems to me that the positives for pest control nearly always outweigh the negatives, as the two most recent pest control TV appearances testify.

Justin Holloway from Prokil Thames West took the plunge and, having seen his performance in ***How Safe is Your House*** on prime time BBC1 on Monday 14 July, he negotiated the possible pitfalls extremely well. This four-part series is produced by Lion TV. It focuses on safety in the home in various forms, such as the importance of testing electrics, structural or product safety and, of course, pest control.

Out with a professional

Justin was filmed over several days back in March, accompanied by series co-host, Angellica Bell, as he tackled a chronic rat invasion into a young family's home in Swindon. The problem had been ongoing for two years and, despite a huge effort on the family's part, including multiple visits from pest controllers, they were at their wits end. As they explained in the programme, the couple were worried about the health implications of living with rats, a point which the presenter also emphasised. She pointed out other problems too, such as the fire hazard associated with rats gnawing cables.

Rise of the super rats

The second programme was broadcast on 26 June when ITV's ***Tonight*** programme investigated the ***Rise of the Super Rats***. This had the potential to fall into the sensationalism trap but it didn't and turned out to be a well-balanced and informative review of the rise of rodenticide resistance and the threat to public health posed by rats.

The programme had been prompted by sensational coverage in the printed press of giant super rats invading the UK and the current government-led debate on the future of rodenticides.

The investigation by ***Tonight's*** consumer editor, Chris Choi, not only avoided sensationalising the topic, but also cast doubt on those giant rat photos by interviewing Lesley Reed from UK Pouchies. She pointed out that the rats pictured were most likely pet giant African pouched rats – the species which we featured in our November & December 2012 issue of ***Pest*** that are also saving lives by sniffing-out landmines and diseases like TB.

The programme featured Dr Dougie Clarke from Huddersfield University who described the widespread incidence of rodenticide resistance as a time bomb. Iain Turner from the National Pest Technicians Association (NPTA) spoke about the need for professional pest control and how the free service that used to be offered by councils is a thing of the past. David Ramsden from the Barn Owl Trust put forward his view that the only long-term solution is to remove food source and harbourage – but, as pest professionals know, that's much easier said than done.

Kevin Moore from Surekill in Leeds demonstrated how rubbish attracts rats and how once the rats get into one property in a terrace, they quickly move through the whole block.

Graham Jukes from the Chartered Institute of Environmental Health (CIEH) emphasised the importance of rodent control in safe-guarding public health. He put forward the Institute's view that a statutory Code of Practice is needed; not the voluntary code currently under discussion and that rodenticides should only be used by those who are properly trained and not by householders.

Capturing the wildlife versus public health dilemma perfectly was environmentalist and bird expert, Bill Oddie, who described his experience when 30 to 40 rats took over his garden bird feeders. "I thought about trying to trap them in humane traps but then what would I do with 30 or 40 rats? Where would I take them? We had to get a man in!" he said.

Justin appeared in the section of the programme entitled 'Out with the professionals' – a good sign and he certainly came over as very professional. What didn't come over was just how inventive he'd had to be to solve the puzzle of exactly how the rats were gaining access.

In the edited version he simply popped a camera down the sewer and, hey presto, found the faulty pipe connection. Then working out roughly where this was above ground – right outside the family's front room – he was able to deduce where the rats were getting in. To prove Justin's assessment, the TV crew set-up a camera under the floor boards in the front room and filmed the rats as they came in. Justin then used reinforced concrete to block the access point whilst recommending the couple contact the utility company so that a permanent solution could be put in place.

Hey presto again and we heard the utility company had agreed to sort out the problem – makes you wonder whether the same response would have been come back if there hadn't been a BBC TV crew involved, or is that being too cynical!

Justin explains: "These types of infestation are often related to the sewer infrastructure. So a session with the Prokill sewer camera system was planned. But, having surveyed the site prior to our visit I knew there was no access to the domestic side of the sewer system and our only point of entry was the sewer main in the road. This was heavily congested with….well, you can imagine.

The birth of 'drain rover'

Effective as our sewer camera is, a journey through the various blockages was going to be impossible. This set me wondering about how we would get through without having the entire system pressure washed. A sleepless night followed and by the next morning a 'Heath Robinson' contraption had been devised by my restless sub-conscious.

A few bits and pieces raided from the stores, a visit to a modelling shop and a few screws saw the birth of 'drain rover'," he says.

Meet 'drain rover', Justin's homemade answer to transporting 'sewer cam'

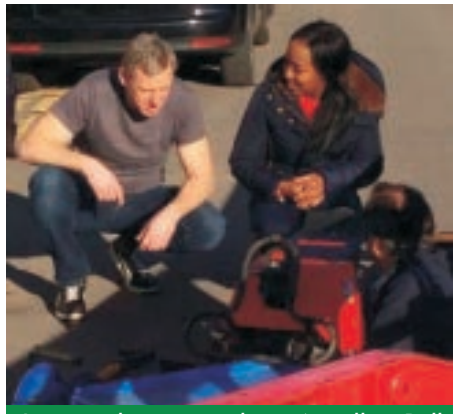
One thing Justin advises if you do agree to get involved in a project like this is to set aside plenty of time. The filming was scheduled to take no more than three hours on a Saturday morning, but it was seven hours later when it was complete. The sewer investigation continued for several hours then time lapse cameras with infra-red lighting had to be set-up under the floor. Right at the end of the day, the Prokill van was fitted with GoPro Hero HD cameras and the journey to the client was shot whilst Justin and Angellica talked about what he expected of the day.

"It's an odd and certainly non-linear world in TV," adds Justin. "And I hope no one noticed that we were arriving at the end of the day not the beginning!"

There was a return visit a week later for the follow-up session to view the results of the under floor cameras – another four hours.

So what made Justin agree to take part in the first place? He writes in his blog: "OK, so those of you who know me well will know that I'm a media tart. Show me a microphone or the end of a video camera and the 'luvvy' in me surfaces."

However there was a more serious reason too: "I have been long frustrated with the approach so often taken by pest controllers where baiting becomes the first line of defence. The outcome that the client wishes for is rarely achieved with baiting alone.



Justin with series co-host, Angellica Bell

That's why we have developed a more disciplined and forensic approach where baiting is a last resort. It is in this direction that the professional element of our industry needs to develop, especially given the double whammy of SGAR resistance and growing regulatory restrictions on our rodenticide arsenal. This is what I really wanted to convey."

Justin also agrees that programme makers' agendas can have a major impact on what is finally broadcast. He says: "Their agenda can be obscured and your input can be distorted by context. However, the agreement I had with the TV company served me well. I retained the right to see the content prior to transmission and to request reasonable changes. This was honoured in full, but no changes were required as Lion Television was transparent throughout the whole process."

Rat infestations are often connected to problems in the sewer infrastructure

Unwelcome guests!

A wealthy eccentric, a spectacular tourist destination and a derelict property resulted in one of the most difficult pest control challenges James Heffernan of Co Mayo-based Ackill Pest Control has ever been asked to tackle.

The story starts back in 2011 when strange things started to happen on Achill island in Co Mayo. Achill is the largest island lying off the coast of Ireland. With miles of unspoilt beaches, spectacular cliffs and a breathtaking landscape dominated by Mt Slievemore in the north, it is both a popular tourist destination and an ideal place for anyone looking for peace and solitude.

A recipe for disaster

Many of the properties are traditional Irish cottages with extensions. One of the properties is owned by a wealthy Dublin eccentric who had been in the process of having his island retreat renovated. Work, however, had stopped and the property was more or less derelict. He was a strange character who believed that Armageddon was coming. As his insurance, for when it did, he was using the cottage to store huge quantities of high protein dried food.

The island has a small population of around 2,600 and is primarily dependent on tourism. As is the norm in rural communities, there is much gossip and it was not long before rumours started. There was talk of rodents in the derelict property and gruesome rumours of animals dying and rats seen feeding on them. Local police were informed, as were the animal welfare people and the council, but no action was taken. When sightings of rats on the ridge tiles of the cottage were reported, one of the concerned members of the community called in James Heffernan, owner of Co Mayo based Ackill Pest Control, to assess the problem. James explains: "Initially I did an external assessment and didn't see much of a problem. There were holes around the property, but it was when I decided to take a look through one of the windows and saw rats looking out at me, that I realised this was a large infestation and that I would need to get inside to see the extent of the problem! At this stage I didn't have a key to access the property, so until I did, I placed some bait externally, using Roban, PelGar's difenacoum whole wheat bait.

Vertox solved the problem but nearly 200 bait points were required

"As soon as I was able to get a key I returned. This was on 23 December 2011. It was a disgusting situation. Plywood had been put between some of the rooms but the rats had chewed through it. New PVC windows and doors had been installed but, interestingly, the rodents had created holes in the concrete, on either side of them. Strangely there were not even any scratch marks on the PVC frames where you would think it would be easier for the rats to access. There were rats everywhere. Looking up at the wooden beams there were rats perched on them looking down at you. They certainly had no fear of humans."

James initially baited the cottage with Roban, using two 20kg bags of whole-wheat bait. The bait was being taken but it was not resulting in much control. He then switched to 20kg of the bromodialone bait – Rodex, but still no success.

"I was at a loss," said James. "I had never experienced such a plague of rats before, nor been unable to control them. I was getting nowhere very fast. Gassing may have been a solution, but I was not licensed to carry out such work, so it was not a viable option. By now it was April 2012 and the bait didn't seem to be working so I

Achill island has unspoilt beaches and breathtaking scenery

A rat population can easily reach plague proportions if left unchecked

rang PelGar's technical director, Dr Jonathan Wade for advice."

Jonathan agreed that James was doing nothing wrong in his baiting programme. They discussed the prospect that resistance to the bait may have developed, but rejected this idea as there had been no resistance issues in the area before. They concluded that the problem was just the sheer size of the infestation and it therefore needed a different approach.

Jonathan sent over some of PelGar's brodifacoum bait – Vertox, which is only currently approved for internal use and in situations such as this where the population is living in a deserted property.

Things start to happen

"On the first day I put down nearly 200 bait points throughout the property, using 10kg of bait," said James. "When I returned for the next visit all the bait had been taken. I placed a further 5kgs of bait and the next time I came back the bait didn't appear to have been touched, apart from a few nibbles. Things were starting to happen."

"The bait was now working and the rats were dying. My next problem was getting the property quickly cleared of the rodent carcasses before they started decomposing and smelling," explained James. "The rats were dying in roof spaces, walls and under the floor. My usual contractor just could not deal with the problem, so a company from France came in to get rid of the toxic carcasses and clean the property."

It was clear that this situation arose because of the available high protein food source being stored in the property. And, as the property was derelict, the rats were able to breed unchecked.

"I went back to the property a couple of times to check the monitoring baits I had placed and there had been no take, so I am happy that the rats have been eradicated. My last visit was in the middle of May and although the garden of the property was rather overgrown I had a good look around and there was no evidence at all of rodent activity," said James.

Brilliant solution

"The neighbours had understandably been concerned, especially one that runs a local bed and breakfast, but fortunately the problem seems to have been contained within this one property where the rats hade been left to their own devices. The community is naturally delighted that the infestation has been controlled. The Vertox was brilliant for this difficult problem and I have now used it indoors in other premises where it has done an equally good job."

Reflecting on this particular challenge, and intrigued to gauge the extent of the infestation, James discussed it with Jonathan. Given the amount of bait that was placed before control was achieved, Jonathan estimated that there could have been several thousand rats in the property! Rather a lot of unwanted guests.

Travel the world with pest control

Neil Wotherspoon on duty in Afghanistan

Expertise in pest management can be your key to some amazing experiences, especially if you are prepared to take a risk or two and don't mind some travel, as pest professional, Neil Wotherspoon, explains.

Working life for me began straight from school when I joined the British Army. Fortunately for me I started my seven year stint in 1982 just as the Falklands war was underway and, as a junior, I missed the action. When I left it was just before the first Gulf war. Little did I realise then, that, 22 years later, I would be in a war zone (Afghanistan) controlling pests (and I don't mean the Taliban).

I got into the industry working originally for a company some readers may remember called National Pest Control where I had some good teachers. The company went through a number of changes becoming National Britannia and my career progressed successfully. Not long after National Britannia was bought out by Terminex I set up Advance Pest Control Services with my good friend Mark Sheals. Work was good but after a number of years we agreed to sell the business and I found myself on the job market. The CV got sent off to various places including USA-based KBR, one of the world's largest government services contractors.

I knew KBR did overseas work but was surprised to get a call asking me to go to Afghanistan to the Kandahar Air Base. It seemed like a good opportunity and it certainly proved to be very different to the normal UK market I have been used to. I arrived in Kandahar on 23 August 2012 and spent the next 13 months protecting the base from pests. It was a surreal experience. We worked an intensive

Some of the pests Neil had to deal with: far left the jungle cat, left porcupine, centre mongoose and below, deadly saw scaled viper

three months on, then three weeks back home in the UK for R & R. When on the base I was on duty 6.5 days a week. We got Sunday afternoon off, unless there was a call-out and worked around a 70 hour week.

The camp is enormous, around 20km square with 35,000 occupants at its peak. Life started at 07.00 checking the animal traps and snares. We encountered jungle cats, golden jackals, long-eared hedgehogs, porcupines, snakes, scorpions, camel spiders, sand flies, feral cats & dogs, foxes, rabbits, rats, mice, ants, wasps, mosquitoes, hornets, bees and flies. The snakes out there included the saw scaled vipers reportedly the seventh deadliest in the world, so you were kept on your toes when you got a call out for them!

Call-outs were usually for an animal of some sort on the airfield. With 800 flights a day we had just 15 minutes to respond and deal with the problem. That usually involved the tranquiliser gun.

Since leaving Afghanistan Neil has had six months working as a consultant to BP out in Azerbayjan, Georgia and Turkey. He was tasked with evaluating the local pest control companies that BP was using and making sure they were brought-up to a good professional standard.

He's now back in the UK settling into a quieter life as a district manager for Ecolab based in Surrey!!!

No more war – well maybe!

Combat operations are due to end in Afghanistan at the end of this year. When the British forces pull-down the Union Jack for the last time, it will be a symbolic moment – not just the end of 13 years of British fighting there, but it could also signal the end of a century, or more, of unbroken warfare by British forces. Yes, next year may be the first since at least 1914 that British soldiers, sailors and air crews will not be engaged in fighting somewhere.

If you don't like the heat...!

Neil's not the only one who's been risking life-and-limb in Afghanistan.

Back in April 2013, Thermokil's managing director Dave Hammond braved Camp Bastio. His pest-related trip was all part of the preparations to bring the troops home.

Thermokil's Dave Hammond in full safety gear!

He was there with Forestry Commission auditor Gavin Fry to complete the commissioning and accreditation to ISPM 15 of a Thermokil kiln. The kiln had been purchased by KBR, working as a Ministry of Defence contractor supporting military operations in Afghanistan, including the repatriation of equipment.

ISPM 15 is the International Standard of Phytosanitory Measures 15, and basically means all wooden pallets and packaging moving between countries must be heat treated to a core of 56°C for 30 minutes and then stamped with the official stamp of the licensed heat treatment plant. This is to protect against movement of forestry pests between countries such as pinewood nematode or Asian longhorn beetle.

Dave commented: "There aren't many jobs where the health and safety briefing starts with: In the event of rocket attack, don ballistic armour and helmet and lay down by a blast wall!! But, as well as the body armour and helmet we did have around 10,000 heavily armed health and safety advisers around us to keep us safe."

It wasn't exactly peaceful either, as Dave explains: "The airfield saw a constant stream of helicopters from Apache gunships to troop carrying Sea Kings, Merlins, Chinooks and a variety of Russian heavy-lift choppers. Occasionally there would be a scream of fast jets as a pair of US Marine harriers took off. Operations were 24/7."


SX Summer Savers
Freephone : 0800 0851 451
Web : www.sxenv.com
Email : info@sxenv.com
SX Ant Gel
30g tube
SAVE OVER £55!
Buy 10 get 5 FREE! + 50 Insect lures
Ecorex Accion
1 ltr concentrate
SAVE £49!
Buy 1 get 1 FREE!
Redtop Fly Trap
SAVE £9.50!
Buy 3 get 1 FREE!
Acclaim Flea Spray
400ml can
SAVE £14.38!
Buy 3 get 1 FREE!
Vulcan NP18
Ready to use
5 ltr fly spray
SAVE £55!
Buy 2 get 1 FREE!
SX Smokes
MiniSmoke 20pk
SupaSmoke 10pk
SAVE UP TO £97!
Buy 2 packs of the same smokes get another pack FREE!
Eco-Catch
Insect traps 300pk
SAVE £40.31!
Buy 2 packs get 1 FREE!
Cytrol Forte
Wettable powder
250g
SAVE £16.50!
Buy 1 get a B&G QT1 FREE!
SX Pro Aerosols
• Wasp nest destroyer
• Single shot
• Flying & crawling spray
• Blador
Buy ANY 3 cans get 1 FREE!
Gat Lambda Plus
500ml concentrate
SAVE £69.50!
Buy 2 get 1 FREE!
Victor Gel
30g tube
SAVE £23!
Buy 4 tubes get a bait gun FREE!
XL8 Wasp Lance
SAVE £29.50!
Buy an XL8 Wasp Lance get a Pean D 3kg FREE!


The Original...
The Best...
To Nature
BIRD FREE
Back by popular demand, the Original To Nature Bird Free UV Fire Gel creates a unique illusion that has revolutionised the bird control industry.
To Nature Bird Free keeps all pest birds off structures without harming them, whilst maintaining the aesthetics of the structure.
As the visual spectrum of pest birds includes ultraviolet, To Nature Bird Free's patented formula appears to them as fire.
Prices from £29.00 per tube with 15 dishes
Distributed by
SX ENVIRONMENTAL SUPPLIES
0800 0851 451
www.sxenv.com

Danny Ashton from Mitie

Bed bug work guaranteed!

Offering a guarantee says 'I know what I'm doing', but, when it comes to bed bugs many pest professionals would think twice. Mitie has no such qualms. Are they brave, foolhardy or have they really come up with a foolproof method of managing this difficult pest?

Since July 2012, Mitie's pest control business has been happy to guarantee its bed bug work. Such confidence is the result of four years of development which saw the company switch-away from a traditional insecticide-based approach.

Sales director for London, Danny Ashton explains: "Pre-2008, like most pest control companies, we relied entirely on insecticides to treat bed bugs but with around a 30% call-back rate it was pretty clear that insecticides were only partially effective.

"By 2008 the global resurgence of this pest was in full swing. Research reported at the global conference that year showed that hotels had a one in 20 chance of suffering from a bed bug infestation, that most so called 're-infestations' were the result of a failure to eradicate the original problem and that bed bugs will travel a long way to infest other areas. It also reported that early infestations often remain unnoticed for several months and that resistance to insecticides was an increasing problem. Based on this evidence we started to look for alternative management methods."

Handler Luke Jones with Troy and Archie

Mite tried heat treatment but concluded that, whilst the process can be successful, it only takes one fertilised female to survive for re-infestation to start-up all over again. It was also expensive. Freezing using CO_2 was considered. However Mitie found this didn't work because it was difficult to get the temperature low enough to kill the bed bugs within their harbourages as they have a very high tolerance to low temperatures.

A combination approach

It seemed that one technique was unlikely to offer the complete solution, so Mitie started experimenting with combinations. By 2010 they had come up with the SID treatment – steam combined with insecticides and diatomaceous earth (DE).

Danny continues: "We now apply steam to all harbourages, diatomaceous earth to all voids and compliment this with a low level insecticide treatment. The steam is applied at temperatures over 120°C and instantly kills all insects as well as dissolving their eggs. Low levels of insecticide are used in areas that have a high chance of harbouring bed bugs or where we find live bugs, such as on and around head boards and to provide 'barrier' protection. Non-toxic diatomaceous earth is used in a thin layer under carpets, around electrical sockets and in voids.

"Our experience is that this treatment works first time in 95% of cases. It has allowed us to reduce our use of insecticides and means the hotel can use the room on the day of treatment. There's usually no need to replace any furniture or bedding, although all laundry must be bagged and washed at a minimum of 60°C. As an added bonus the steam treatment leaves the room smelling fresh and clean."

Once a treatment is concluded it is also important to monitor the treated room and neighbouring rooms, including those above and below the treated room.

Step one in the SID programme – steam

Since introducing SID, Mitie reports just a handful of cases where it did not work. These failures were investigated and found to be caused by well established infestations within the fabric of the building, or years of insecticidal treatment that had caused the bed bugs to disperse to inaccessible areas, or heavily infested upholstered furniture that needed to be thrown-out.

In all such cases, a dry heat treatment over a 48 hour period combined with SID gave 100% success. "There is only one reason for failure that is impossible to legislate for, lack of co-operation from the client," adds Danny.

With the SID working well, there was just one piece in the jigsaw missing – a reliable and effective method of detecting and monitoring for bed bugs. As well as providing information to assist and assess the success of the treatment this would also satisfy client demand for inspections and a clean bill of health report.

But inspections for early infestations that rely on the human eye are only around 30% accurate. Using a trained sniffer dog achieves over 90% accuracy so the answer was obvious. Mitie now employs two trained sniffer dogs and their handlers. So, with an accurate method to locate and treat bed bugs all Mitie's bed bug work has been guaranteed since July 2012.

ALL THE AMMO YOU NEED.

CONTRAC®

DETEX®
WITH LUMITRACK® NON-TOXIC
MONITORING BAIT

SOLO®

Bell LABORATORIES, INC.

More Than Meets The Eye

www.belllabs.com | emea@belllabs.com

Available from your Bell Distributor

Use rodenticides safely. Always read the label & product information before use. Contrac® contains Bromadiolone. Solo® contains Brodifacoum.

Where do bed bugs stand when the dust settles?

© M F Potter

© M F Potter

Let's get dusting. The team used 'non-professional' equipment but dusting was more thorough than most members of the public would achieve

Diatomaceous earth (DE) is often touted as a do-it-yourself remedy for bed bugs. But how effective is it? This article first appeared in *Pest Control Technology*, the leading American pest management magazine. In it two professors from the University of Kentucky, Michael F Potter and Kenneth F Haynes, working with pest professionals Chris Christensen, T J Neary, Chris Turner, Lawrence Washburn and Melody Washburn put DE to the test under real-world conditions.

Diatomaceous earth (DE) and other abrasive dusts have been used as insecticides for millennia. Our ancestors coated themselves with earthen dusts to rid themselves of external parasites. Early civilisations also used them to protect grain from pests during storage.

Of all insecticide powders, diatomaceous earth has probably received the most public attention. Do-it-yourself pest control outlets have been marketing diatomaceous earth as a non-toxic, 'eco-friendly' alternative for years.

The material's purported effectiveness against bed bugs, however, is what really put it in the spotlight. Frequently cited as an effective, reduced-risk tool for managing bed bugs, the compound has become a favourite of bed bug blogs and advocacy groups.

Understanding DE

Diatomaceous earth is an off-white, powdery mineral mined from beneath long extinct bodies of water. The deposits consist of fossilised diatoms, microscopic single-cell algae whose hardened walls contain silica. Viewed under a powerful microscope, the fossilised remains look like hollow, perforated tubes.

Diatomaceous earth has many industrial applications. Due to its porosity and hardness, the compound is used as a filtering agent by various industries. Because of its abrasive ▶▶▶

Apartments were thoroughly inspected before and after treatment

Application was targeted to where bed bugs were likely to occur. The intent was to apply a fine deposit with little, if any, accumulation of powder on floors or other surfaces

qualities, the mineral is also incorporated into cleansers, polishes and pesticides.

Its insecticidal properties also derive from this abrasiveness. Like superfine sandpaper, diatomaceous earth chafes and abrades the waxy outer coating of the insect cuticle. This ultra-thin lipid layer serves as a barrier against moisture loss. As insects crawl through the abrasive particles, the result can be desiccation and death. We saw this previously when susceptible and resistant bed bugs were confined on diatomaceous earth deposits in the laboratory (Romero *et al*. 2009).

Questions remain, however, about DE's effectiveness in the field, especially when applied by non-professionals.

Putting it to the test

Given the many online testimonials of DE's effectiveness in controlling bed bugs, we wanted to see if we could obtain similar results in bed bug-infested dwellings.

Six infested apartment units in central Kentucky were chosen for evaluation. Two of the six units were located in the same building, but were not adjacent. Each apartment was thoroughly inspected prior to treatment, recording numbers of live bed bugs (adults and nymphs) found on beds, upholstered furniture and in other locations.

Pre-treatment infestation levels based on visual counts ranged from 65 to 605 live bugs per apartment (mean = 247). Adjacent apartment units also were inspected, but were not treated since they showed no signs of infestation.

Tenants and property managers were informed of the treatment protocol before beginning the study. Residents were asked to do limited preparation prior to treatment. We did not instruct them to

DE was brushed along seams folds and edges rather than puffed to avoid drift

disassemble beds, launder bedding or clothing, or dispose of infested furnishings.

Moreover, no encasements were installed on beds while insecticide treatments were being evaluated. In this manner we hoped to isolate the effects of DE on bed bug populations, apart from other management inputs.

Each apartment was treated solely with diatomaceous earth (MotherEarth D, BASF), i.e. no other liquids, aerosols or dusts were applied. In lieu of using a commercial duster, the material was applied using simple tools purchased in retail stores — feather dusters, paint and cosmetic brushes, polishing pads etc. Most householders intending to use diatomaceous earth to control bed bugs would not have access to professional dusting equipment.

The tools used — rudimentary by industry standards — were nonetheless an improvement over the squeeze bottle-type dispensers typically accompanying dust formulations sold to the general public. The other reason for 'brushing' rather than 'puffing' on the powder was to minimise drift when the dust was applied to non-void areas.

Applications were thorough, targeting areas where bed bugs were found or likely to occur, especially along seams and edges of mattresses, box springs, bed frames and upholstered furniture. The intent was to apply a fine deposit while leaving no appreciable accumulation of powder on floors or other surfaces. Four of the test units were treated once, while two units were treated in some areas a second time. The amount of DE applied per apartment unit was about two to three ounces (55 to 85g).

Follow-up inspections of each apartment were performed weekly, bi-weekly or monthly depending on the severity of infestation and requirements of the residents. The number and location of live bed bugs was recorded on each subsequent visit.

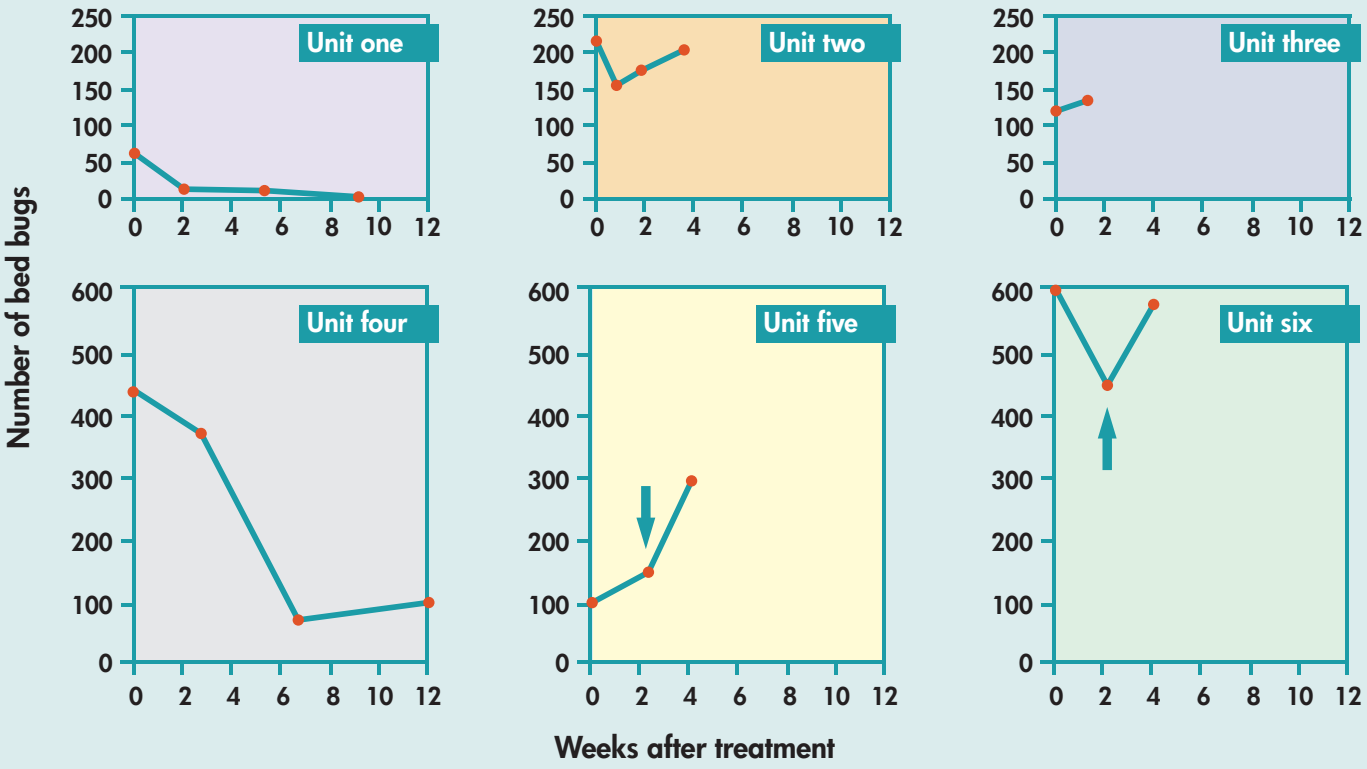
Treatment outcome

As in previous apartment insecticide trials (Potter *et al* 2006, 2008, 2012), the majority of bed bugs (93%) were initially found on beds (15% mattresses, 42% box springs, 9% bed frames), or on sofas (27%).

In the more heavily infested units, smaller numbers of bed bugs were also found in such places as night-stands, book-shelves and curtains.

Figure 1 shows the number of live bed bugs found in each apartment before and after treatment with DE. The average percent change in populations was unaffected by the DE treatment (1% increase).

Figure 1: Efficacy of diatomaceous earth (six apartments)



Number of live bed bugs found in six different apartments before and after treatment with diatomaceous earth (DE). A second application of DE was applied in units five and six as depicted by the arrows

Because populations might be expected to continue to expand in the absence of effective management measures, DE may have slowed that increase. In five of the six units, post-treatment assessment had to be curtailed because of tenant dissatisfaction and inadequacy of the treatment.

The one apartment with a satisfactory treatment outcome (Unit 1) was the first study site treated and received the heaviest application of powder while we were refining the application method. It also had the lowest initial number of bed bugs, and the tenant who travelled extensively was seldom at home.

Apartments 5 and 6 received a 'booster' application of DE (two weeks after the initial) when both sets of tenants complained that there had been no improvement. Both of these study sites (as well as Units 2, 3 and 4) had to be terminated and treated conventionally as per our agreement with the occupants.

A bed bug with traces of DE on its integument

Why did it fail?

Diatomaceous earth is often cited as a safe and effective alternative for battling bed bugs. Dozens of Internet sites tout it as a cheap, eco-friendly option for those unable, or unwilling, to hire a professional.

Advocacy for DE is not limited to online marketing sites. Government and academic institutions also sometimes recommend diatomaceous earth as part of a 'comprehensive integrated bed bug management programme' (CDC/EPA 2013). So why did it perform poorly in our field trial?

The weak performance of DE was unexpected — especially considering how thoroughly the dust was applied to bugs and their harbourages. During subsequent inspections, some bed bugs clearly had traces of dust on their integument.

Previous studies by our group and others have shown that diatomaceous earth kills bed bugs, at least in the laboratory (Doggett *et al* 2008, Romero *et al* 2009). When three different bed bug strains were exposed continuously to labelled amounts of DE in petri dishes, more than 90% mortality occurred within four days and all bugs were dead after 10 days (Romero *et al* 2009).

Subsequent (unpublished) work, however, showed that mortality declined when bed bugs were confined on surfaces dusted with lesser amounts of the material. More recent laboratory observations suggested that the effects of DE are greatly reduced by abbreviated exposure to treated surfaces. No mortality occurred, for example, when bed bugs traversed a one inch (2.5cm) wide strip

of DE dusted filter paper and were then held for several days in an untreated container. Poor efficacy following short-term exposure to diatomaceous earth in the lab was also reported by other investigators (Benoit *et al* 2009).

Diatomaceous earth is more potent to some pests than others. Insects infesting stored grain are particularly vulnerable to the abrasive effects of DE as they continuously crawl amongst the dust-coated kernels. Similar high levels of abrasion might be expected to occur as flea larvae wriggle between DE-dusted carpet fibres. Bed bugs seemingly would have more intermittent exposure to DE deposits, which could help explain the limited effects in our field trial.

Pests prone to water loss (crickets, slugs, etc.) tend to be more vulnerable to desiccant dusts. Bed bugs are at the opposite end of the dehydration spectrum. Studies have shown that bed bugs lose moisture very slowly through their water-resistant cuticles and can tolerate extreme dehydration. This is especially true of the adults and later stage nymphs. A bed bug's ability to resist desiccation is further aided by the ability to become quiescent for long periods while residing in tight spaces in moisture conserving aggregations (Benoit *et al* 2009).

In the presence of a host, desiccant-exposed bed bugs also can replenish depleted water reserves by taking periodic blood meals. Following each blood meal, the developing nymphs must also moult. In the process, a new cuticle is formed, including a brand new outer layer to protect against water loss. Bed bugs in occupied dwellings with ready access to a host generally moult in about a week. Conceivably, nymphs that do not succumb to a desiccant dust by then may be able to survive by casting off the damaged remains of the old cuticle and replacing it with a new one. Collectively, such adaptations make bed bugs challenging targets for insecticides, particularly those that kill slowly via desiccation.

Laboratory studies have further shown that DE is less effective against bed bugs and other pests at higher humidity (Subramanyam and Roesli 2000, Doggett *et al* 2008). Such conditions may occur in the tight spaces where aggregating bed bugs tend to dwell. Moreover, many dusts, including DE, have repellent effects on insects. We're currently investigating this in respect to bed bugs and the industry's use of dust.

Final thoughts

To our knowledge, this is the first time DE has been evaluated as a stand-alone treatment for bed bugs. The findings raise concerns about DE's utility for management, especially when used by non-professionals.

Most experts would agree that DE is not suited as a stand-alone bed bug treatment, and if used, should be integrated with other approaches. However the best way to measure the effect of a particular product or approach is to segregate variables; otherwise, the reduction in pest numbers could be due to other inputs, such as encasement of beds, steaming, vacuuming or use of other insecticides.

Bed bugs replenish depleted water reserves by taking periodic blood meals

As well as having water-impermeable cuticles, bed bugs resist dessication by forming moisture-retentive aggregations

Many variables can influence insecticide performance in bed bug-infested dwellings. Putting the material where the bugs are, of course, is crucial. We're confident we did that in this study and doubt many householders could achieve the same degree of thoroughness in treating their own dwellings. On the contrary, the public typically applies DE by sprinkling the powder along baseboards, carpet edges and other exposed places where the bugs are less likely to reside.

Based on these findings, DE may not be sufficiently efficacious on bed bugs to warrant use by the general public. Pest management professionals using the dust for bed bugs may also want to consider alternatives.

References

Benoit, J B, N A Del Grosso, J A Yoder and D L Denlinger. 2007. Resistance to dehydration between bouts of blood feeding in the bed bug, Cimex lectularius, is enhanced by water conservation, aggregation, and quiescence. Am. J. Trop. Med. Hyg. 76(5): 987-993.

Benoit, J B, S A Phillips, T J Croxall, B S Christensen, J A Yoder and D L Denlinger. 2009. Addition of alarm pheromone components improves the effectiveness of desiccant dusts against Cimex lectularius. J. Med. Entomol. 46(3): 572-579.

CDC/EPA. 2013. Joint statement on bed bug control in the United States from the US Centers for Disease Control and Prevention (CDC) and the U.S. Environmental Protection Agency (EPA). www.cdc.gov/nceh/ehs/publications/bed_bugs_cdc-epa_statement.htm

Doggett, S L, M J Geary, D Lilly and R C Russell. 2008. The efficacy of diatomaceous earth against the common bed bug, Cimex lectularius. A report for Mount Sylvia Diatomite. 46pp.

Ebeling, W 1961. Physiochemical mechanisms for the removal of insect wax by means of finely divided powders. Hilgardia. 30(18): 531-564.

Ebeling, W 1971. Sorptive dusts for pest control. Ann. Rev. Entomol. 16:123-158.

Potter, M F, A. Romero, K F Haynes and W. Wickemeyer. 2006. Battling bed bugs in apartments. Pest Control Technol. 34(8): 44-52.

Potter, M F, K F Haynes, A Romero, E Hardebeck and W Wickemeyer. 2008. Is there a new bed bug answer? Pest Control Technol. 36(6): 116, 118-24.

Potter, M F, K F Haynes, J R Gordon, E Hardebeck and W Wickemeyer. 2012. Dual-action bed bug killers. Pest Control Technol. 40(2): 62,63,65-8,75, 76.

Romero, A, M F Potter and K F Haynes. 2009. Are dusts the bed bug bullet? Pest Management Professional. 77(5): 22,23,26,28,30.

Subramanyam, Bh., Roesli, R, 2000. Inert dusts. In: Subramanyam, Bh., Hagstrum, D.W. (Eds), Alternatives to Pesticides in Stored-product IPM. Kluwer Academic Publishers, Boston, pp 321-280.

A dusty debate!

Here at *Pest* we like to include novel research undertaken by independent experts – wherever they are in the world. The paper featured on pages 19 to 22 about diatomaceous earth (DE) comes from Dr Michael Potter and Dr Kenneth Haynes from the University of Kentucky, USA. We are aware that it has already caused some debate within scientific and practical pest control circles – no bad thing as we all need to question our procedures from time to time. To help readers put it into context, we invited Clive Boase of the Pest Management Consultancy, who is also one of our *Pest* Technical Advisory Board, to comment from a UK perspective.

For those of you who haven't read the entire account of this work (and you should), the authors describe a study in the USA which set out to establish whether householders, using diatomaceous earth (DE) alone, would be able to control bed bugs. Several bed bug infested apartments were thoroughly treated with DE alone, and bed bug numbers assessed at intervals afterwards. The results showed very limited impact on bed bugs. The authors state that the result was 'unexpected', as earlier laboratory tests had showed promising activity.

This is undoubtedly an interesting study, and appears to demonstrate that a householder relying solely on DE for bed bug control, may be disappointed. However for professional pest controllers in the UK, the key question is this: Are these findings applicable to our use of DE, and should we therefore re-consider our use of this product? In answering this question, in my view, some of the points to bear in mind are:

- Laboratory tests have shown that DE is broadly effective against both susceptible and insecticide resistant bed bugs, when used at an appropriate dose. We should be careful before rejecting a product with this apparent profile.
- DE is a natural product, manufacture is not standardised, and work elsewhere on other insects has shown that DE products from different manufacturers vary in effectiveness. It is not clear whether the brand of DE used in this study was especially effective.
- In this study, only DE was applied to the apartments, in order to determine its efficacy more clearly. However, in professional pest control in the UK and elsewhere, DE is normally used as a minor component of the total bed bug control package. DE is considered appropriate in some types of localised areas, whereas a directional and pressurised spray treatment is used much more widely because the liquid is better at penetrating crevices, and in adhering to vertical surfaces as well as to the undersides of surfaces. This combination of dusting and spraying is usually considered to give optimum coverage and acceptable efficacy. However, in this study, using DE in parts of the rooms where it would normally have been considered inappropriate (and sprays would have been a better choice), resulted in a treatment that did not perform as well as the usual multi-pronged approach. Perhaps this is not as surprising as the authors suggest.

Clive Boase still sees a place for DE professionally

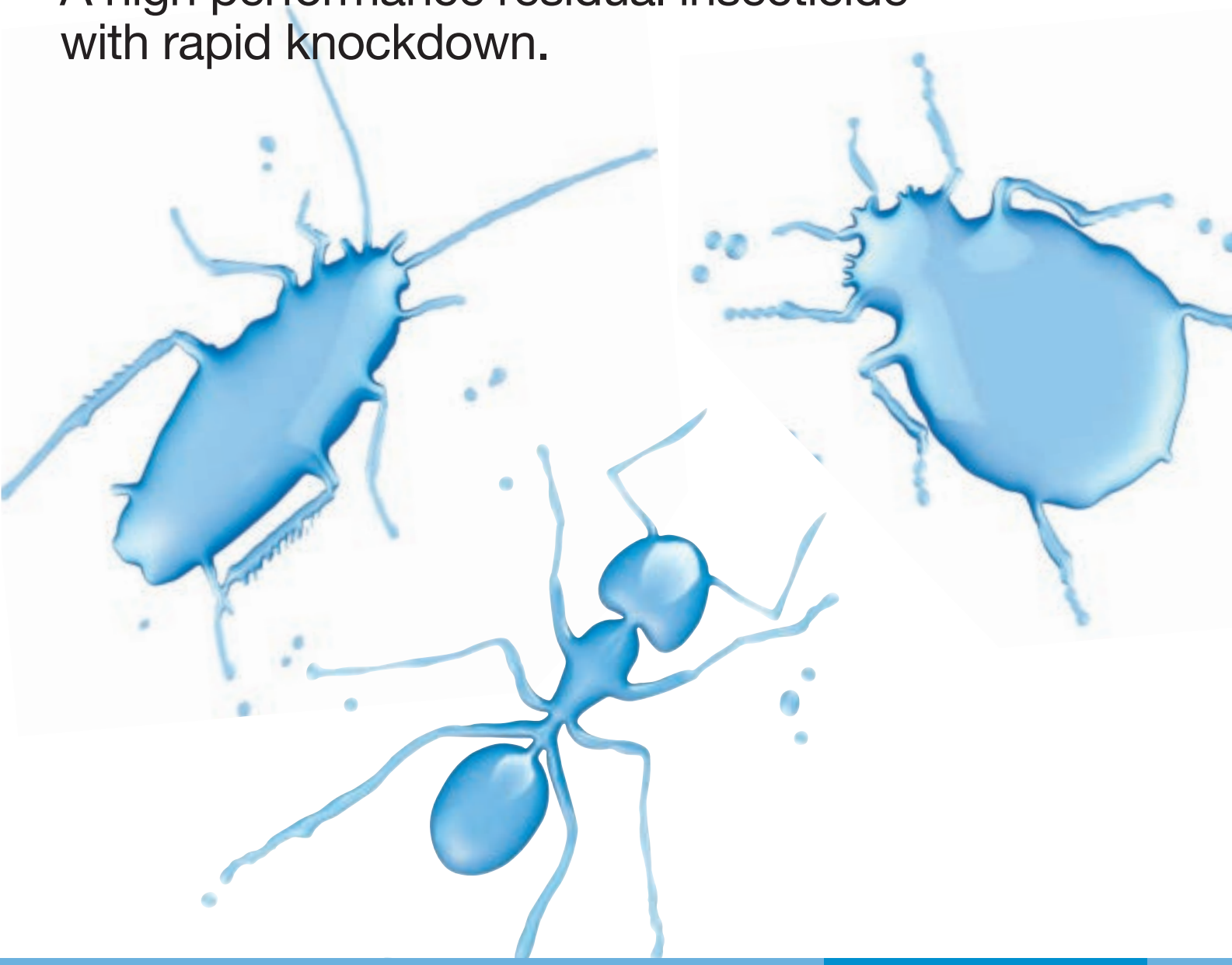
- In the UK, the usual advice to householders regarding bed bug control is that dealing with such infestations is challenging, and they are therefore advised to seek professional inputs, rather than attempt DIY bed bug control.

So, in conclusion, should this study make us reconsider our use of DE? In my view, although the findings do raise questions about DE's efficacy, they are not sufficiently relevant to professional pest control, to warrant us discontinuing the use of DE. After all, it appears to be one of the few products that is active on resistant bed bugs, and with a lasting effect.

Nonetheless, for reasons related to DE's generic availability and its regulatory status, our understanding of the mode of action and best use of the product is still limited. We would therefore welcome more detailed supporting data on DE efficacy from manufacturers.

FENDONA®

The first choice spray treatment.
A high performance residual insecticide with rapid knockdown.



BASF
Pest Control Solutions

- Proven high performance, low dose formulation
- Excellent broad spectrum insect control
- Rapid knockdown and reliable residual action
- Easy, acceptable and safe in use

Enabling the most effective solutions to your pest problems.

BASF
The Chemical Company

www.pestcontrol.basf.co.uk

BASF plc, Pest Control Solutions, PO Box 4, Earl Road, Cheadle Hulme, Cheadle, Cheshire, SK8 6QG. Tel: 0161 485 6222 Fax: 0161 485 1137 email: pestinfo@basf.com

Fendona® contains alpha-cypermethrin. Use insecticides safely. Always read the label and product information before use. **Fendona®** is a registered trademark of BASF

Advances in bed bug detection devices

In the early years of the 21st century, the pest control community, the public and accommodation managers, struggled to deal with the unexpected upsurge in bed bug (*Cimex lectularius*) infestations. This article looks at the progress made in detection and monitoring, a vital first step towards successful bed bug management.

Progress against the upsurge in bed bugs was initially hampered by a variety of issues, including insecticide resistance, stigma, low public awareness of the problem and, importantly, the difficulty in detecting and monitoring infestations.

However, over the last decade there has been significant progress made in all these areas, particularly in detection and monitoring. We now have a better understanding of bed bug behaviour, and as a result there is a wide variety of monitoring devices now available.

Table 1: The range of different types of bed bug monitor

Monitor type	Mode of action	Examples on UK market
Blunder/interceptor monitors	Rely largely on good placement for the bugs to encounter the device. The bugs climb the device and fall into the pitfall receptacle, where they usually remain alive.	Climb Up Bed Bug Moat Bed Bug Barrier
Harbourage monitors	Provide crevices in which bugs can conceal themselves (thigmotaxis). The bugs are usually alive when found.	BB Alert Passive Bed Bug Monitor Bed Bug Inn
Aggregation odour monitors	Attract harbourage-seeking bed bugs, by providing odours which mimic the aggregation pheromone found in the bug's usual harbourage. The bugs are retained on adhesive.	Suterra monitor + lure
Host mimic monitors	Attract host-seeking bugs by mimicking the bug's usual host, by providing heat, and/or CO_2, and/or other host odours. The bugs are typically retained on adhesive.	BB Alert Active Bed Bug Beacon Bug Dome BEAP Bed Bug Eliminator Pro-Pest Bed Bug Trap

Initially, bed bug monitors were considered to be either 'Passive' or 'Active', but with the growth in the range of technologies used, this division is now too simplistic. Table 1 below outlines the range of different types of bed bug monitors currently available.

Bed bug lures – the early work

The development of a specific bed bug lure is a lengthy and challenging process, and has built on the results of research carried out over several decades, in several independent laboratories, around the world.

Work on bed bug semio-chemicals dates back at least to the early 1970s, when research in Germany identified a mixture of two compounds, secreted by the bug's dorsal scent glands, which behaved as an alarm pheromone. Exposure of bugs to this

mixture resulted in an increase in antennal movements and, eventually, in the bugs starting to walk and disperse.

More recently, research in Canada on bed bug aggregation found that the attractive properties of bed bug faeces arose from the presence of a mixture of around 10 separate compounds.

This mixture included the two alarm pheromone components again, although concentrations were believed to be lower than those known to trigger alarm behaviour.

Based on this early independent work, Suterra has now developed a bed bug lure, consisting of a sealed plastic vial containing some of the compounds that have been previously identified as having an aggregation effect.

Once the vial is placed in a monitor, the compounds then slowly diffuse through the wall of the vial into the air, and have an attractant effect on bed bugs.

Laboratory evaluation of the lure

To evaluate the performance of Suterra's lure, a series of tests were conducted at an independent GLP accredited laboratory in the UK.

These tests were carried out in 1m x 1m arenas, in each of which was a harbourage containing a batch of 50 bed bugs (adults, large nymphs and small nymphs) obtained from a strain that had been colonised from the field a few years earlier.

After the bed bugs had been acclimatised to their harbourage in the arena, a monitor was placed on the opposite side of the arena, about 90cm from the harbourage.

The tests evaluated a commercially available pitfall monitor (with or without a Suterra lure) and the green commercially available Suterra bed bug monitor, pictured left (again with or without a Suterra lure). There were five replicates of each combination of monitor and lure. The number and stages of bed bugs caught by each monitor were recorded daily for four days.

Results showed that the addition of the lure to both the pitfall monitor and the Suterra monitor, significantly increased the numbers of bed bugs caught, by 2.5 times and 10 times, respectively.

In addition, the lure increased the speed at which the monitors detected the presence of bed bugs within the arena, as shown in Figure 1, below. There was no difference in the catch of the different bed bug stages.

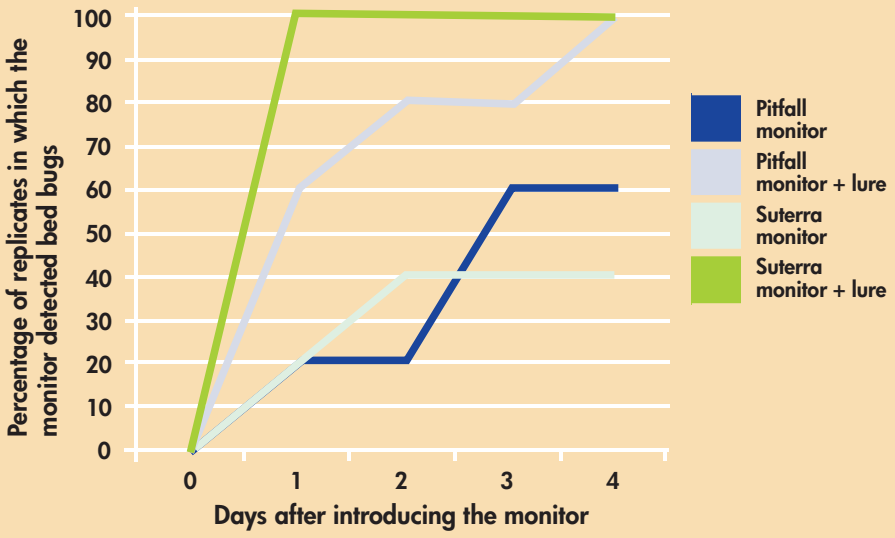
Visual inspection for bed bugs for the real life trial. Having visually inspected each bed, one Suterra bed bug monitor containing a lure was placed under each bed, regardless of its infestation status

Using the lure in real life situations

Careful laboratory tests, even when carried out in relatively large arenas using field-derived bugs, cannot include all the complexity and variety that occurs in real life. In real bedrooms, bed construction, clutter and hygiene levels as well as the location of the bed bugs themselves, may all vary greatly from room to room and affect product performance.

To assess the performance of the lure in complex real-life conditions, independent consultant Clive Boase of the Pest Management Consultancy was brought in. Several sites were identified in which there appeared to be a widespread bed bug infestation and in which the premises

Figure 1: Speed of detection of bed bugs in arenas by monitors



These nymphs on the edge of the adhesive in the monitor are only about 1mm long but, nonetheless, show up well. It is important that small nymphs are not overlooked when checking monitors. The pen is included for scale

managers were happy for the trial to take place. The sites were in London and Yorkshire and consisted of sheltered accommodation for elderly residents, a hotel and staff accommodation for a restaurant.

Clive Boase explains: "At each site the collaborating pest controller and myself jointly inspected every bed for bed bugs, with the aid of a torch. This usually involved pulling the bed away from the wall, examining the headboard, removing the bed linen and examining the upper surface of the mattress.

The mattress was then lifted, the underside checked, and the bed-frame inspected. The floor and skirting board behind the bed and nearby furniture, were also checked. Beds were not considered as currently infested unless live bugs were found."

Having visually inspected each bed, one Suterra bed bug monitor containing a lure was placed under each bed, regardless of its infestation status. The monitor was placed on the floor, under the head of the bed, against the wall.

After a period of one to two weeks, the monitors were removed from under each bed and carefully checked for infestation. The key findings from the field studies are summarised in table 2,right.

Table 2: Summary of key findings in real life infestations

Number of beds inspected and monitored in trials = 197

Finding	Comment
Total number of beds found infested, either by visual inspection, or by Suterra monitor + lure = 22	11% of all beds were infested.
Number of beds found infested, by visual inspection = 15	Visual assessment by two experienced people, found 68% of the known infested beds.
Number of beds found infested, by Suterra monitor + lure = 19	One Suterra monitor + lure under each bed found 86% of the known infested beds. This is 27% more beds than were found by visual assessment alone.
Median number of bugs per Suterra monitor, in rooms that were positive visually = 5.5	
Median number of bugs per Suterra monitor, in rooms that were negative visually, but which were positive by the monitor = 1	Clearly the bed bug infestation levels in rooms that were negative on visual inspection, but which were nonetheless found positive with the Suterra monitor, were very low.

Significant improvement recorded

The results of semi-realistic laboratory results clearly show that use of the Suterra lure within two different types of monitor, results in a substantial and significant improvement in the rate of bed bug catch.

Clive adds: "In real infested premises, use of one Suterra monitor + lure detected about 27% more bed bug infestations than visual inspection alone.

"Importantly, the infestations that were overlooked on visual inspection, but found by the monitor + lure combination, were light infestations. Early detection of these light infestations enabled problems to be eliminated before they had a chance to establish and spread.

"Overall, the Suterra monitor + lure offers an effective and practical tool for the rapid detection of bed bug infestations, especially light infestations. In practice this device will be of use in surveying premises before treatment, and also in monitoring premises after treatment for quality assurance," he concluded.

An opened Suterra monitor, clearly showing the lure plus bed bugs and nymphs on the adhesive

Suterra's top tips for bed bug monitoring & detection

1. Bed bugs are relatively inactive and often very localised. Using several monitors around each bed will be a lot more sensitive than using a single monitor.
2. Examine each monitor very closely, to ensure small nymphs are not overlooked.
3. Monitor rooms adjacent to, and opposite, those with confirmed infestation. Bed bugs will often have dispersed to nearby rooms, but may not have been reported by occupants.
4. As well as beds, also check sofas etc, where visitors may have slept temporarily.
5. Ensure that residents, relatives, carers, cleaners and others are aware of the signs of infestation, and the importance of reporting it.

Bed bugs on planes

Adam Juson speaking at the ICUP conference in Zurich in July

Flying is not for the faint hearted. You arrive hours before your flight to endure the rigours of enhanced security checks, grappling with hand luggage restrictions on liquids and electronic equipment. Now, the last thing you need, as you cruise at 35,000 feet, is to be bitten by bed bugs. But, it happens and with increasing frequency.

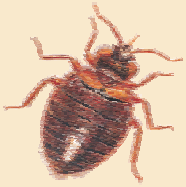
Bed bugs love to live close to their next human meal. They are great at hitching a lift in our luggage and pretty accustomed to international travel so, it's hardly surprising that they are frequently found in aircraft seating.

Not than any airline would like to admit it! But, since the demise of the fumigant methyl bromide, what can be done to control them?

This was the subject that Adam Juson from Surrey-based Merlin Environmental addressed in his presentation at the 8th International Conference on Urban Pests (ICUP), held in Zurich from 21-23 July.

Adam explained how bed bug infestations on aircraft are a growing concern and how they can have a substantial financial impact on commercial airlines. In the worst case scenario infestations have led to aircraft being grounded – and that costs mega bucks! And, he predicted, that things will get worse, before they get better, largely because most airlines currently have a reactive approach to the problem.

Research by Merlin Environmental shows that, those airlines with a proactive approach to bed bug management, fare



Bed bug special 2014

much better. They suffer 80% fewer seats infested and almost 70% fewer insects in the most heavily infested seats.

The research was conducted over three years and covered more than 100 inspections of infested aircraft. A wide range of carriers, aircraft models and seat configurations were covered. Cases ranged from single insects, in single seats, to infestation of many thousands of insects, spread through multiple cabins. Detection and eradication methods were assessed.

Detection methods

The complex nature of aircraft interiors, plus the time constraints on commercial aviation, limited the number of detection systems that could be deployed. So, the research concentrated on: human inspection, refuge monitors, lure-based monitors, electronic air sampling detectors and scent detection dogs. At the present time, refuge and lure-based monitors do not meet aircraft fire safety standards so to test their efficacy these were used on infested seats which had been removed from commercial aircraft.

Before each test, a primary hand search was conducted by an experienced bed bug technician to confirm the presence of bed bugs to test criteria. Each system was then assessed on its percentage accuracy in detecting known infestations, the number of false positives it recorded and the acceptability of the system to the airlines.

Using this information infestations were graded on the number of seats infested and the peak insect count in the seat where heaviest activity was found.

So which monitoring system was the most successful? Looking at Table 1, it is clear that the best detection system, by some considerable margin, was scent detection dogs. The dogs scored almost a 96% detection rate and a tiny percentage of false positives.

The electronic air sampling device recorded a reasonable detection rate, but it also produced a large number of false positives. It is likely that these are due to localised warm air pockets caused by in-seat electronics, such as in-flight entertainment units. The system also failed to detect some of the known infestations. Even with these limitations, two airlines are known to be operating this system as a reactive survey system following passenger complaints.

Harbourage based devices do not seem to be able to compete with the refuge rich environment in an airline seat. The lure based devices produced reasonable results, but the fire safety implications currently mean these are not an option that airlines can consider. Another problem for airlines is that harbourage and lure-based monitors need an initial visit to deploy the monitors and follow-up visits to check for activity.

Eradication methods

Having found a problem proactively, or by waiting for a customer complaint, which treatment method offers the quickest and best result?

To assess the efficacy of the available methods, a combination of scent detection dogs and human inspection was used to document the infestation levels prior to, and then 28 days after, treatment. The methods assessed were methyl bromide fumigation by a specialist aircraft company, chemical applications of the two products approved for use in aircraft, Ficam W and K-Othrine and two forms of heat treatment – a closed system and a forced air system.

The results in Table 2 show that methyl bromide fumigation was the only treatment which achieved 100% control.

Both chemical treatments produced disappointing results. This is probably because the complex nature of aircraft seating and restrictions on dismantling them prevented the technician properly applying the pesticide. The elevated tolerance profile of field strain bed bugs to these chemicals would not have helped.

In addition, the aggressive nature of the cabin environment degrades both pesticides exceptionally quickly, resulting in negligible residual value to chemical treatments. Even with further approval of pesticides for cabin use, it is unlikely that a pesticide-based approach will achieve the levels of control needed.

Heat treatment being an environmental manipulation technique has many supporters in the aviation industry. The levels of control achieved were the closest to methyl bromide fumigation, although still not 100% effective. If carried out correctly heat treatment has no deleterious effects on the aircraft, however close attention needs to be paid to temperature monitoring. In one closed system, treatment overheating of the environment resulted in warping of plastic components in seating products and cabin side walls. Forced air treatment in particular shows great potential.

In conclusion, Adam said: "Early detection is vital particularly in view of the reduced efficacy of eradication systems. There is also plenty of scope for improved seating designs to reduce rates of establishment and spread. Research into passenger boarding behaviour with a view to reducing inoculation rates would also be helpful.

"With big differences in the approach between different airlines, some central resource which allows the aviation industry to share best practice would also be beneficial."

Bed bug in aircraft results

Table 1: Assessment of detection methods

Detection method	% known infested seats detected	Mean false positives
Refuge monitors	12.5	0
Lure monitors	62.5	0
Electronic detector	59.4	26.2
Scent detection dogs	95.5	0.3

Source: Merlin Environmental

Table 2: Assessment of available eradication methods

Eradication methods	Before treatment		28 days after treatment	
	Mean infested seats	Mean peak insect count	Mean infested seats	Mean insect count
Methyl bromide	114	140	0	0
Ficam W	22.5	23	14	7
K-Othrine	19.25	21	21.5	9
Closed system heat treatment	62.6	46.3	4.6	6
Forced air heat treatment	71.2	38.2	3.2	3.6

No gnomes spotted on this trip to Zurich

Gnomes were not on the agenda, but virtually every type of four or six-legged urban pest came-up in debate at the 8th International Conference on Urban Pests (ICUP), held between 20-23 July in Zurich, Switzerland. *Pest* editor, Frances McKim, reports.

Held only once every three years, ICUP events are like no other. A lack of commercialism being one feature. Organised by individuals very much on a voluntary basis, the aim is simply to cover its costs. This means there is no money-making exhibition to pound around and few marketing and sales delegates promoting their products. Not surprisingly, there is sponsorship from some of the leading companies, but this is relatively low key.

So what is there?

For three days over 280 individuals from 32 different countries from right across the globe had the chance to listen to more than 60 presentations, attend participative workshops and visit a poster session on virtually every urban pest possible.

But the formal talks are only a small part – what is unique is the opportunity to meet, mingle and debate with all those present. This formulae is obviously popular, as in the opening session

Overarching organisers, Bill Robinson, left, and Clive Boase with Zurich chairman, Gabi Müller

Mini Swiss cow bells were used to summon delegates to the sessions

Bill Robinson from the USA, one of the two individuals who makes these events happen (the other being our own Clive Boase) asked for a show of hands as to who had attended an ICUP event before – there were very few hands not raised. In fact, several delegates had attended all seven of the previous events over a 21 year time-frame. But this does not mean ICUP is attended by rapidly advancing 'pest has-beens', as the organisers go out of their way to attract a new, up-and-coming audience, with generous registration concessions for students.

Chairman of the organising committee this year was the charming Gabi Müller from the health and hygiene department of the City of Zurich. Carrying the torch forward to the 2017 event is Matthew Davies, technical advisor for Killgerm Chemicals, meaning the 9th ICUP is to be held somewhere in the UK.

Whilst the range of pests covered at the conference was extensive, some pests in particular featured more strongly – mosquitoes, ants and, hardly surprisingly, bed bugs.

21 years of ICUP

In the opening plenary session, Dr Reiner Pospischil who was part of the organising committee, presented an excellent resume of the 21 year history of ICUP (having originally started as the International Conference on Insect Pests in the Urban Environment – ICIPUE – but with a subtle name change to its current form in 1999 to accommodate more than just insects!) and the development of urban pest management over these years.

***Pest** editor Frances McKim (centre) with Dini Miller (right) and Molly Stedfast both from Virginia Tech, Blacksburg, USA*

A staggering statistic we are all inclined to forget is, that in 1800 less than 2% of the world's population (and there were far fewer of us too) lived within urban areas. By 1950 this had grown to 28% and by 2050 it is projected this will have risen to 69%. Add to this the challenge of climate change, faster and growing world trade and the decrease in global travel times, and you do start to appreciate the new opportunities we present to pests – both in quantity terms and also in terms of the introduction of alien species.

Industry has not stood still

But as an industry we have not stood still. Over this 21 year time-frame there has been the development of monitoring devices which can detect specific compounds emitted by pests, detection kits for frequently used insecticides, detection of allergens associated with the more common household pests (cockroaches and house dust-mites for example), the use of impregnated nets for insects other than mosquitoes, electric barriers to stop invaders including rodents and, most recently, the implementation of nanotechnology in pest management. Regulatory restrictions may be depleting the range of chemicals used, but how they are delivered has radically changed – take the development of cockroach gels as an example.

All is not totally rosy though, as what Dr Pospischil failed to mention was the rise in insect and, in particular, rodent resistance over this period. He concluded by saying: "A world without pests will never be achieved. Pest management will be an important task in the future." Music to the ears of those present!

Lack of standards

A noticeable theme which ran through several of the presentations was one of standards – or to be precise – a lack of standards. On the management front, Roland Higgins and Frederic Verwilghen outlined what is happening within Europe to create a recognised professional pest control operating standard – see page 8 – but a lack of recognised scientific testing standards was also bemoaned.

Over these 21 years, problems with bed bugs have risen out of all proportion. As a response the quantity of scientific research has radically expanded, this having been a pest which previously attracted little attention and where here was even less practical experience in the field.

In their bed bug presentations, both Drs Michael Potter and Dini Miller from the USA detailed how our knowledge base had grown, but they said we are still a long way off conquering this pest. And international delegates may well have viewed their flights home in a different light following Adam Juson's scary presentation relating to bed bugs on aircraft – see pages 28 & 29.

Networking is an important part of the ICUP experience

All this research may have been going-on with bed bugs, but from the presentations it became clear that there is a lack of any sort of universally recognised testing protocol. Never one to mince his words, Stephen Doggett from the Department of Medical Entomology at Westmead Hospital, Australia brought this debate to a head in one of the workshops. He started-off by asking how bed bugs had made it onto product labels – was this a matter of history when the recommendations were drawn-up years ago?

Today, when companies are testing for efficacy, what sort of bed bug strain do they test on – susceptible or resistant? How are resistant strains defined? What procedures are used to undertake the tests? With no 'standard' these requirements are open to interpretation. Those present in the workshop struggled with answers. This is surely a topic we will hear more about.

Plenty of UK presentations

Although delegates from the UK were a little lacking, there were several presentations covering UK work. Joanne Fozzard, representing NPAP, detailed their research into pest control within local authorities (as she had done at PestEx 2013) and also outlined the scope of the new National Environmental Health Board (see page 4). Dave Oldbury, also with an NPAP hat on, detailed the organisation's work in sewers, Clive Boase (the Pest Management Consultancy) spoke about the problems at Hidcote Manor caused by the invasive ant species ***Lasius neglectus*** (see ***Pest*** issue 21) and Matthew Davies (Killgerm) presented his work on house flies in hospitals. Finally, Dave Hammond of Thermokil outlined the principles of heat treatment whilst Robert Child of Historyonics spoke about wood boring insects.

All in all an excellent event. Don't forget about it in three years time!

From the UK, Killgerm's Moray Anderson, Matthew Davies, Joanne Fozzard (representing NPAP) and Sabre Fearon with Dave Oldbury (NPAP) and Adam Juson, Merlin Environmental

Air barriers provide protection

The fitted Enershield DSH-120 air barrier over the existing rapid-roll door

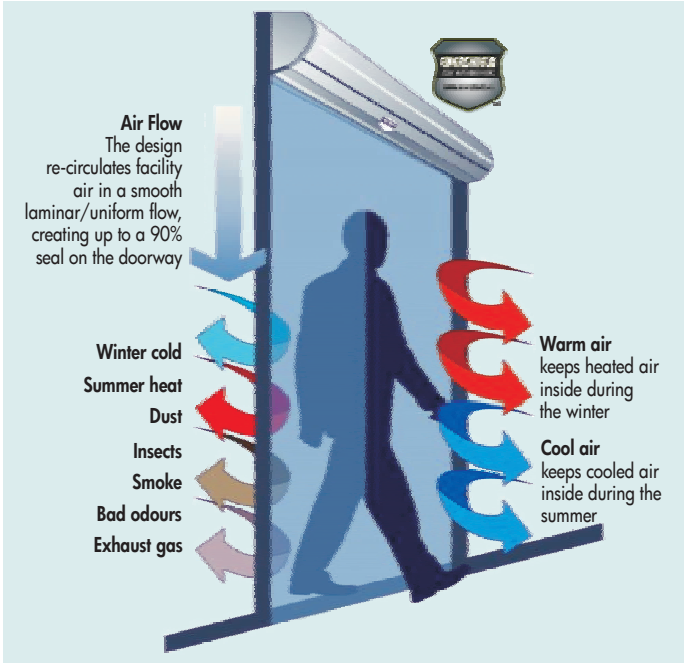
Mention the term – air barriers – and most of us would think of 'blasts' of hot (or cold) air when entering a facility from outside. But, rest assured, there is a bit more to this concept. One food manufacturer has taken it a stage further and it is preventing flying insects from entering their building.

Air barriers, such as those manufactured by Lanarkshire-based, Enershield Europe, (www.enershield.eu) create an effective seal on a doorway. So when one of Enershield's distributors, C-Mech Services based in Kent, was approached by a food manufacturing client with a problem of flies entering the premises, despite having a rapid opening PVC door, the air barrier seemed like the obvious solution.

The food manufacturer specialises in the production of very aromatic stocks, gravies and curry pastes which was attracting flies into the building. The only large entrance door, measuring three metres square, leading into the building already had a rapid opening PVC door, but due to the frequency of use, the door opening was still a vulnerable point of entry for flying insects.

Although the numbers of flies getting into the facility has always been kept within acceptable limits, achieving this sometimes meant adding additional electronic fly killers (EFKs) or periodically fogging – this was felt to be a treatment of the symptom, rather than preventing the problem.

The client wanted to ensure that fly numbers, especially those entering the building by this door opening, could be more tightly controlled. They also wanted to go further and find something which could improve the quality of their production environment, exceed their customers' requirements and put them ahead of their competition.

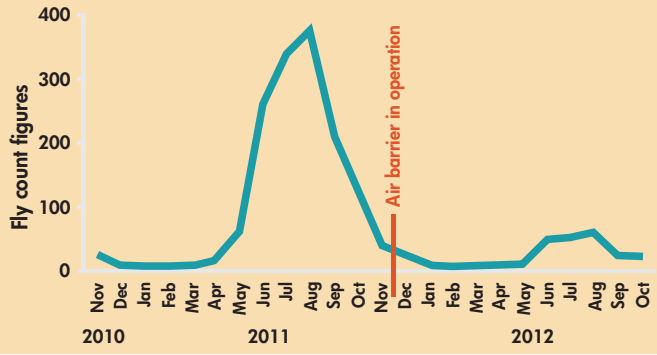


Following a detailed site survey, an Enershield DSH-120 air barrier was specified and installed to work in conjunction with the existing rapid-roll door which was mounted on the external entrance to the raw products collating area of the main building.

The Enershield air barrier creates a laminar flow of air, forced across the opening to create a 'virtual' door. This forms up to a 90% seal separating the environments on either side. The existing ambient air within the building was used to produce a high volume, high velocity 'waterfall' of air creating a barrier and preventing flying insects from passing through.

Detailed fly counts from EFKs in the collating area were taken before and after installation and these showed a 73% reduction in fly numbers over the same 12 month period. The actual percentage reduction was 77%, but adjusting for a general seasonal reduction in fly numbers for the year of study, this was factored down to 73%. Since installation of the air barrier, there has been no need to carry out any fogging.

Fly count trends for raw products collating area
One year before and one year after Enershield Air Barrier installation



Do you have any experience of such systems?

Here at ***Pest*** we wondered if any other readers have been involved with such a system. If so, or if you have any comments, we would be pleased to hear from you. Contact the editor at editor@pestmagazine.co.uk

Plenty to learn
at cracking event in Krakow

Krakow in Poland provided the stunning backdrop for the 11th Fumigants and Pheromones Conference organised by US-based Insects Limited and its sister company, Fumigation Service and Supply. Dr John Simmons from Acheta and one of the Pest Technical Advisory Board members was impressed. And, as he reports here, the programme covered rather more than its fumigant and pheromones title might suggest.

"You must be trained to see what others overlook," said Dr Bobby Corrigan of RMC Pest Management Consulting, Indiana (admittedly quoting Sherlock Homes). He was the opening speaker at the 11th Fumigants and Pheromones conference, held in Krakow at the start of June. His well-publicised encounters and experiences with New York City's rats (he regularly stays out all night to study them) formed an entertaining opening to the event.

The first of these conferences, which now take place every two years, was held in Lubeck, Germany in 1993. It has moved around the globe ever since. This is the fourth that I have intended to attend, but the first that I have actually managed to get to!

International audience

It attracts a truly international audience, this year's conference being no exception, with 150 delegates from 36 countries. These including representatives from every continent (bar the very cold one) and, perhaps somewhat surprisingly given the relative proximity of the host country to the UK, included more delegates from Argentina, Nigeria and Lebanon than from the UK.

Reflecting the core business of Insects Limited (a major US pheromone formulator and distributor), and its sister company Fumigation Service and Supply, fumigants and pheromones are obviously essential conference subject matter, but they are certainly not the only topics covered.

The programme was truly diverse, including presentations on four and six-legged pests, and even an occasional mention for eight legged ones. Bucking the trend for most pest control events of recent years, and happily in the view of the writer, bed bugs received only a passing mention.

There were recurring themes in several papers, which, certainly for me, highlighted

> "You must be trained to see what others overlook"
>
> *Dr Bobby Corrigan quoting Sherlock Holmes*

that the pest management problems that I and my team experience in the course of our work throughout Europe, are in reality global issues. To list but a few:

- Poor design of food manufacturing plant and equipment, including repeated failure to learn from the mistakes and experiences of others;
- Inadequate and/or inappropriate use of hygiene equipment; that's brushes, mops, vacuums and airlines to you and me;
- The ever-diminishing range of pesticide products and increasing restriction on the way in which those remaining may be used;
- Evolving and emerging pest problems, with old pests popping up in new areas and existing pests not having read the rule book.

> "The older I get, the wiser I get, the less I know I know"
> *Dr Austin Frishman*

Stored product pest control was a key theme of a number of presentations.

Impressive presentation

With vast experience from his more than 50 years in pest management, the session from Dr Austin Frishman of AMF Pest Management Services, Florida, was, for me, the highlight, not least because I have always been impressed by those who can hold an audience for 45 minutes without recourse to PowerPoint.

A quote early in his presentation: "The older I get, the wiser I get, the less I know I know," was the best of the conference.

Expanding on this he explained that: "Out of sight, out of reach, or out of mind, equals out of control." Some of his tips, all of which I wholeheartedly endorse, when inspecting large and complex food manufacturing sites were:

- A good inspector is wrong 99% of the time; in most of the places they inspect they will find nothing of interest;
- Establish priorities; spend your time where it is most needed;
- Have a plan before you start and, don't go straight to where you are told the problem is located, because it is rarely actually located there;
- Be obsessed by locked areas;
- History repeats itself; look at what has gone before.

First time speaker Peter Mueller, son of David, the president and founder of the Insects Limited and driving force behind this event

Day two and it's mice

Bobby Corrigan retuned on day two to focus on a pest very close to my heart; house mice. After man, he explained that this is the second most successful mammal on the planet, though some (including me) might argue that it is actually the most successful.

Its success derives from its small size, its adaptability, its ability to stow-away, its ability to metabolise its own water, and its love of living in high population densities; or 'Hugger Mugging' as it's apparently called in America!

Just as Dr Frishman had provided some tips for inspecting food plants, so too did Dr Corrigan for dealing with mice:

- Look for warm, hard-to-reach areas, they love them;
- They particularly love cardboard; it deadens sound, insulates, offers them compartments for family life and absorbs those odours that they use for communication. The fact that we use it in abundance only makes them love it, and us, even more!
- Don't forget that populations will be living in walls and ceilings and may never encounter the floor;
- Spacing monitors evenly is an ineffective strategy; like most biological populations they typically exhibit clumped distributions, so monitors should be placed strategically. Quite how this squares with many retailer and third party standards is open to debate!

Barking up the wrong tree?

One of the esoteric subjects covered during the event concerned the use of sniffer dogs to detect insect pheromones. Whilst we know they can be used to detect bed bugs, we cannot be sure that it is pheromones they are using to do so. Annette Johansson from Snifferdogs Sweden provided a practical demonstration of a dog (Ashes) detecting the presence of spruce bark beetle, a major pest in Sweden, having been trained using a synthetic analogue of that beetles' pheromones. Incidentally, when working in the field Annette will typically cover 20 miles a day keeping up with her dogs; and you thought bed bug work was hard!

Pheromones for mice?

A throw-away comment halfway through his presentation caused my ears to prick up: "The future of house mouse control will lie with pheromones."

Asked to expand on this he explained that research is on-going that may pave the way for products to lead mice into our monitoring and control devices, or away from food sources. An interesting concept but, unfortunately, still just that.

Other topics covered included a review of IPM practices at the Chopin Museum in Warsaw by Prof. Stanislaw Ignatowicz of Warsaw University and a run-through, from David Liszka of co-hosts ICB Pharma of Poland, of some of the novel insect control developments that they have in the pipeline.

Practical grain fumigation

A first time speaker at these events was Peter Mueller, son of David, the president and founder of the organising company and driving force behind this event. With a father and grandfather who were fumigators, Pete told me that he attended his first fumigation when he was four; I'm not sure how that would sit with food factory health and safety managers these days! Pete gave an informative talk on practical grain fumigation in Illinois. I suspect it won't be his last talk at these conferences.

Sights to see

As always with events of this type there was an 'enjoyment and entertainment' element. Krakow is a beautiful city, which was never subjected to the same unscheduled redevelopment in the 1940's that so many of Europe's great cities experienced. Time was available in the evenings to see such magnificent buildings as Wawel Castle and Pope John Paul II's cathedral whilst a gala dinner was held in the magnificent surroundings of the Wieliczka salt mines, which I suspect are much more spectacular than our own Cheshire variety.

A gala dinner was held deep underground in the magnificent surroundings of the Wieliczka salt mines

Event founder Dave Mueller (second left) pictured with some of the 150 delegates, from 36 countries, who attended the 2014 event

On a much more sobering note the final day included a tour of the Auschwitz-Birkenau museum, which for this writer at least, was of a size and scale which dwarfed anything that I had expected; I shall re-watch Schindler's List with a new perspective.

The venue for March 2016 was announced at the end of the conference and surprised everyone; Adelaide in South Australia. Perhaps we will see a few more UK delegates there; you can always tag on a holiday you know!

Award for entomologist

During the conference, the Wendell Burkholder Award was presented to Dr Frank Arthur, a research entomologist with the USDA-ARS Center for Grain and Animal Health Research.

This award has been made annually since 1993 to recognise excellence in stored products protection. It is named after the insect pheromone pioneer, Dr Wendell Burkholder (1928-2012) whose landmark research has preserved countless tonnes of food, particularly in developing countries.

Last call for entries in 2014 *Pest* best product award

Nomination form

I would like to nominate this/these products(s):

1

2

3

4

5

Name:

Organisation:

Tel:

Email:

SEND YOUR COMPLETED FORM to *Pest* Magazine, Foxhill, Stanford on Soar, Loughborough, Leicestershire LE12 5PZ

For all the legal stuff visit www.pestmagazine.co.uk/content/newsitem.aspx?id=1090

Time is running out to nominate your favourite product in ths year's ***Pest*** Best Product Award. Nominations must reach the ***Pest*** office by midnight on 31 August.

The award is made annually to the new product which readers feel has made the greatest improvement to their working lives and/or working practices. The top three products, as voted for by ***Pest*** readers, are recognised during PestTech with the one receiving most votes carrying-off the coveted Best Product Award trophy.

Nominations received so far are:

- Romax Muskil whole wheat from Barrettine
- Romax Muskill wax block from Barrettine
- Romax glue board solvent from Barrettine
- Quartz wasp & hornet killer from LODI-UK
- Trappit BB Detector Plus from Suterra
- Alpha Deadline Express from Rentokil
- Bird Free in magnetic dishes from Killgerm
- Mini Flex flexible hose from Lance Lab.

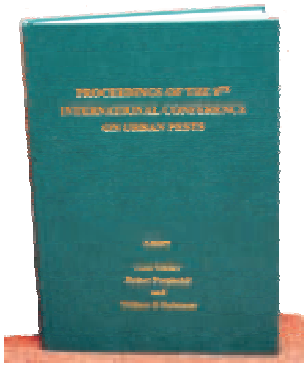
The 2014 award is open to all products launched between 1 January 2013 and 31 August this year. However, products which have already achieved a first, second or third place cannot be nominated again.

To nominate a product use the form left (you can photocopy it) or email editor@pestmagazine.co.uk. Along with your nominations, please include your name, organisation and contact details in the email.

ICUP proceedings available

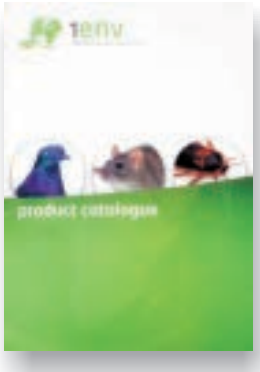
It's a rare event in pest control circles for proceedings of the individual papers presented at a conference to be published at all. For them to be available to delegates when they register is a triumph. This is just what the organisers of the recently held 8th International Conference on Urban Pests (ICUP) in Zurich achieved – see the report on pages 30 and 31 – a feat they have managed at all their previous ICUP events.

So, if you missed attending the conference you can catch-up on what was presented by buying a copy. Running to 469 pages, the hard-bound book includes papers from all the platform presentations and abstracts of the poster presentations.



Copies are available at CHF 35 (around £23) plus postage (cost dependant on country) from Gabi Müller, the chairman of the organising committee at email: gabi.mueller@zurich.ch

ISBN 978-615-5270-10-9



Catalogue from 1env Solutions out

And hot off the press, is the launch catalogue for 1env Solutions. Running to nearly 140 pages, postmen are staggering up and down the countryside delivering them as, like the other distributors' catalogues, it is a weighty tome!

It is packed full of new and traditional pest control solutions – many exclusive to 1env. All their products can be found on their website, but if readers would like their own paper copy request yours from www.1env.co.uk/catalogue_request Our office copy arrived the day following its request!

Aluminium phosphide booklets from Public Health England

As part of their Planning for health emergencies series, Public Health England has produced two useful booklets on aluminium phosphide which should be of benefit for all those using this active within pest control.

They include information on its properties and uses, the risks to health following exposure and responding to a chemical incident. There is also a helpful series of questions and answers.

Copies are downloadable from www.gov.uk/government/publications/aluminium-phosphide-properties-uses-and-incident-management

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 through our articles on the new CEN Standard (page 8), bed bug work with Mitie (page 17), bed bug research with diatomaceous earth (pages 19-22) and bed bugs on planes (pages 28-29) in this issue of ***Pest*** and answer the questions below. Try to answer them all in one sitting and without referring back to the articles.

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

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

1 When, at best, is it expected the new CEN Standard for Professional Pest Management Services will be published?

- ☐ a) December 2014
- ☐ b) March 2015
- ☐ c) May 2015
- ☐ d) July 2015

2 In their SID programme, Mitie apply steam to kill bed bugs at above what temperature?

- ☐ a) 100°C
- ☐ b) 110°C
- ☐ c) 120°C
- ☐ d) 130°C

3 What is diatomaceous earth (DE)?

- ☐ a) Soil from Diatomacia
- ☐ b) Fossilised diatoms
- ☐ c) Earth which has been irradiated
- ☐ d) Diatoms that have been manufactured

4 How does diatomaceous earth (DE) kill insects?

- ☐ a) The insect suffocates in the dust
- ☐ b) After chafing & abrasion the insect desiccates
- ☐ c) They die by eating the DE
- ☐ d) Insects transport the DE to their nests

5 Which pair are the only two insecticides approved for use on aircraft?

- ☐ a) Ficam W and K-Othrine
- ☐ b) K-Othrine and Coopex
- ☐ c) Ficam W and Formidor
- ☐ d) Demand CS and Cytrol Forte WP

6 Which bed bug monitoring system did Merlin Environmental find was the most successful on aircraft?

- ☐ a) Refuge monitors
- ☐ b) Scent detection dogs
- ☐ c) Electronic detector
- ☐ d) Lure monitor

Name:

Organisation:

Tel:

Email:

PROMPT account number: 200

Novel mix proves match for mice!

Romax Muskil was the first bait on the UK market to contain a mixture of two second-generation anticoagulant rodenticides, difenacoum and bromadilone. How has it performed?

Introduced by Barrettine Environmental Health (BEH) last autumn Romax Muskil comes in three formulations, whole wheat, wax block and as a pasta bait and also incorporates FLUO-NP UV tracking technology. It has been developed and patented by Italian rodenticide manufacturer, Zapi, and was launched with the usual fanfare of promotional material extolling its virtues. These included: speed of kill and a claim to be more than twice as fast compared to other actives; rapid bait acceptance because of great palatability and less bait per control programme making it more cost effective. Research by Reading University had also shown the mixture to be effective in controlling both resistant Y139S rats and Y139C mice making it a useful tool in an anti-resistance strategy.

So what's happened in practice? David Haskins, sales director for BEH put us in touch with three customers. All three have found Muskil particularly useful in combatting mice although, as David points out, the range is also effective against rats.

Peter Kent, Barking & Dagenham


Peter Kent

Peter Kent, a pest control officer for the London Borough of Barking & Dagenham has been impressed with the rapid action of the pasta formulation. Peter has been using the product to combat mice in local schools.

He explains: "On completing my school surveys I identified one school with a bad infestation and another with minimal activity so I decided to test Muskil to see how it performed. Getting mice to take the bait in a situation where there's plenty of competition for food is relatively easy but would the mice take the bait in the school with low level activity? I laid the bait and returned daily to check. At both sites it took just two days for the mice to consume the bait and thereafter I discovered bodies quite quickly."

Peter concludes: "We are having good outcomes with Muskil and the schools are pleased that return visits are minimal."

Brian Munro, Tower Hamlets

Also in London, Brian Munro from Tower Hamlets reports that Muskil has solved a long-standing mouse problem in two areas of the Borough.

Brian says: "Prior to the introduction of Muskil our pest control officers were experiencing problems with the lack of bait take, by mice, in two particular areas of the Borough. We had tried just about every product you can imagine, all of which work in the rest of the Borough, but none seemed to work in these two areas. Bear in mind that usually the same operatives are sent to the same areas, so there were no issues with a change in the procedures or bait box locations, etc. In addition to this, most of the properties treated were free from alternate food sources. Quite simply, whatever we placed inside our bait boxes was not being consumed by the local population of mice.

"Muskil came along and within two weeks we had complete bait takes from both locations. On questioning the residents of one property, they reported seeing a dead mouse in their kitchen within a week of the bait going down. On return visits, which are usually two weeks later, all contents of the bait stations had been consumed and tenants where experiencing much less mouse activity.

"One of the areas, which has been notorious for rat and mouse infestations is Brick Lane, in the East End of London (the curry capital of London). For as long as I can remember, there have always been problems with the lack of bait take, from mice in this area, so the introduction of Muskil has been a godsend to the now, not so frustrated pest control officer, who operates in this area."

Andy Smith, FM Pest Solutions

Andy Smith is co-director of FM Pest Solutions, a pest management business which covers London and the home counties. The business was originally set-up to serve the facilities management sector but has now grown to service a range of other sectors. Muskil has scored well with Andy and the other three hands-on pest professionals in the team.

They have all been impressed by good bait take on commercial food premises, where bait take can often be problematic and have seen an increase in the amount of bait consumed per bait station. There has also been a reduction in the number of call-outs. "For the clientele we service it's largely been mice that Muskil has been used to combat," says Andy. "It's a bit more expensive than some products but where you need to get in and do the job quickly you can really make an impression and that's got to be good for our long-term contract business."


Andy Smith

Have you used Romax Muskil?

Clearly Muskil is working well for these pest professionals but what do you think? Has it worked for you? We'd be interested to hear your experiences. Have you seen a similar rapid bait take and speedy kill? Can you comment on how Muskil is performing in situations where resistance is an issue? Have you been able to reduce the number of visits made and the volume of bait used? Send us an email to editor@pestmagazine.co.uk

Ultrabait VR

Tamper and Vandal Resistant Steel Bait Station For Rats and Mice

The Ultimate in Bait Stations

- Steadfast key locking mechanism
- Seamless galvanised casing
- Heavy or light wall bracket options
- Removable plastic bait tray
- Ultra fast servicing

Accessories

Key
Ultrabait VR Key - one key fits all

Light duty wall fixing bracket

Heavy duty wall fixing bracket

Ground Stake- 500mm

Available in Green or Black

Designed & Manufactured by
Rat Pak Engineering Ltd. Moor Lane, Thorpe on the Hill, Lincoln LN6 9BW
Tel : 01522 686070 Fax : 01522 691112
Email : info@ratpak.co.uk Web : www.ratpak.co.uk

Bed bug monitor

This bed bug monitor is discreet and ideal for monitoring bed bug activity underneath mattresses and on floor surfaces, says 1env Solutions. Bed bugs are attracted to the textured base of the Slider, which they then explore and become trapped on the adhesive.

The clear window allows for easy inspection.

www.1env.co.uk

A natural solution

Made from natural oils, Organi-Sect works by a physical mode of action and can be used in situations where toxic chemicals are not permitted. The formulation has a slightly sticky consistency, which when applied directly to insect pests, via a compression sprayer or fogger, breaks-down their wax coating causing dehydration and death, claims 1env Solutions.

www.1env.co.uk

Stainless steel ratflap

This device, when fitted to the main outfall pipe, will prevent rats from accessing inspection chambers and the drainage /sewage system beyond. Made from high quality, acid resistant stainless steel which cannot be gnawed, it can be easily placed into a sewer chamber or manhole. It is highly versatile as the direction of the flap can be reversed to allow individual branches within the sewer chamber to be protected.

www.killgerm.com

Bird protection for solar panels

With the increasing popularity of solar panels, this new system is designed to prevent birds from nesting under the panels. It includes a combination of mesh and clips which are easy to install, requiring no drilling. The 19 gauge, 25mm x 12.5mm galvanised mesh is available in 30m x 200mm width rolls. The UV stable polycarbonate clips are supplied in packs of 10 and are designed to fit on the inside lip of the panel without scratching the surface.

The clips are fitted two to each corner and then at 500mm points in between.

www.killgerm.com

Tunnel mole trap gets a make-over

P+L Systems have made a number of small changes to their popular Pest-Stop Tunnel Mole Trap. These not only make the trap easier to set, but also offer improved performance.

Developed after working closely with veterinary practitioners and professional mole catchers, the trap is the most humane on the market, with a 30% increase in spring strength and accurate strike location, explains P+L Systems.

www.pest-stop.co.uk

Deltamethrin dust

This 0.05% SOMI deltamethrin dust is designed to be applied in thin layers to the harbourage areas of crawling insects, such as, cockroaches, ants, fleas and bed bugs.

It can be used in domestic premises, public hygiene areas, as well as in food preparation and storage areas.

www.1env.co.uk

Attractant for grey squirrels

Formulated and developed by Barrettine Environmental Health, this Romax squirrel attractant is designed for use in live and lethal spring traps when trapping urban grey squirrels.

The product is a non-toxic, food-grade attractant formulated with synthetic peanut butter. It comes in a caulkable tube containing 300g.

www.barrettine.co.uk

For lofts with no floors

These foldable crawl boards are ideal for use in loft spaces with no flooring. Once open they provide a 600mm x 1200mm working area. Their low profile and carry handles makes them easy to transport, unlike heavier rigid equivalents.

www.1env.co.uk

Join Us For

PESTWORLD

Oct 21-24 / Walt Disney Swan & Dolphin Resort / Orlando, FL

2014

Don't miss out!

- **WITNESS** exciting new product launches from more than 165 exhibitors
- **HEAR** informative keynotes from leading visionaries
- **GET INVOLVED** in extended Thought Leader sessions
- **PLUS** much more at PestWorld 2014!

Register today for the most productive four days of business you'll have all year!

www.NPMAPestWorld.org/PestWorld2014

SAVE $50 & REGISTER BEFORE SEPTEMBER 5!

NPMA
National Pest Management Association

Diary dates 2014

24 September

Benelux Pest 2014
Voorthuizen, The Netherlands
www.beneluxpest.nl

7-8 October

CIEH Conference 2014
East Midlands Conference Centre, Nottingham
Email: d.donnelly@cieh.org

14 October

Barrettine/Pest seminar
Hellaby Hall Hotel, near Rotherham
Email: beh@barrettine.co.uk

21-24 October

PestWorld 2014
Orlando, Florida, USA
www.npmapestworld.org/pestworld2014/index.cfm

5 November

PestTech 2014
National Motorcycle Museum, Birmingham
www.pesttech.org.uk

19-21 November

Parasitec 2014
Espace Champerret, Paris, France
www.parasitec.org/index.php/en

20 November

SOFHT Annual Lunch & Lecture 2014
The Savoy, London
www.sofht.co.uk/events/sofht-lecture-annual-lunch-awards-2014/

2015

7-9 January

Global Bed Bug Summit 2015
Sheraton Denver Downtown Hotel, Denver, Colorado, USA
www.npmapestworld.org/events/BedBugSummit

Book now for the joint Barrettine/Pest day

The date for the joint Barrettine/***Pest*** seminar has been announced as Tuesday 14 October. It will be held at the Hellaby Hall Hotel, which is situated conveniently just off junction 1 of the M18, near Rotherham.

The speaker line-up will include **Paul Butt** from Natural England who will be updating us on the situation with the Second Generation Anticoagulant Rodenticides, the so-called SGARs. **Alan Morris** from Bayer will be talking about some innovations Bayer has for the future. Also from Natural England will be **Rodney Calvert** covering mammal and bird management. ***Pest's*** own associate editor, **Helen Riby**, will also be on the agenda taking delegates through four years worth of data from the National UK Pest Management survey which is jointly run by BASF Pest Control Solutions and ***Pest***.

The Hellaby Hall venue is within easy travelling distance for pest professionals in the North and the Midlands, but there's no geographical restrictions. We'd be pleased to see you wherever you work. Places, which include lunch, are free to all MINT members. If you are not yet a MINT member you can register for free with Barrettine and then book your place. Call 0117 967 2222 or visit www.barrettine.com/Environmental-Health/index.php/mint-member to download an application form

If you don't want to join MINT you can still attend but will be asked to make a contribution of £35 per delegate towards the venue costs.

EASY TO INSTALL LOW PROFILE DISHES

小島 BIRD FREE®

NOT A SPIKE OR WIRE IN SIGHT!

Also referred to as Optical Gel® or Fire Gel®, clients like 小島 Bird Free because it is discreet, yet effective; installers like it because the pre-dosed dishes are quick and easy to apply, and make for a neat and uniform finish.

WHAT OUR CUSTOMERS SAY

"We have been using Bird Free since 2011, and have found each new version to be an improvement on the previous one. We now use 小島 Bird Free in the majority of our bird control work, and have some customers who specify it by name."

Glenn Elliott, Contracts Manager, Cannon Pest Control Northern Ireland.

"We have used all three versions of 小島 Bird Free over the last few years, and have found the pre-dosed version much easier to use, especially where it needs to be installed at height, or applied vertically. It also makes for a neater and cleaner finish than the previous versions."

Mark Hobbs, Surveyor, Cleankill (Environmental Services) Ltd, Croydon.

"We have always found 小島 Bird Free to be effective, and the new pre-dosed version makes our work a lot easier. We regularly make follow-up visits to our clients' sites, and have found that the pre-dosed 小島 Bird Free maintains its shape and appearance very well over time."

Craig Nickless, Managing Director, ERS Environmental Services, Aylesbury.

NEW

MAGNETIC DISHES AVAILABLE SOON

小島 BIRD FREE

Protecting the urban environment

Bird Free Ltd
t +44 207 359 9988
e ian.smith@bird-free.com
www.bird-free.com

15 x 8mm low profile dishes per pack

Killgerm
www.killgerm.com

EXCLUSIVELY DISTRIBUTED BY:

Killgerm Chemicals Ltd., P.O. Box 2, Ossett, W. Yorks. WF5 9NA.
t 01924 268400 f 01924 264757 e info@killgerm.com **www.killgerm.com**