

pest

The independent UK pest management magazine

Scenting victory!



Issue 44
April & May 2016

Watch-out when there's a bird about!



5

Foxes and lambs just don't mix



20

On parade at PPC Live in Peterborough



22

Keep a look out for Asian invaders



28

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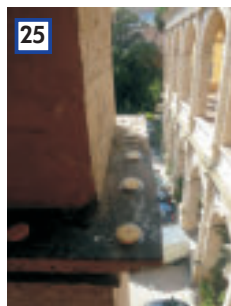
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Contents

- Industry news 4
- Using rodenticides in the Netherlands 8
- UK rodenticide stewardship update 8
- Scent signals and rodent control 11
- It's a different world down under 15
- Bargain bags! 17
- Caranage – worst attack by foxes in 45 years 20
- PPC Live hits the spot 22
- Flight from Rome 25
- What's new in pest research? 27
- Not if, but when! 28
- Fresh eyes on China 31
- Stuttgart welcomes Pest-Protect 34
- New resources for pest professionals 37
- Take the *Pest Test* 37
- Products – what's new? 39
- Diary dates 43
- ...and finally, when it all goes wrong! 43

It's a small world ...and getting smaller

We may have said it before, but the global pest management business is definitely becoming more and more international. This edition of your favourite read, **Pest** magazine, is a case in point.

We have reports from international gatherings in Adelaide, Australia (pages 15-18) and Stuttgart, Germany (pages 34 & 35). Both highlight the many similarities of the challenges pest professionals face, wherever they work.

The analysis of the Chinese market (pages 31-33) clearly demonstrates a real thirst for knowledge among Chinese pest controllers in what continues to be a fast developing sector, despite talk of a slowing of the Chinese economy. Elsewhere, we have news of research breakthroughs at the University of Sydney, Australia and at Purdue University in the USA. Dublin, in the Republic of Ireland, gets in on the research act too, plus there's a report on a really practical, but simple solution to grain insect pests in developing countries.

Up there with the best in the world is the ground-breaking research underway at the University of Liverpool, here in the UK. Professor Jane Hurst from Liverpool spoke about their work on rodent communication at the PPC Live event in March.

We review the project and its conclusions so far (pages 11-14). Enjoy!

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Reclassification goes ahead

In **Pest** issue 43: February & March 2016 (page 11) we highlighted that rodenticides were likely to be reclassified as

'toxic to reproduction', on the advice of the European Chemical health agency. We can now confirm that there has been no outbreak of commonsense and the reclassification has gone ahead. There is a reasonably lengthy phase in, however. Affected products can remain on the market until 30 June 2018.



H360D May damage the unborn child

Happy 25th birthday PestWest

The champagne corks were popping on 16 April as PestWest Electronics celebrated its 25th birthday. Based in Ossett, and now part of the Killgerm Group, the roots of this world leading company of today go back to the 1980s when fly control units were first developed by Mike Kemp. This led to the formation of PestWest Electronics Limited in 1991.

Further innovation followed, including the use of insect light traps, which use sticky boards rather than high voltage killing grids to control the insects – several patented products followed. Over the years sales worldwide have expanded with sales now in over 70 countries. In 2001 PestWest USA LLC was set-up as a separate company in the USA, PestWest China was established in 2011 and in 2015 Starkeys Products in Australia was acquired.



The PestWest team gathers to celebrate the company's 25th birthday

Bumper turnout at Italian event

A total of 533 people attended the IXth national conference organised by the Italian pest control association, Associazione Nazionale della Imprese di Disinfestazione (ANID). The event was held in Parma, Italy on 15 and 16 March,

Speakers came from throughout Italy and also from France and Sweden. Clive Boase, who spoke about bed bugs, flew the flag for the UK.



Book worms?

Emprise Services, a leading support services provider, has been awarded a new five-year contract with the British Library at both the St Pancras, London and Boston Spa in West Yorkshire sites. This covers not only pest control, but also cleaning, waste & recycling management, window cleaning, washroom services and specialist cleaning.



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Eager Beavers gain recognition

Operating from its South London base, Beaver Pest Control has recently received the Trading for Good 'Responsible Business Award 2015'. This is in recognition of the impressive number of social activities they have undertaken benefitting Oxfam, St Raphael's Hospice and the Croydon Jobs Fair. Indeed, their volunteering efforts have delivered an amazing 969 hours of *pro-bono* work.



From left: Melanie Kemp (office manager), Graham Lodge (partner), David Pullinger (service manager) and David Lodge (partner)

Global market forecast to grow

A recent report from the Indian office of RnR Market Research forecasts a 5.09% compound annual growth for the global pest control market in the period 2016-2021. This follows growth, it says, of 4.34% over the preceding years of 2011-2015.

The report is entitled *Global Pest Control Services Market: Trends, Opportunities and Forecasts (2016-2021)*. It identifies the major reasons for growth. These include an increase in infestations of pests responsible for the spread of infectious human diseases as well as the rise in middle class populations in emerging countries combined with a general uplift in standards of living, both of which promote a greater intolerance of pests. The report also highlights the drive to raise standards in the international commercial food processing sector as a further factor in market growth.

It predicts that the Asia Pacific area is set to grow the fastest, mainly driven by emerging countries such as India and China, where stricter measures for eradication will be demanded.

The report reflects the points highlighted in the feature from China in this edition (see pages 31-33).

New West Midlands venue

Looking for a good venue in the West Midlands? Well, look no further! Lodi has just launched brand new meeting and training facilities at its headquarters in Kingswinford – an ideal spot for all those located in the West Midlands.



Bird bashes plane

More than 70 passengers got more than they bargained for when coming in to land at Heathrow airport in mid-March. Their Egypt Air Boeing 737-800 was hit by a bird. The nose of the plane was smothered in blood and feathers and was grounded until a new radome, which protects antenna from atmospheric and physical damage, could be fitted.

If evidence was ever needed of the potential hazards birds can cause at airports, you need look no further. However, a new threat to the skies near airports is the flying of drones. In what is believed to be a first, on 17 April a British Airways plane hit a drone in mid-air. Now also popular for use by pest controllers, this incident is likely to speed-up some official form of drone registration.

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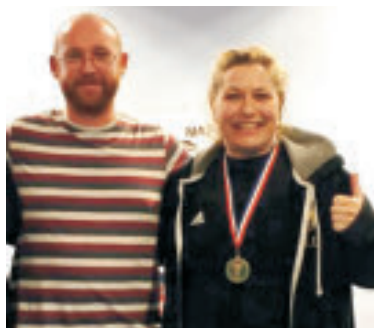
Brady masters the weights

Many of us in the industry will know Brady Hudson, market manager for Bell Laboratories in the UK, but what you may not realise is that Brady is the 2016 British Masters Weightlifting champion. For those not familiar with weightlifting, the Masters category is for people over 35 years of age.

As Brady explains: "I have been involved in competitive sports since 2005, mainly in the field of martial arts. I took up Olympic weightlifting as a way of helping with some back pain, as it helps strengthen all the muscle groups associated with the support of the back. Having become hooked on this type of sport, I joined a specialist centre where the head coach is also an adviser to British Weightlifting and the former coach of Zoe Smith, the current Commonwealth gold medal holder and Olympic competitor.

"Having this kind of association really enthused me to take it further. So, after 12 months of coaching I entered the 2015 British Masters Weightlifting competition and won my category for age and weight. This also qualified me for the European Masters which, unfortunately, I couldn't attend. "However, I went on to compete a further five times through 2015, winning each category – an accolade in itself. My coach intensified my programme and I successfully defended my title of British Masters Champion. I also managed a personal best lift of 108 kgs and qualified for the World Championships to be held in October, in Germany.

"I was ecstatic as I have had to put in a lot of training, sometimes getting into the gym at 05:30 to be able to fit it round my busy job. It's all worth the effort though. I wish I had discovered this sport earlier on, as who knows where it could have led," she muses.



Gold medal winner, Brady Hudson



UK team re-organised at PelGar

In a reorganisation of its UK team, Nic Blaszkwicz has become the UK & Eire business manager for Hampshire-based PelGar International. Nic, who has been with PelGar for ten years, was formerly global marketing manager for the company. Tim Bridge will continue as UK and Eire sales manager, with the four area representatives reporting to him.

All the best Jeff

At PPC Live the industry bade farewell to Jeff Callaghan and wished him a very happy retirement.

Jeff has been part of the pest control industry since 1975. His first job was making electronic fly killers (EFKs) for Insect-O-Cutor. He then moved on to become their commercial manager, a role he occupied for many years, despite the company being acquired more than once. With the acquisition by Terminix in 1994, Jeff took on the regional manager's role for the north west within the pest control division. This role was later expanded to include training.

Following the management buy-out led by Peter Cottey in 2001, Jeff returned to the EFK market until he left to become a consultant for the British Pest Control Association (BPCA) in 2009. With BPCA his primary role has been undertaking membership assessments.

Summing-up his pest control career Jeff said: "It has certainly been a very enjoyable 40+ years – no two days were ever the same. It's a great industry and I have many fond memories." Jeff now takes on the role of keen golfer, house maintenance man and proud taxi driver for his nephew and niece, who are both talented dancers.



Jeff Callaghan, left, marks his retirement with a bottle of fizz from BPCA's Simon Forrester



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Star of the silver screen

By day a pest control technician with Wiltshire Council, but on 2 April 2016 Ben Sargeant became famous when he won the new BBC1 game show – *Can't Touch This*. For those who haven't seen it, the contestants get to keep any prize they can get their hands on. To do this they have to negotiate a larger-than-life assault course whilst battling it out with the other contestants. Nic-named the Verminator on the show, 37-year old Ben won the contest and in the process collected the star prize – a car – plus a trip to Rome, a dishwasher, a running machine, an American-style fridge freezer and an iPad.

Ben explains: "I saw an advert for contestants for a physical game show and applied. I had an audition in Bristol where I had to talk about myself and my job, then do a bleep test and as many press ups as I could in 30 seconds plus an obstacle course. A few days later they called to say I had made it onto the show and they flew me out to Belfast to film it.

"As soon as you see the course you get excited as it is like nothing else you have ever done. Definitely the worst bit for me was



Ben Sargeant ready for battle!

becoming a human catapult! I loved it but every part of my body hurt afterwards. I was about 10 to 20 years older than the other contestants, so thought I didn't stand a chance, but my competitive streak kicked-in and I was off.

"The hardest bit was not telling everyone how I had done as it was filmed in September but not shown until April. On the night it was screened we all sat down

On the move again...

Having spent the last four years as UK national account manager for Russell IPM, Trevor Green is returning to once more work alongside Richard Lunn as his technical sales manager – but this time under the Tenv Solutions banner. Trevor has 30 years experience in the industry, the last 11 of which were in distribution and manufacturing. Trevor will continue with his range of training activities.



Co-hosts of the show: Zoe Ball and Ashley Banjo

to watch the show and my kids were screaming at the TV for me to win," concludes a still excited Ben.

Father of two (Hattie six and two-year-old Jack), Ben has been a pest controller for eight years. Before this he was a dog trainer for Hearing Dogs for Deaf People. Like many in pest control, as a teenager Ben spent his spare time with a ferret and terrier around farms catching rats and rabbits. When not at work, he can still be found ferreting, ridding with dogs, mole trapping, lamping with his lurcher or shooting as well as spending time with his children.

Sponsor for Jen & Super Soli



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PelGar International is sponsoring Jen Smithson and her striking six-year old Knabstrupper x Arab coloured dressage horse Prescoed Solomon (Super Soli). Jen, who is the company's area representative for Wales and the south west, has been riding and competing him for the last year. The sponsorship is helping to fund the duo on the Welsh team training scheme.

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Using rodenticides in the Netherlands

Raising standards in rodenticide stewardship is not just something that is having an impact here in the UK. As Dutch consultant, Dr Joeke Nijboer explains to us, the demands on Dutch rodenticide users are, if anything, even more rigorous.

The use of rodenticides is restricted in the Netherlands, partly for resistance management reasons and partly because of concerns about secondary poisoning. Indeed, rodenticides cannot be used at all outdoors to control mice. For rats, since 1 July 2015 controls have been tightened and, taking a different approach to the UK, Dutch pest controllers now have to register the outdoor use of rodenticides on a government website.

By registering, they commit to follow an Integrated Pest Management (IPM) system. They also agree that, by 1 January 2017, they will complete a special training course based on the Dutch Rodenticide Protocol. If the training is not completed by that deadline then they will no longer be permitted to use rodenticides outdoors. Before taking this course they must already have passed the Dutch exam for pest controllers (a 10-day course).

The Dutch Rodenticide Protocol has been set-up by a group comprising the Dutch pest control organisations, the federation of agricultural organisations (LTO) and the Dutch government. The government's aim is to reduce the use of rodenticides and the risks



to non-target animals, humans and other environment related items.

A separate group made-up of Dutch government organisations, pest control organisations, educational organisations and the industry (producers and distributors) as well 'green' organisations has also been established with the power to adjust the Protocol as necessary.

About 60-70% of the 1,000 pest controllers in the Netherlands have already taken this training. During the course more and more of them are becoming convinced that monitoring, habitat management and non-chemical control of rats is possible.

But what about the use of rodenticides by farmers? Similar to the UK, many Dutch farmers use rodenticides. The federation of Dutch

UK stewardship update

In our last issue we pointed out that the new label wording for stewardship rodenticides had still to be agreed.

We can now report that the new label text is available and it's developed from a one-liner into a whole essay as follows:

- *To be used only by professional users holding certification demonstrating compliance with UK rodenticide stewardship regime requirements;*
- *Read the label before use. Using this product in a manner that is inconsistent with the label may be an offence. Refer to the CRRU UK Code of Best Practice (or equivalent) for guidance;*
- *When this product is supplied to a user for the control of rodents, it shall only be supplied to a professional user holding certification demonstrating compliance with UK rodenticide stewardship regime requirements.*

Perhaps by making it so long the plan is that it will be impossible to miss, but, with so much else on the label, the typesize is unlikely to be eye-catching. That's conjecture of course, because stewardship labelled rodenticides are still as rare as hen's teeth. Old labelled product can be sold up until 30 September 2016 and used until end March 2017, so there's plenty of time. Quite when newly labelled products will appear is down to individual manufacturers, but it won't be next week!

BPCA on Farming Today

With 1 April not being a 'proper' launch there was no official media briefing arranged. However, Simon Forrester chief executive of the British Pest Control Association (BPCA) got the opportunity to promote stewardship on BBC Radio 4's *Farming Today* programme. Whether this was a BBC or BPCA initiative we don't know. Listening to the broadcast he did a

first class job of promoting BPCA. But, unfortunately and perhaps due to the pressure of a radio interview, there was a major factual error. Only three options for farmers to comply were listed – get certificated, buy amateur strength rodenticides, or employ a professional. What happened to being a member of a CRRU Stewardship approved Farm Assurance scheme?

This omission will have done nothing to improve the standing of our industry with the farming sector. Fortunately, despite its title the majority of those listening have nothing to do with agriculture, they are mainly early risers who have a long commute to jobs in the City!

Two new publications

The stewardship team has also published two new publications: *CRRU Guidance on permanent baiting*, which is a must read for all pest professionals and *CRRU UK Rodenticide Stewardship Q&As*. For more details see page 37 of this issue, or visit www.pestmagazine.co.uk/en/library

farming organisations (LTO) has agreed to follow the Protocol (although farmers are exempt from some administrative parts of it). This means that if Dutch farmers want to use rodenticides outside they too have to complete their training before the 1 January 2017 deadline. It seems doubtful that all 23,000 Dutch farmers will do this, giving pest controllers the opportunity to assist farmers with their pest control.

Protocol key points:

1. Set-up an IPM-based plan. This means conducting a risk assessment based on a physical inspection, estimating the size of the rat population, looking for specific risks to non-target animals, humans and the environment, assessing the level of economic damage and advising on preventive measures.
2. Write the plan down and discuss it with the client. According to Dutch law, pest control is the joint responsibility of pest controllers and their clients.
3. Habitat management is the first control that must be implemented, for example technical improvements to buildings, better hygiene and so on. If this is sufficient to reduce the rat population no further action is required.
4. When the habitat management is not enough, a non-chemical control is the next step. This means using (snap) traps (glue traps are not allowed in the Netherlands!) or biological controls (cats, birds of prey etc.) The non-chemical control system must be planned so the risk to non-target animals, humans and the environment is as low as possible.
5. If after 10 days it is proven that non-chemical control is not enough, rodenticides can be used. The risk to the environment

must be considered when locating bait stations. In general, depending on the type of rodenticide use, the control programme will last no longer than 35 days. After that time rodenticide baits must be removed and replaced by a non-chemical control for a further 10-days. If after these 10 days it is obvious that the non-chemical control is not sufficient, the pest controller can switch back to a chemical control.

6. Once a rat infestation is controlled, monitoring must be set-up, such as non-rodenticide baits, or snap traps based on sensor techniques and checked regularly.

The only exception is in an emergency situation such as severe economic damage, public health danger, or an immense growth in the rat population, when rodenticides in bait stations can be employed immediately.

Other points to note:

- Rodenticides must never be used in nature reserves;
- All steps (monitoring, habitat management, use of non-chemicals, use of chemicals) have to be documented;
- An administrative audit of all documentation will take place every three years;
- Every two years an audit will take place on location to check pest controllers are working according to the Protocol. This may be announced or unannounced;
- Failing an audit means a fine, or in the worst case, loss of the licence to use chemicals for outdoor rat control;
- Applying rodenticides as a monitoring tool (i.e. permanent baiting) is not allowed.

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Scent signals and rodent control



The £4.7 million funding for this five-year project, known as Scentmarc (Scent in mouse and rat control), is being provided by the Biotechnology and Biological Sciences Research Council (BBSRC). BBSRC is funded by the Government's Department for Business, Innovation and Skills.

Whilst it is great to see funding going to a project which might benefit pest professionals, it should come as no surprise that it is the global impact of rodents on food security which is the main driver. That said, the potential additional benefits for public health pest control was identified as part of the call for funding by the research team.

Plenty of potential

Speaking at the second PPC Live event, which was held in Peterborough on 16 March, Professor Hurst announced that the team could confirm that there is considerable potential in using rodent scents to manipulate behaviour. This includes attracting rodents to control points, repelling animals from sensitive sites and ▶▶▶

Because scent is so important in everything they do, you could say that rats and mice are led by their noses. But is this something that pest professionals can use to their advantage? Professor Jane Hurst from the University of Liverpool is leading an impressive team of researchers in a multi-million £ project to find out.

Controlling rats and mice isn't getting any easier. The authorities in Europe continue to challenge the use of anticoagulants. Their most recent ruling concerns the labelling of professional products which are now to be classified as toxic to reproduction (see page 4). There are many in the European Parliament who would go much further and will not be satisfied until they see all anticoagulant rodenticides banned.

Here in the UK all readers must surely be aware that the outdoor use of professional rodenticides has led to unacceptable levels of anticoagulants in birds of prey and other wildlife. This has largely been through the contamination of small non-target rodents which then enter the food chain. The response from the UK regulatory authority, the Health & Safety Executive, has been to ask the rodenticide industry as a whole to improve stewardship; hence the launch of the Rodenticide Stewardship Regime which will soon restrict access to these products to certificated individuals.

But it's not just regulatory pressures, technical challenges also seem to be on the increase. Resistance, behavioural as well as chemical, can be a real challenge. For example, we have had plenty of reports about just how difficult it can be to get mice to enter bait boxes, especially in areas where there is a plentiful alternative food source.

Against this background any scientific advances that can help to attract rats and mice to baits and/or deter non-target species from entering bait boxes must be welcomed. It is just these sorts of breakthroughs that the University of Liverpool team, along with research partners, the Hertfordshire-based agricultural research organisation, Rothamsted Research, are working to supply.



Professor Jane Hurst

reducing bait take by non-target species. She also saw a role for rodent scents in understanding where problems arise.

But, she began by explaining the scale of global food losses to rodents. Across Asia somewhere between 5% and 10% of the rice crop is lost every year to rodents. In Indonesia more than 15% of cereals and in Tanzania up to 40% of the maize crop is at risk. Whilst there are many native species of rodent, the primary focus for the Scentmarc project is the brown rat (*Rattus norvegicus*) and the house mouse (*Mus musculus*) because globally, and locally, these are the most important pest species. She said: "Reducing rodent losses by just 5% could feed 34% of the world's undernourished population."

New approach needed

Food security however is not exclusively a developing country problem. It is also a growing issue for politicians in developed countries such as the UK. Add to this concerns about the impact of current control practices on biodiversity as well as the threat from resistance and there is a compelling case to look for different approaches to rodent control.

One of the biggest challenges to good bait take is that baits have to compete with the alternative food resources which were responsible for attracting the rodents in the first place. Of course removing these food resources would solve that problem, but that is never as easy as it sounds and, in some cases, it is pretty much impossible, in a grain store for example.

In large distribution centres, warehouses, food factories and so on, the key is to control the rodents early, but, again, this is easier said than done. In what is a huge three dimensional habitat, how can you find out about an infestation until the damage caused becomes extreme?

Failure to enter bait stations or traps is yet another challenge. Rats are known to be neophobic, but there is also evidence that mice will change their behaviour to avoid being killed.

Rodents and most other mammals, unlike people, have what in layman's terms can only be described as a 'second nose'. This works in a very different way to the broad spectrum system that humans rely on. It requires the animals to get very close to the source of the smell, but it provides a much more sensitive and specific means of identifying different odours – predators, competitors, sexual partners and so on.



Indoor enclosures such as this provide a more controlled environment to allow the team to dissect specific behaviours and the scent cues being used

Pest controllers will be familiar with mouse urine posts and indeed already use their own noses to assess the level of an infestation. "But, don't get too close to mouse urine," warns Professor Hurst. "It is full of allergens and can contain many infectious agents, so be careful."

Rats also make use of urine marking and, unlike mice, rats use faecal marking too.

So can scents be used to achieve more effective, targeted and humane rodent control?

The first steps, and this is where the research work has been focused so far, are to understand much more about the chemical composition of these scents and how rats and mice make use of them.

Professor Hurst admitted: "This is not an applied project. We are some way off that, but we are trying to understand what cues the rats and mice are using. By understanding how all this works, we can then focus on how we can help pest control. I am an animal behaviourist, others in the team are working on the molecular side to identify the components in the cues and work out how to make them. Can we do that? It's much harder than it sounds!"

The University of Liverpool's Leahurst campus has a globally important facility for studying rodent behaviour and one that is unique in Europe.

Professor Hurst explained how, in 2012, 'the wrong type of snow' caused extensive damage to the external rodent enclosures on campus. Although this led to a delay for the Scentmarc project, the team now has brand new rodent enclosures, specifically set-up for this work. These offer very naturalistic conditions under which to study these animals.



The new 'built environment' unit where the rodents can be monitored, wherever they go

The facilities include a new 'built environment' unit where the rodents can be monitored wherever they go. The unit has 128 Radio-Frequency Identification (RFID) antenna which continuously monitor each individual animal's use of all the sites of interest i.e. nests, feeding areas and so on. Each rodent is fitted with its own chip – the same technique that is used for pet passports. This means that details of every animal's movements are monitored 24 hours a day, seven days a week. It's all very accurate and is providing insights into many aspects of behaviour.

Smaller indoor enclosures are used for trials to model specific behaviours identified in the larger units, so as to identify the scents the animals are using. These scents are then fractionated into their different molecular components to see which parts are active in inducing the behaviour of interest. Using the results of these molecular studies and behavioural bioassays, specific scents are synthesised and then played back to the rodents to test whether the man-made scents work.

Attracting rodents

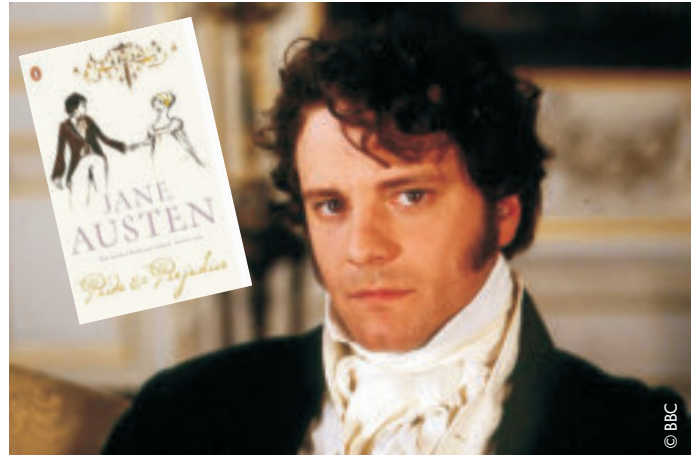
Whilst most pest professionals will have heard of the use of female sex pheromones to attract male insects, the situation with rodents is much more complex.

Rodent scent cues typically contain several hundred component molecules. These not only include volatiles, as you would expect, but also involatile components.

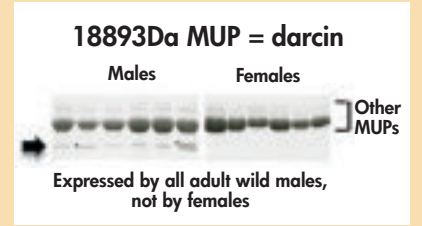
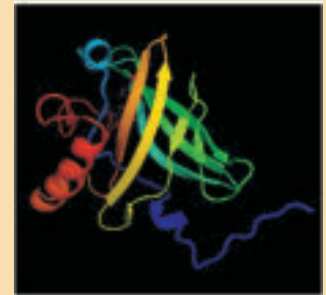
In mice, detailed molecular analysis has revealed that there are special proteins in mouse urine. These specialised communication proteins called MUPs (Major Urinary Proteins) are very stable and highly resistant to degradation. In healthy wild mice almost all urinary protein is MUPs. MUPs contain volatiles held in a central cavity which are slowly released over many hours, or even days. Production is stimulated by social competition. There are substantial differences between individual scent signatures. Individuals signal their identity, location and current status through scent marking. Scent is also proof of territory ownership and the information contained in the scent influences the responses of other individuals on meeting the scent owner. Mice also learn from experience and will modify their response to a mouse with the scent signature they have learned.

All this is very interesting but, because all these scents are specific to an individual, and all the responses to those scents are specific to other individuals, it is very difficult to see how such behaviours can be exploited to improve pest control.

Something a bit more generic is required as Professor Hurst explained: "What we are looking for are responses that are shown



Named after Mr Darcy in Jane Austen's *Pride & Prejudice*, darcin is the single Major Urinary Protein (MUP) responsible for female mouse instinctive sexual attraction



Roberts et al (2010) *BMC Biology* 8:75

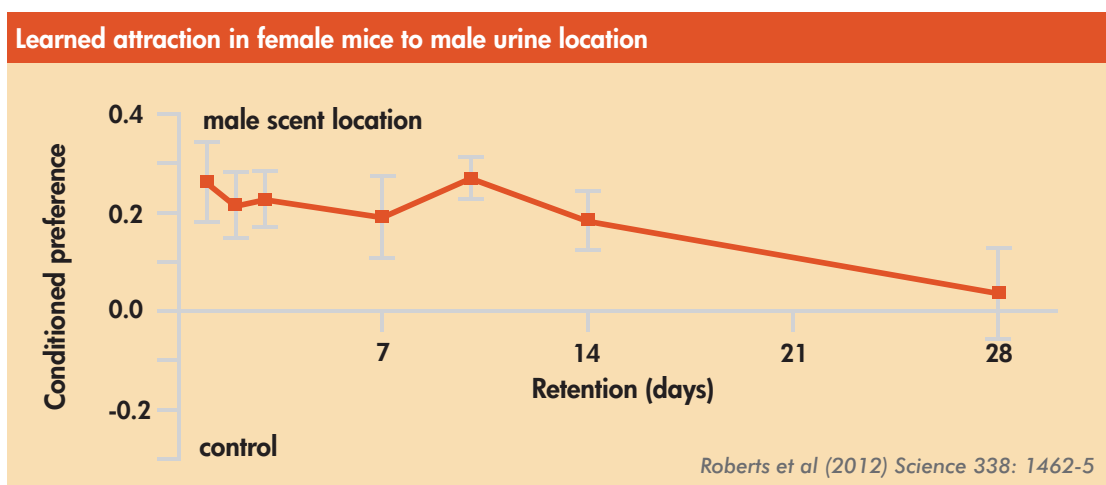
regardless of a particular individual scent signature so, a response which is typically inherent, rather than learned. Sexual attraction is a good example because we expect animals to show instinctive attraction to the opposite sex, even if they have never met the individual before."

Scent plays a major role in finding and recognising a suitable (high quality) mate, in signalling readiness to mate and in suppressing reproduction when social conditions are unsuitable. And, it turns out, that female instinctive sexual attraction is down to one single male urinary MUP. The team has christened this MUP darcin after Darcy in Jane Austen's *Pride and Prejudice* in recognition of its special role in female sexual attraction.

However, darcin only has an effect when the female has come into contact with the scent. There is no strong attraction to airborne male scent that they cannot contact.

As Professor Hurst explained: "Darcin taught us something else. It is one of just two pheromones that we know of in mammals that stimulates associative learning so, a female mouse will learn a preference for a location where they encountered darcin, even if there is now no darcin present. The female remembers one single brief encounter with darcin for at least 14 days."

Experiments have also ▶▶▶



shown that the females will remember multiple locations where darcin was encountered and the more darcin in the location the stronger the preference for that location.

Darcin has a very special effect on the brain stimulating the development of many new neurons to underpin memory formation. This means that it is very unlikely that mice will develop resistance to darcin. All these characteristics mean that a darcin-based signal shows considerable promise as a means of attracting female mice to control or monitoring points.

The next big challenge however is to produce a synthetic signal. There are many high hurdles to overcome in order to achieve that.

But what about rats?

All of the work on mice built on previous studies but when it came to rats the team was pretty



much starting from scratch. Rats are not big mice. Field observations have been required to gain an understanding of their behaviour and the role of scent signalling. As in mice, individual specific scents are not useful. What is required are:

- Scents that stimulate strong responses, so those that are associated with survival or reproduction;
- Scents that are resistant to habituation;
- Scents that are effective outside the laboratory.

There is a lot more work yet to do but, so far, a few scent cues that seem to meet the required criteria have been identified.

Repelling rodents

The team has also tested some cues that looked to be potentially useful repellents in laboratory mice, but these have not proven very effective in wild mice.

In the wild, predator odours may stimulate caution rather than avoidance. So, whilst there may be some localised uses, there is nothing to suggest that predator odours are likely to be very effective in repelling rodents away from areas that contain highly attractive resources.

Conclusion

Progress so far confirms the considerable potential for rodent scents to improve pest control.

Some promising candidate scents have been identified and the team is now working on the considerable challenge of making synthetic scents that will work effectively in rodent pest management.

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It's a different world down under

Adelaide, the fifth largest city in Australia, was chosen as the venue for the 12th Fumigants and Pheromones biennial conference, organised this time jointly by Insects Limited of the USA and Adelaide-based Australian Fumigation. Dr John Simmons, managing director of Acheta Consulting and Pest Technical Advisory Board member reports.

The Adelaide venue was a brave one for an international conference; pest control events rarely venture south of the equator and Sydney or Melbourne would have been the more obvious choices in Australia. Adelaide is something of a sleepy backwater by comparison, but the date was chosen so as to coincide with an international V8 Supercar race, and the Adelaide Festival of Arts, an event which includes the largest fringe festival outside of Edinburgh. All in all, the city was buzzing for the duration of the conference. 180 delegates from 26 countries made the trip including, unsurprisingly, a large contingent from Australia itself. Regrettably, I was the only UK delegate.

The Australian pest control market is a very different beast from its European counterpart, with termite control being a huge revenue generator. Fumigation is also extremely important, probably much more so as a proportion of the total pest control market than just about anywhere in the world. Fumigation of cereal grains destined for both the domestic market and for export forms a major part of the pest management business. It was interesting to see that fumigation of commodities such as timber, hay and perishable goods, for example cut flowers, with methyl bromide (MBr), a fumigant now long lost from the European market, remains widespread. MBr plays a major role in the pre-shipment clearance process when certain commodities are destined for export, or for quarantine purposes for some imported goods.

With such a different industry to ours it was not surprising that much of the large contingent of Aussie delegates (and speakers) was drawn heavily from the fumigation and grain sectors. Nor was it

surprising that a significant proportion of the conference presentations reflected this interest. Nevertheless, there was still much to interest a north European pest controller.

Phosphine is by far the most widely used fumigant on a global basis and resistance to it, amongst some insect species and populations, has existed for a long time. Dr Manoj Nayak from the Department of Agriculture, Forestry and Fisheries, Queensland outlined how resistance is an increasing problem in Australia, to the point where some populations of *Cryptolestes* are able to survive a dose up to 1,300 times a 'normally' fatal dose.

Resistance genes identified

The mechanism by which such resistance occurs is being researched in collaboration with Queensland's University, for whom Dr David Schlipalius highlighted that two genes have been identified as contributing to resistance. The presence of each individually ►►►



Dr John Simmons speaking in Adelaide



Simon Ball, left, with speaker Dr Bobby Corrigan



Aussie pest manager at work!



This mini silo provided a practical demonstration of sealing technology

confers a low degree of resistance, with very strong resistance manifesting when both are present. He also explained why phosphine takes so long to kill insects; multi-day exposures are always required. The explanation was technical, but it explained why the 24 hour fumigation periods typically employed with other fumigants will never work when using phosphine.

Phosphine resistance is driven by poor fumigation practices, such as inadequate dosing or poor sealing of the fumigation enclosure. The success of any fumigation is inherently linked to the effectiveness

with which the fumigation enclosure is sealed. Sealing of silos, bunkers (flat stores) and buildings is an area where Australian companies lead the world. An informative joint presentation by Simon Ball of local hosts, Australian Fumigation, and Gabriel Tassone of Global Sealing Services, reviewed this specialised field. Augmenting the more conventional sealing techniques familiar to fumigators around the world, the Aussies have developed brush and spray-on flexible acrylic membrane coatings that can render structures such as building roofs and walls as well as silo floors and other structures, as near to gas-tight as they are ever likely to get. This process is neither simple, nor cheap, but, in hotter climates than ours, when insects can completely destroy a crop in store, the cost-benefit analysis makes it economic. A mini silo in the exhibition hall provided a useful practical demonstration of the products and techniques in action. Even those delegates working in the central grain belts of the US and Canada had never encountered sealing technologies with this degree of sophistication!

Strategies for combatting phosphine resistance were touched on by several speakers and included substantially increasing the fumigation dose and 'resistance breaking' by substituting Profume (sulfuryl fluoride) on a one-off basis to kill resistant insects. The latter is certainly something that would not be feasible in the UK because Profume has no approval for direct use on food commodities.

Jeff Waggoner of Fumigation Service and Supply (FSS), a sister company of Insects Limited, is a seasoned fumigator, responsible for 200-300 such operations a year. Here is a man who must rarely get a weekend or bank holiday off! He focused on the practicalities of using Profume. Although this gas has been around for about 50 years, it was only with the demise of MBr that approval was sought

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Speaker Jeff Waggoner from FSS, a sister company to Insects Limited with Dave Mueller of Insects Limited

and gained for its use in food plants and on food commodities. It was very obvious from Jeff's talk that the Profume business in the USA is far larger proportionately, than it is in the UK. Much of this difference relates to Profume's approval status in the USA (and many other countries), where food commodities themselves may be treated. In the UK it may only be used in food and feed processing facilities, and these must be emptied fully of their food content before treatment – a restriction that renders many buildings, or parts of them, impractical to fumigate.

Responsibility in much of the world for Profume registration, along with the strict stewardship scheme which accompanies its use, has recently passed from Dow Chemical to Douglas Products; the primary sponsors of this conference. Dr Ellen Thoms, now of Douglas Products, but an ex-Dow person, has had a long involvement with Profume. She outlined that Douglas Products has taken on the product because they see significant potential for developing Profume use.

In Europe, Dow remains responsible for Profume. It will be interesting to see what happens here, where Profume use seems to have stagnated; a reflection perhaps of its cost, its more limited approval status and the fact that there is only one company in the UK 'approved' (by Dow) to use it. Perhaps a change of approval holder here might reinvigorate the structural fumigation market?

Some countries, but not others

As well as commodity fumigation, rodent control provides a second example where Profume use is permitted in some countries, but not others. Just occasionally our work in Acheta brings us into contact with buildings where fumigation against rodents would be a useful tool to have available in the suggestions box. However, since MBR was lost, we have had no building fumigant approved for use against rodents. Perhaps such a tool may once again be available with Profume?

Alternatively, and I suspect this will surprise many readers, maybe hydrogen cyanide (HCN) will return. This chemical is still used as a building fumigant in some European countries. Pavel Jakoubek, of Czech Republic-based conference exhibitor, Draslovka, indicated that approval may be sought for its use more widely in Europe, possibly including the UK. Given our health and safety laws I was not sure what to make of this. I do wonder whether we have the fumigation expertise to use such a product any longer and also whether potential corporate clients would want to see it used on their sites. A question for the future perhaps?

Four-legged relief

Four-legged relief in an insect dominated event was provided by independent consultants Dr Bobby Corrigan of RC Consulting, USA and myself. Though we approached the subject of rodent ►►►

Bargain bags!



Dr Dieudonne Baributsa, right, at a demonstration in Pala, Chad

There is typically at least one session during these conferences where a subject of interest, but perhaps not of direct relevance, is presented. Continuing this theme was the session by Dr Dieudonne Baributsa of Purdue University in the USA. He outlined a project, funded in part by the Bill & Melinda Gates Foundation, to commercialise airtight bags for storing grains in sub-Saharan Africa – a significant proportion of which are often lost to insects.



A government extension agent in Mbulu Tanzania

The bags have been developed to control insect pests by limiting access to oxygen using airtight bags by Purdue Improved Crop Storage (PICS) www.picsnetwork.org. Those insects which are infesting the grain consume the remaining oxygen inside the bags and die by lack of oxygen. Training of users, to prevent mishandling of the airtight bags, is the key to success. Working with local private entrepreneurs to make the bags available to smallholder farmers is equally important. Education of the end consumer is also necessary, to build awareness about the availability of safe and insect-free grain on the market!

The programme is undoubtedly proving to be successful. In 2015, 6.7 million bags were sold, and some three million farmers trained on proper use in more than 46,000 villages. Interestingly, the major barrier to increased success is considered to be unavailability, with price not seen as a barrier.

A simple, cost-effective solution to a major problem in developing countries has been achieved. Currently, the PICS technology is licensed to more than 15 distributors and being promoted in more than 25 countries in Africa and Asia, including Afghanistan and Nepal.

control from different angles, what was striking about both talks was how challenging the control of rodents can be, particularly given the decreasing range of products available and the increasing restrictions on how those left may be used.

Rodent behaviour in some situations certainly seems to be becoming more unpredictable. Mirroring something I have long believed, Bobby stated that: "No rodents in traps or bait stations does not mean that rodents do not exist in the facility." Whether challenging rodent behaviour is being driven by some fundamental evolutionary change in the rodent population is very much open to debate. It is certainly an area ripe for further research. Interestingly, Bobby is very aware of the ground-breaking research being done into rodent communication using pheromones by Professor Jane Hurst's team at Liverpool University. See pages 11 -14 in this issue of **Pest** for a full report on this work.

Pheromones (the core business of Insects Limited) were not the main topic of many talks. However, during the presentation by Dr Greg Daglish, from the Department of Agriculture, Forestry and Fisheries, Queensland, on the practical use of pheromones against storage insect pests in Australia, my concern for the well-being of the residents of Queensland was aroused. I learnt that insects such as *Tribolium castaneum* and *Cyptolestes ferrugineus* fly vigorously throughout most of the year, only being ground-based during the Queensland winter, when there are relatively few days when temperatures rise above 25°C!

Cricketing theme for gala dinner

No international conference is complete without a gala dinner and the Sir Don Bradman suite of the Adelaide Oval was the splendid venue for an excellent evening. Entertainment was provided by a former Aussie opening batsman, whose name (and fame) passed me by (for cricketing fans it was Wayne Phillips). Though entertaining, I couldn't help wondering what delegates from the non-cricket playing world made of some of his material.

Overall, the conference was extremely enjoyable, though, perhaps, not as relevant as a northern European event might have been. Definitely on the plus side was that there was not a roomful of attendees ranting about the use of rodenticides by amateurs! However, the event did raise a couple of queries in my mind concerning whether a level playing field exists in relation to fumigant use around the world:

- Why is it permissible to fumigate food commodities with Profume in countries such as Australia (and the USA) and then export them to, for example, the UK, when to fumigate those same commodities with Profume here would be illegal.



The gala dinner was held in the Sir Don Bradman Suite in the Adelaide Oval. Pictured from the organisers Insects Limited are son Tom Mueller, dad Dave Mueller and daughter Francie Mueller

- A substantial tonnage of MBr is still being used in Australia (and New Zealand) for treatment of commodities for quarantine and pre-shipment purposes; timber and hay for example. Given the known ozone depleting properties of MBr and the fact that alternatives have been found for so many other purposes to which it was once put, is there really no viable alternative for such uses? When asking this question it must be remembered that commercial considerations must largely be ignored, if a viable alternative exists.

In closing the conference Dave Mueller, Insects Limited CEO and the driving force behind the event, informed delegates that Indianapolis, USA, the home-town of his company, would host the 13th conference in 2018. The event has been timed to coincide with the world famous Indy 500 race – is there a theme developing here? To view more photos of the 12th Fumigants & Pheromones conference go to www.insectslimited.com



Delegates to the 12th Fumigants and Pheromones conference

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Carnage!

Worst attack by foxes in 45 years

In *Pest* magazine we quite often address the issue of foxes causing problems in the urban environment. OK, they certainly are a nuisance, but for sheep farmers with young lambs they are an economic and emotional disaster, as recently highlighted by one farmer on Exmoor.

Sheep farmer Allan Collins from Worth Farm on Exmoor has already lost 43 lambs, after attacks by foxes. The lambs, all aged between one and two weeks old, had been mauled to death, left to die in the fields, or dragged away. Heartbroken, Mr Collins described this as the worst attack by foxes in his 45 years of farming.

"We are one of the first flocks to lamb in this area and we always have problems with foxes, but this year it's just been staggering," explained Mr Collins, who farms some 1,200 Exmoor Horn sheep and Scots ewes.

Having lost 33 lambs in one week, he called in the services of a local professional gamekeeper who used thermal imaging cameras to locate the foxes – eight were killed in one field alone, with further foxes killed on subsequent nights.

Mr Collins is convinced that these foxes are being released by 'unscrupulous companies' who are dumping foxes caught in urban areas into the wild in the countryside. All the foxes killed have been dog foxes and one was even lured out from under a hedge with a dog biscuit. Rural foxes would never do that, claims Mr Collins.

Dumping urban foxes in the countryside is cruel to the foxes, cruel to the sheep and frustrating for the farmers who have to deal with the consequences. It is, however, unlikely that anyone caught doing this would be prosecuted. Under the Animal Welfare Act 2006 causing unnecessary suffering or failing to adequately provide for the welfare of a fox that has been released needs to be proven. However it is surely not an activity any professional pest controller would condone.



Above: Eight foxes were found and shot in just one field after Exmoor farmer, Allan Collins called in a local gamekeeper to help stem his loss of young lambs. The little fellow, left, was severely mauled, but survived the attack. Are these dumped urban foxes or is there a population explosion among foxes in the South West?

Solving the problem

One rural pest controller who has seen the opportunities of controlling foxes is wildlife specialist Dave Archer of Devon-based DKA Pest Control. Here Dave relates his experiences and shares his techniques.

For the rural pest controller there is real merit in providing a commercial fox control service. Although farmers may feel they are capable of controlling foxes, in my experience, many farmers and landowners neither understand the psyche of the fox, nor do not have the necessary tools at their disposal to control them.

Initially it is important to understand why rural foxes need controlling. As I write these lines I have been called away to shoot a lamb-killer fox which has taken four lambs in one night. The only sorry evidence remaining is two lamb hind legs left ripped off on a barbed wire fence. However, before berating the fox, we must understand that under modern farming practices, be it lambing or intensive, supposedly, free-range, chicken farming, it is us that are providing a concentrated food source for the fox. Hardly surprising that at peak food time, with cubs in the den needing huge supplies of food, a fox will readily plunder a fresh supply of meat. Once this source is discovered, the fox will not stop taking advantage of it. Once a fox is a frenzied killer he will normally be confident enough to perform daylight raids on his chosen quarry. The more success he has, the more confident he gets!

So, if a landowner is suffering large financial losses every night due to foxes, is it any wonder that he will call on the services of a professional to alleviate his problems?

Legally foxes can be shot, snared (using free-running snares only) cage trapped, or flushed with dogs (maximum two dogs from cover, one dog from underground). They cannot be gassed or poisoned.

To shoot foxes a great deal of field craft, firearms knowledge and patience is required. Of course, if foxes are heavily predated an area, results need to be as rapid as possible for all concerned. I find that assessing an area (entry points through hedges, wind direction, vantage points, back stops etc.) in broad daylight is invaluable to building up a picture of the area of attack.

Shotguns can legally be deployed for fox control, but in reality their range and culling powers are only useful for close range – up to around 30 yards. Any more than this and the fox is likely to be wounded and die a lingering death, which no professional would ever wish, whatever the species being controlled.

Many fox controllers will go out 'lamping' at night with a large spotlight and a high powered rifle. They hope to either glimpse the foxes bright eyes reflecting back at them, or attempt to 'squeak' the fox to them using the imitated distress call of a rabbit, or similar, by either squeaking off the back of their hand with their lips, or by digital sound recorded means.

Any interested foxes will run very fast toward the sound made, sometimes from huge distances, as their sense of hearing is so acute. You must be able to clearly identify the eyes as those of a fox and not a cat, dog or deer etc. Do not assume anything, always be 100% certain. Although these methods can be hugely effective in calling in unwary foxes (and I have culled myriad number of foxes this way) I do find 'educated' foxes will simply turn tail and disappear off into the night, without a backward glance, once that first glint of a lamp hits them.

Never ever use your rifle-scope as a scanning aid. This is extremely dangerous. An expensive pair of binoculars with good light gathering quality, or better still night vision optics will be invaluable. I cannot stress how vitally important it is that you know your shooting ground thoroughly and have full written landowner permission to be there!

More often than not I will simply wait for the fox's arrival (normally at dusk) and be 100% ready for our meeting. My tool of preference is a .243 centre fire rifle with a 100 grain bullet. This rifle is capable of hitting a target of three inches at 200 yards. The bullet is travelling at over 3,000 feet per second at 200 yards and



A problem solved and a good source of income for pest controllers?



Rural pest control specialists, Dave Archer

will normally drop a fox instantly. A rifle silencer fitted to the end of the muzzle will improve accuracy and muffle some of the noise from the bullet as it exits the end of the barrel. But it cannot deaden all sound. Because the bullet is travelling faster than the speed of sound there will always be some exit noise but, it will be far less obtrusive than an un-silenced rifle.

I normally use a tripod swivel rifle rest for fox control work because this provides a flat, steady rest, giving total accuracy. The only exception to this is if fox control is being carried out in large fields where silage or straw bales remain. The height of these provides a perfect level rest and hides your outline.

With any rifle, once you have pulled the trigger you can be absolutely certain the bullet is never coming back into the chamber and you need to ensure, without any shadow of doubt, that the backstop is capable of stopping the bullet. Without such backstops, bullets can easily travel over a mile and still kill at this range. Bullets will travel straight through foxes, straw bales etc. and still be lethal for a long distance.

Of course, misses are inevitable but rare. Sighting the rifle (test firing) on a range, or quiet field, should always be carried out before any control is undertaken and great care should be given to the rifle to ensure it doesn't get knocked or bumped in transit. Any knock can affect the bullet's trajectory when shooting. Normal reasons for a miss are: excitement of the shooter giving increased heart rate leading to rifle wobble; high wind speeds causing bullet drift (yes even at this speed!); being badly positioned at the site (the fox knows you are there before you know of his presence); or a telescopic sight knocked-out of alignment, or not zeroed-in accurately – this is more common than one may think.

So, although this type of pest control is not the norm for urban foxes, it does provide a good source of income in rural areas and can very easily lead to an invitation to control other pests onsite.



hits the spot



Jones & Sons launched their new post & wire system and won the prize for the best stand in the show



Spotted on the Job Watch stand, a paperless way to plan, manage, schedule and track a mobile workforce, is Jelle Appelman (right) from MouseStop



Lodi-UK introduced their smart new catalogue. Download your copy from the Pest library at www.pestmagazine.co.uk/en/library



David Loughlin demonstrates one of the Sentimol traps



Paula Kearns from Rentokil Products gets ready for the next wave of pest controllers to arrive

PPC Live has got some way to go to rival PestTech as the busiest one-day UK event for pest professionals, but, the fact that it's venue changes every time, gives pest controllers who wouldn't normally make it to Birmingham, the chance to get to an event on their doorstep.

And there was plenty to see. There were nearly 50 exhibitors present and, with the number of visitors not enormous – around 500 – it was possible to have more in-depth conversations – particularly in the afternoon when the numbers dropped.

All the well-known manufacturers and distributors had stands, but so too did a number of organisations making their debut appearance – always an interesting facet. One of the more unusual displays, and the subject of an outdoor demonstration, was the humane rodent trap on the 4 World Designs stand (see page 39 in this issue).

There were a number of stands

offering services – new amongst these was Cliverton Insurance and pest control auditors, Precision Consulting.

To assist customers for pest control services, Which? Trusted Traders had a stand, as did BookPestControl.Com, a new business looking for companies to sign-up for a price comparison website.

The accompanying and varied seminar programme was well attended. Topics included public relations and social media, drain flies, pest control in the food industry, risk mitigation and making sense of mammalian scents. We have a full report on the latter on pages 11 to 14 in this issue. Predictably the Question Time session on the Rodenticide Stewardship Regime attracted the biggest audience. It was ably chaired by Martin 'Dimbleby' Harvey!

As BPCA's Simon Forrester commented: "Delegates had come to learn and network in a relaxed business environment, which was exactly what we were aiming for."

All in all, it was a day well spent!

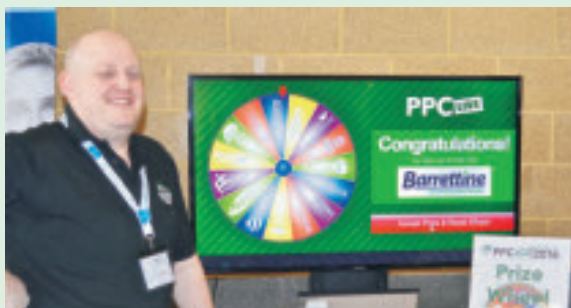
read more on the web WWW



One of the highlights of the PestFix stand was the display on the Agrilaser autonomous laser bird dispersal system



Bayer had a film crew at PPC Live and has produced a video about the day. Here Alan Morris from Bayer is interviewed. The video also includes comments from a number of other industry experts. View it on the Bayer YouTube channel, simply search for PestSolutionsBayer



The PPC Live 'Wheel of Fortune' was in action again with prizes donated by exhibitors



From left from Euroguard Technical Services are: Natalie Keegan, Gary Bacon, Vivienne Mew, Declan Keegan and Matthew Hill. The group was celebrating the company's recent achievement of the CEPA CEN certification. They are the eighth business in the UK to make the grade and, so far, the only company in Kent



Brady Hudson (left) puts the Bell Trapper T-Rex to good use as she attempts to control this giant rodent!



Killgerm is celebrating 40 years in the pest control business this year and as part of the celebrations all visitors were invited to collect a refreshment voucher from their stand



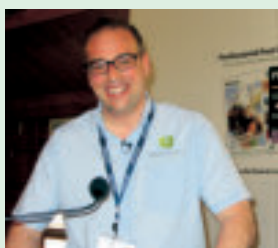
The outdoor demonstrations included one on Respiratory Protective Equipment (RPE) – a snug fit sir?



The Bayer Pest Solutions team was kept busy speaking to visitors about best practice and integrated pest management as well as fielding product and industry questions



Speakers Jane Shepherd of Shepherd PR...



...and Paul Westgate from Westgate Pest Control



The BookPestControl.com team reported plenty of interest in their new 'go compare' website for pest control



Barretine had a busy event and used PPC Live to launch their 2016 catalogue



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Flight from Rome

Pigeons and historic buildings don't mix well, if you are the owners of the buildings that is. Pigeons themselves hold the opposite view, finding them perfect for roosting and loafing. Protecting such buildings requires a good deal of ingenuity, as this case study from Italy shows.

1 The site: The Palazzo Venezia in Rome was originally built as a modest medieval house, but by 1469 the building had been extended and transformed into a residential papal palace. It was later the Venetian Embassy, however it is probably most famous for Mussolini's rabble rousing speeches which were delivered from the balcony. Today it is an art museum and, this time last year, it was suffering from a massive pigeon problem.

2 Problem: Pigeons were roosting at night in the rafters of the south section of the L-shaped loggia in the south west of the Palazzo and in the loggia in the south east of the Palazzo. This was causing an unsightly mess on the floors below.



3 Solution: The seven delta-shaped rafters were cleaned and dishes of Bird Free were fitted at 20 cm centres on the upper rafters and at 25 cm centres on the lower parts. No dishes are visible from below.



The Palazzo Venezia in Rome

4 Problem: In the inner courtyard pigeons had nested in a cabinet on a wooden balcony. They were also using all the ledges on the balcony and the air conditioning unit.



They were also using all the ledges on the balcony and the air conditioning unit.

5 Solution: The ledges and air conditioning equipment were all treated with Bird Free dishes. The entrance to the cabinet was blocked up to prevent pigeons getting inside and the floor of the balcony was cleaned and also treated with Bird Free

at 15 cm centres. The rafters above, where the pigeons were roosting, were also cleaned and treated.



6 All the work was completed by Italian pest control company, Green Chemical, with technical advice from the Bird Free distributor in Italy, Colkim.



Luigi Di Somma from Green Chemical

This was all to the great satisfaction of Ovidio Casconi, director of the Ministry of Heritage, Cultural Activities and Tourism, who is responsible for the site.

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© Professor David Taylor

Insect repair kit

Researchers at Trinity College Dublin have established that, when an insect is injured, it can repair its skeleton in a manner which makes it, once more, mechanically strong and viable. Previous work has described the biological processes that occur during repair of insect cuticle, but until now, there has been no biomechanical assessment of the repaired area.

Professor David Taylor analysed the biomechanics of the injury repair process in the desert locust (*Schistocerca gregaria*). The work showed that after an incision, a healing process occurred which almost doubled the mechanical strength of locust tibial cuticle, restoring it to 66% of the original, intact strength.

This repair process occurred by targeted cuticle deposition, stimulated by the presence of the injury. The cut surfaces remained unrepaired, but a patch of endocuticle was deposited, reinforcing the area and thus increasing the effective fracture toughness – effectively an 'insect bandage'.

Professor Taylor said: "Unlike us, insects cannot completely repair their 'bones', but it turns out that by using this cuticle bandage they can do a pretty good job. They are able to restore most of the original strength, which allows them to keep using their limbs for normal activities."

Bed bugs wanted!

As part of a worldwide study to understand the genetic relationships of bed bugs from around the world, Dr Ed Vargo from the Department of Entomology at Texas A&M University, USA is requesting samples of field-strain bed bugs – both *Cimex lectularius* and *Cimex hemipterus*. This important work aims to give insights into the global spread of bed bugs in the modern resurgence.

If you think you can help providing samples, please contact Dr Vargo direct who can advise on collection and shipping details. Email: ed.vargo@tamu.edu

Being 'thick' can be smart

Bed bugs have developed a thicker cuticle that enables them to survive exposure to commonly used insecticides, according to recently published research from the University of Sydney, Australia.

Resistance to commonly used insecticides is considered the main reason for the global resurgence in bed bugs, says David Lilly, whose research focuses on the biological mechanisms that help bed bugs survive exposure to commonly used insecticides.

Explaining his results David said: "The new findings reveal that one way bed bugs beat insecticides is by developing a thicker 'skin'. Bed bugs, like all insects, are covered by an exoskeleton called a cuticle. Using scanning electron microscopy, we were able to compare the thickness of cuticle taken from specimens of bed bugs resistant to insecticides and from those more easily killed by those same insecticides."

Comparing the cuticle thickness of the bed bugs revealed a stunning difference: the thicker the cuticle, the more likely the bed bugs were to survive exposure to the insecticides.

The new findings could explain why failures in the control of bed bug infestations are so common. They may also unlock new pathways to developing more effective insecticides for bed bug control.

"If we understand the biological mechanisms bed bugs use to beat insecticides, we may be able to spot a chink in their armour that we can exploit with new strategies," said David.



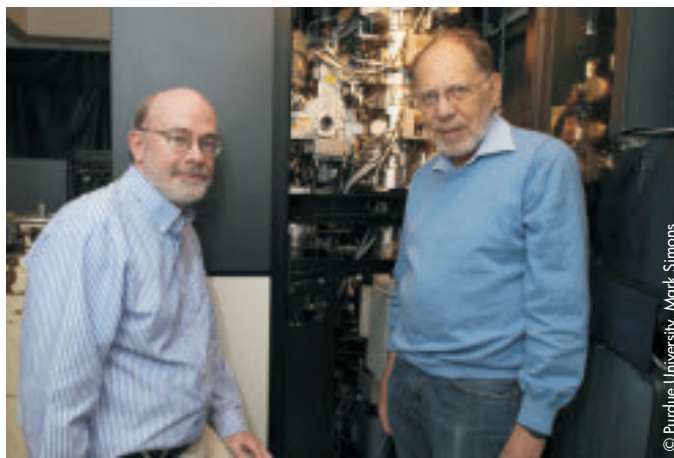
David Lilly

Zika virus structure revealed

A team led by researchers at USA-based Purdue University, has become the first to determine the structure of the Zika virus revealing insights critical to the development of effective antiviral treatments and vaccines.

The team also identified regions within the Zika virus structure where it differs from other flaviviruses, the family of viruses to which Zika belongs which includes dengue, West Nile, yellow fever, Japanese encephalitis and tick-borne encephalitic viruses.

"Any regions within the virus structure unique to Zika have the potential to explain differences in how a virus is transmitted and how it manifests as a disease," said Richard Kuhn, director of the Purdue Institute for Inflammation, Immunology and Infectious Diseases (PI4D) who, with Michael Rossmann, Purdue's Hanley Distinguished Professor of Biological Sciences, led the research team.



Purdue's Professor Michael Rossmann (right) with Richard Kuhn

"The structure of the virus provides a map that shows potential regions of the virus that could be targeted by a therapeutic treatment, used to create an effective vaccine or to improve our ability to diagnose and distinguish Zika infection from that of other related viruses," he explained.

Not if, but when!



© Fera, Crown copyright

Asian hornets have spread throughout France. Is it only a matter of time before they arrive in the UK? Richard Strand from the Pest Information Consultancy and a Pest Technical Advisory Board member reports.

In 2005 a nest of Asian hornets (*Vespa velutina*) was found in south west France. It was regarded by the authorities as something of a curiosity and 'observed' in preference to being destroyed. Five years later Asian hornets had spread throughout the country. They have since been found at both the Spanish and Belgian borders. So far they have not made it to the UK but Julia Coats of the National Wildlife Management Centre based near York, speaking at PestTech 2015 last November, warned that it is only a matter of time before they arrive!

It is believed that one queen stowed away in a consignment of pottery from China to France. From there the species has spread rapidly. They are strong fliers, initially following rivers and watercourses. It is a feature of this species that their nests are never far from water.

Most of the UK is only just coming to terms with the northward spread of our own European Hornet (*Vespa crabro*), so how do the two species differ?

Identification

The Asian hornet is smaller at 25 mm (30 mm for queens) compared to up to 35 mm for *Vespa crabro*, but the main difference is in the colouring. Whilst our native hornet has a predominantly yellow abdomen, the abdomen of the Asian hornet is dark brown except for the fourth abdominal segment, which forms a distinctive yellow chevron. The Asian hornet also has bright yellow tarsals and metatarsals and a yellow 'face'.

The fertilised queen hibernates usually in a root ball, emerging in February or March, to set up a nest with about 100 workers. As the weather warms up the queen 'decamps' to a second nest high up in a tree where it can benefit from the warmth of the sun. The

nest now expands to hold many thousands of workers. The nest itself is constructed of papier mâché, not unlike the European hornets' nest. The entrances, though, are to the sides of the nest rather than underneath. Also the nests tend to be suspended from tree branches rather than being built into tree hollows.

By late June, early July, the nest switches to the development of males and young queens. These ultimately fly off and mate in October. As with our native wasp and hornet species, the colony does not survive through winter. The species depends on young queens creating new colonies when they emerge from hibernation.

Asian hornets are more docile than their European cousins and when they do sting it is no worse than a wasp or bee sting, although if the nest is perceived to



© GB non-native species secretariat

A key difference is the abdomen which, in the Asian hornet, is almost entirely dark except for the fourth segment which is yellow



You can download your copy of this useful poster from the Pest library at www.pestmagazine.co.uk/library

be under attack the insects will coordinate their defence on the attacker.

Honey bee threat

The prime concern about the potential introduction of this species is the effect it may have on our already vulnerable honey bees. The Asian hornet preys on honey bees and other pollen-gathering insects.

Their *modus operandum* is somewhat macabre. They hover around the entrance to a bee hive and intercept returning, pollen laden bees, dragging them to the ground where they decapitate them.



© Dr Reiner Rospaschil

The native European hornet (*Vespa crabro*) is (unlike our picture) actually bigger than the Asian hornet. It's all brown legs are another good identifier



Julia Coats spoke at PestTech 2015

They then take them to the nearest tree where they sever the wings and legs taking the remaining thorax and abdomen back to their own nest. A large Asian hornets' nest close to bee hives can cause the systematic depletion of worker bees leading to the hive's decline and possible destruction.

Clearly this is a very sensitive topic at present, but some authorities believe that the risk to honey bees is over stated. It is fair to say that the climate is warmer and the summers longer in the south of France, enabling the hornet colonies to grow much larger than they might in the cooler climate of the UK, thus presenting a more potent threat to honey bees. Nonetheless, bee keepers are struggling already and a further threat to their hives is not welcome.

Problematic to control

Control can be problematic as the nests are situated towards the tops of trees, as much as 15 metres high. French authorities have successfully dealt with them by injecting the nests with sulphur dioxide (SO₂) and then breaking them up. This is done at night as,

unlike European hornets, Asian hornets will not fly in the dark.

Sulphur dioxide is not currently approved for such use in the UK and it is probable that, should the insects establish themselves here, bendiocarb dust (Ficam D) will be a prime choice. A much slower method than SO₂, it means that if we are to follow the French example, the process of breaking up the nest will have to be delayed until some days later.

Asian hornets are strong fliers and, with a fair following wind, the English Channel does not present much of a barrier. The Kent and Sussex coast is therefore the most likely entry route into the UK.

However, the capacity of the young queens to secrete themselves in any number of natural and manufactured products means that they could crop up just about anywhere in the UK.

Beekeepers in particular will need to be vigilant and, once the alarm is raised, it is important that the invading colony is destroyed before it can get established, and certainly before it can complete a season and generate a new batch of queens. The question is, will such a colony be recognised in sufficient time? It only takes one colony to go unnoticed and the genie will be out of the bottle!

...and now the sensationalism!

"Killer hornets making a beeline for the UK: Fears two-inch long insects that have left six dead in France could travel to Britain"

Daily Mail 21 April 2015

The article goes on to say:

"With a sting like a hot nail being hammered into the body, Asian hornets have killed at least six people in France."

The victims died of anaphylactic shock and so it is possible that wasp stings would have proven equally fatal.

A month later the Daily Express goes further claiming:

"Terrifying warning after DEADLY hornets that killed SIX in France arrive in the UK"

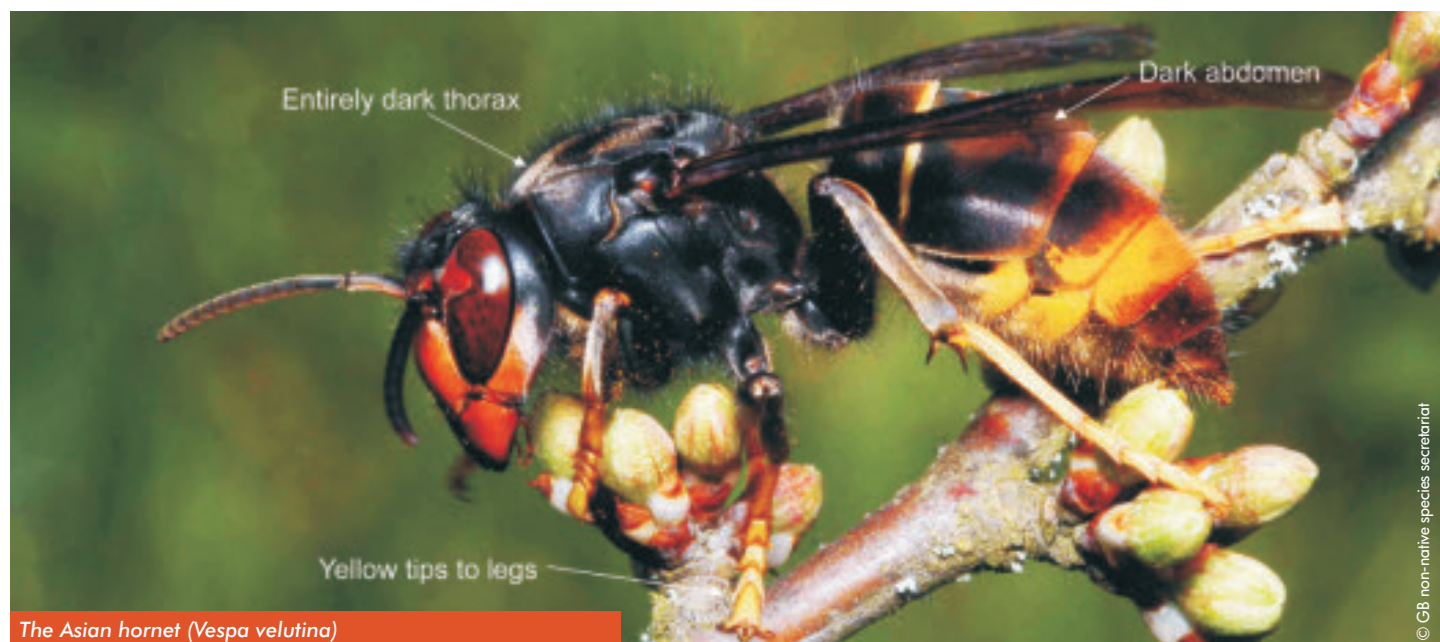
"KILLER Asian hornets "four times the size of a wasp" which can kill an adult in minutes have arrived in Britain."

Daily Express 13 May 2015

This article goes on to say that the hornets are:

"...up to THREE INCHES in size" and "...the largest wasp in the world".

The author may have confused inches with millimetres but, more likely, the Asian hornet (*Vespa velutina*), with the Asian giant hornet (*Vespa mandarinia*), an insect which is NOT poised to invade our shores any time soon!



The Asian hornet (*Vespa velutina*)

© CB non-native species secretariat

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Fresh eyes on China

A frequent business visitor to China, Rob Fryatt of Xenex Associates and also a **Pest** Technical Advisory Board member, has, on two previous occasions, (**Pest** issue 7: January & February 2010 and issue 20: March & April 2012) shared his thoughts, and provided insights on, the fast developing Chinese pest management market. After a further visit this spring Rob, once again, provides us with an update on this vibrant market.



Rob Fryatt speaking at the Shanghai-based pest management company, Minder PCO's conference for the food industry in March

Back in 2010 in my article *Open Your Eyes to China*, I commented that, what happened in China would eventually impact on us all. It could be a drop in the Shanghai stock market that affected our savings, the 'so called' dumping of Chinese steel on our domestic steel industry and associated impact on jobs, or, indeed, the way we have all benefited from the cheap goods produced by the *Factory of the world*. Without doubt, China – now the world's second largest economy – is impacting on all our lives!

Within our industry, we may yet have to wait for the first Chinese investment in a European pest management service company, but the recent move by ChemChina to acquire Syngenta signifies yet another Chinese influence on the chemical supply chain to our industry.

During my most recent visit to China in early March this year, I was invited by a Shanghai-based pest management company – Minder PCO – to address a conference of over 150 food industry quality managers about international industry standards.

Minder PCO has only 40 employees, but its owner believes it is so important to their relationship with their food industry clients that they invest in an annual conference, which includes inviting international speakers.

Raising standards

The audience was split 50/50 between domestic Chinese food industry companies and local Chinese operations servicing international food companies. Increasingly, these local operations are the source point for international companies as well as suppliers to the local market.

China has suffered over the last few years with several food quality and security issues, such as the well reported baby milk powder contamination. Not surprisingly, the focus of the event was on raising all aspects of standards in the local market.

I shared the platform with the local China manager for BSI. Together we promoted the recently introduced European Pest Management Service Standard (EN16636) and the CEPA audit scheme to support compliance. Today, apart from the international service companies present in China – notably Ecolab, Rentokil and Orkin – few local servicing companies operate to international protocols, nor truly understand their value.

High expectations

However, increasingly their client base – the international food companies – ▶▶▶

have an expectation that their Chinese operation will contract with service companies that are able to demonstrate they operate to international standards.

The increasing presence and role of the audit organisations, such as AIB International is also demanding that standards rise! There is no doubt that these food companies look to the leading pest management companies to demonstrate their commitment to raising their standard of service too.

An event such as the conference I spoke at helps to assure clients that the leading industry companies continue to look outside of China in order to raise their professional standards, in the same way as service companies do in other markets worldwide.



Left to right: Frank Lee, (Xenex China), Hugo Simon (Xenex UK), Carlos (Minder PCO), Rob Fryatt (Xenex UK) and Peter May (representing the Australian association, AEPMA)

Pest management summit

In addition, I spoke to the Seventh Chinese Pest Management Summit, organised by Wuhan University in Hubei – located in the easternmost part of Central China.

This event started six years ago with only 50 delegates. It has since built into an annual attendance of over 600 pest management professional leaders from all over China – such is the drive for knowledge and new technology in this country.

The event was created, and is led by, Dr Jiang from Wuhan University. Dr Jiang is a perceptive and highly respected academic who is passionate about bringing new knowledge and technology to the Chinese industry.

For this event I was fortunate to be part of a team of international speakers that included John Greening of PestWest and Peter May from the Australian Environmental Pest Management Association (AEPMA). Between us we provided an insight from around the world to a highly attentive audience.

A few statistics shared by Dr Jiang do give some perspective.

- Currently the pest control servicing market is valued at over US\$1,000 million (£600 million), that is about 30% of the value of the entire European market!
- There are well over 10,000 registered pest management servicing companies licensed – yes licensed – to operate in China.

Never mind comments that the Chinese economy is predicted to slow to a mere 8% growth this year, the pest management industry, like many of their service industries, continues to grow at 15-20% annually.

This is where the real change in the economy is taking place. Moving from a production-led export economy to developing domestic consumption for a fast emerging Chinese middle class where service industries play a key role – certainly, a similar trend to that experienced in Europe over the last 50 years.



The Chinese Pest management summit began six years ago with 50 delegates but now attracts over 600 delegates from across China



The old library building at Wuhan University sits on the top of Mount Shizi and was built in 1935

Do the maths

Just by doing the maths it can be seen that the average service company has revenue of US\$100,000 (£65,000), an indication of the size split can be gathered from the table of employees which may not be a lot different to Europe today!

But who makes up the market purchasing these services? Over 70% of the market is considered corporate: food industry and hospitality, with the balance of 30% still procured by the government or government agencies. The market can also be divided between structural pest control, with a major termite control market, and general pest control. There is also a significant vector control market, as China has endemic malaria, increasing dengue fever problems and the distinct threat of the Zika virus too.

One of the recent innovative actions from Dr Jiang is to use his Summit audience as a large market research group. Each year he asks them to complete a short questionnaire. This builds knowledge of the market and helps understand the challenges they see. It has the added value in China of being independent of government.

Training and development

From this Dr Jiang has recently focused on training and development. He is able to say with confidence that 80% of the companies have less than three days staff training a year – and these are the leading companies! But at least 20% have a clear training plan for their staff. A low base maybe, but a benchmark for improvement.

Another interesting conclusion from the questions is that 70% of the companies state that they use events such as these to procure

| Number of employees in Chinese pest management companies | | | | |
|--|----------|----------|--------------|---------------|
| Less than 10 | 11 to 20 | 20 to 30 | More than 30 | More than 100 |
| 30% | 30% | 20% | 20% | 1% |

products and decide on suppliers. This new knowledge has raised the importance of the trade show as a critical part of the event.

As might be expected the multinational chemical companies were present; Bayer, BASF and Syngenta, but it was also pleasing to see PestWest and Russell IPM attending.

The market for European products is already established and, indeed, at surprisingly high prices. It would be good to see other European suppliers present in this fast emerging market.



Dr Jiang from Wuhan University is the driving force behind the Chinese Pest Management Summit

To conclude

There is no doubt as these two events demonstrate, that there is a positive attitude from the Chinese industry towards its development. The continual thirst for knowledge and indeed the investment in time, travel and resources are seen as essential to the future.

So where will that future be? How might the Chinese industry develop from here? Back to Dr Jiang for some final comment. He predicts the market will double in the next five years and the number of service companies will increase by another 50%.

There seems no doubt that the leading companies will move away from being city-specific to regional within the vastness of China and, in the process, build critical mass, whilst raising their own operating standards. But they will still look for the experience they lack as a young and fast growing industry – and this may be by learning from other markets through acquisition.

One thing is for sure, not only will the UK and European tourism market find Chinese tourists the fastest growing market segment, we can also expect more Chinese visitors and delegates at our pest control conferences and exhibitions, eager to learn from our experience and knowledge.

Stuttgart welcomes PEST-PROTECT.

March 2 and 3 saw the first of the 2016 season's events with the International Congress Centre in Stuttgart as the new destination for the German trade association's (DSV) flagship event. The show also had a new name, Pest-Protect.

Without doubt, Pest-Protect was a good event and worth attending. The exhibition space was sold out and, with nearly 110 exhibitors, it was the largest pest control exhibition to date held in Europe.

Unlike most other European events, visitors must pay to get in, and not just a token amount – Euros 49 (£38) in advance or Euros 59 (£46) on the door. No figures have been released for attendance but Andreas Beckmann, CEO of DSV reported that pre-event registrations were 30% higher with 1,012 registered before 1 March.

Running alongside the exhibition was a series of topical seminars – many reflecting the event theme – bed bugs. These proved popular. Indeed many were too popular with delegates having to either sit on the floor, or use headsets to listen, standing, in the corridor outside the seminar room.

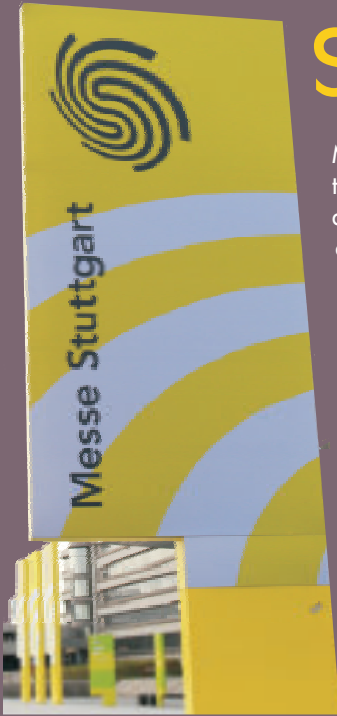
read more on the web 



There was a warm welcome for delegates but unfortunately a software glitch meant long queues to get in



Event organiser, Andreas Beckmann from DSV



PestWest had a strong presence at the event and reported plenty of interest in their products



CEPA vice president and MD of Nottingham-based Conquer Pest Control, Henry Mott (left) opened the event. He is pictured with BPCA's Kevin Higgins



Pest associate editor, Helen Riby, catches up with Catchmaster's Sean Paker



Training bed bug detector dogs was the subject of Daniela Saag's talk. She is pictured with her dogs and colleague Larry Hanson



The Bell European team was out in force, from left: Arnaud Del Valle, Brady Hudson, Tino Panetta and Martin Kuffel



RatPak may be the newest distributor in the UK but Howard White, left, and Jim Butcher, centre, were in Germany to promote their bait boxes



Ronald van Lierop, from Netherlands-based Alcochem Hygiene, in full demo mode!



Bed bugs, an increasing problem in Germany? An expert panel dealt with delegate's questions and bemoaned the lack of good data on this subject



Pelsis had a large stand to incorporate their major brands: Insect-o-utor, Network and Edialux



Patrick Michels from EPM Handels and his children, who took to the floor as mice



A close shave! This visitor wears his badge as a ratcatcher with pride



PelGar was 'on parade'. From left Nic Blaszkowicz, Vincent Russo and Emmanuel Mahdavi Ardebili



Futura's new Gorilla mouse and rat traps were launched



Pest editors Frances McKim, left, and Helen Riby with speaker Heiko Kaiser from Alpeco in New Zealand



Editor on camera! Pest editor, Frances McKim, is interviewed by Futura's Daniel Schroer



Even the visitors' children know to wear Syngenta's corporate colours – the correct blue for the baby's hat and the right green for the little daughter's coat!

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Two new brochures from CRRU

The first of these from the Campaign for Responsible Rodenticide Use (CRRU), runs to eight pages and is entitled *Guidance on permanent baiting*. It explains what permanent baiting is, how its widespread adoption has become a threat to wildlife and why it should only be used outdoors under very specific circumstances. The second is a useful four-page document which provides answer to the most commonly asked questions about the implementation of the UK Rodenticide Stewardship regime.

Most **Pest** readers should already be aware of all the subjects covered, but it is an ideal document to recommend to others not familiar with the Stewardship regime.

Both can be downloaded from the **Pest** Library www.pestmagazine.co.uk/en/library



A full pack of catalogues!

First off the mark this year were Killgerm and Edialux whose catalogues **Pest** featured in our last issue. Now to join them come the glossy tomes from 1env, Barretine Environmental Health and Lodi-UK. Each contains the company's full range of products. It is worth getting hold of your own copy as all contain additional reference sections covering such topics as waste, wildlife management, training courses, insect identification and the like.

However, as all their products, which are regularly updated, can be found on their respective websites one does have to wonder how long these lavish printed versions will continue?

- www.1env.co.uk
- www.barrettine.com/Environmental-Health
- www.lodi-uk.com



Available from abroad

Also available to UK pest controllers are those products promoted and sold for export by some of the leading European manufacturers. Two such examples are the catalogues from two Italian companies – BL Group and also InPest from GEA.



Both are available to download from the **Pest** Library www.pestmagazine.co.uk/en/library

Pest Test 44

Now also
online

BASIS has made two PROMPT CPD points available if you can demonstrate that you have improved your knowledge, understanding and technical know-how by passing the **Pest Test** and answering all our questions correctly. So read through our articles on *Dutch stewardship* (pages 8 & 9), *Scent signals* (page 11-14) and *Asian hornets* (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 record held by BASIS.

- 1 Under rodenticide stewardship, which of the following activities in the Dutch Protocol is **NOT** part of UK stewardship?

| | |
|--|--|
| a) Have a written environmental assessment | c) Register outdoor use on government website |
| b) Usually remove baits after 35 days | d) Use permanent baiting as a matter of course |
- 2 In the article on scent signals, what does MUP stand for?

| | |
|--------------------------|---------------------------|
| a) Major Urinary Protein | c) Main Urinary Protein |
| b) Minor Urinary Protein | d) Middle Urinary Protein |
- 3 How many days does Professor Hurst say a female mouse will remember one single brief encounter with the MUP, darcin?

| | |
|--------------------------|----------------------|
| a) Just a couple of days | c) Less than 14 days |
| b) Less than 7 days | d) At least 14 days |
- 4 The Liverpool team has identified a number of scent characteristics they are looking for. Which of the following is **NOT** on that list?

| | |
|--|---------------------------------------|
| a) Scent that is effective outside the lab | c) Scent associated with survival |
| b) Individual-specific scent | d) Scent associated with reproduction |
- 5 How can you distinguish the Asian hornet from the European hornet?

| | |
|---|---|
| a) The Asian hornet is much bigger | c) The Asian hornet has black tarsi and metatarsals |
| b) Asian hornets' abdomens are virtually all dark brown | d) The Asian hornet only preys on flies |
- 6 How do the entrances to the nest of the Asian hornet differ from the native European hornet?

| | |
|-------------------------------------|------------------------------------|
| a) They are on the side of the nest | c) They are on the top of the nest |
| b) They are underneath the nest | d) They only have one entrance |

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S-methoprene IGR returns

After the recent loss of several insect growth regulator (IGR) products, it's good to see the return of S-methoprene presented as a formulation for professional pest controllers. Biopren 6EC offers triple action from its three ingredients. First the S-methoprene IGR which disrupts the insect's life cycle by preventing it developing into an adult. Second, is natural pyrethrum to flush-out and knock-down insects and third, PBO to enhance efficacy. Ideal for bed bugs and fleas, says the manufacturer.



www.babolna-bio.com

New sprayers for Edialux range

Well known on the continent, Swiss manufactured Birchmeier sprayers have not been easy to locate in the professional pest control sector. Now Edialux has added both hand-held and knapsack machines to its range. Always good quality and reliable, the Spray-Matic 5 S and Spray-Matic 10 S steel sprayers feature hose coupling fixed on top of the container to minimise blockages. Many of the hand-held sprayers feature a unique suction system that enables the user to spray at 360°, meaning no residual product is left in the bottom.



www.edialux.co.uk

A real man-sized trap

Despite some chuckling about its size when it made its appearance at PPC Live, this is a truly novel rodent trap. And whilst it will definitely not suit all scenarios, we shouldn't be blinkered to new thinking. The SmartTrap from 4 World Designs is baited with a non-toxic blend of food extracts called Pipers Aroma.

Once inside the device the rodents cross a weigh plate. Anything smaller than an adult rat is released through a side hatch, whilst rats are quickly and humanely electrocuted. Animals larger than a rat are unable to enter the trap. It can hold up to 20 dispatched rats. Designed for outdoor use, it is equipped with its own solar panel and a SIM card so that messages can be sent when kills are made. In an age where permanent baiting must be the last, rather than the first, option, there ought to be a market for these in non-public areas where reinfestation by rats is continual and inevitable.

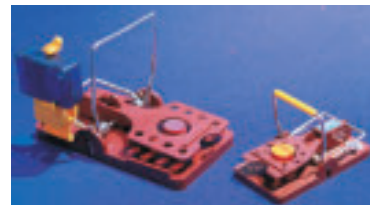
Adrian Robinson from 4 World Designs explaining how, what the company describes as the world's first SmartTrap, works



www.4worlddesign.com

Get a gorilla on your team!

The latest introductions to the range of novel products from Futura are gorilla rat and mouse traps. The company has taken the 'traditional' trap and re-engineered certain features – for example the extra strong spring – so claiming it is the world's toughest trap. Yet they still fit into traditional bait stations and boxes. They are ultra-strong, humane and quick killing. Also a world's first for a rodent trap – they are CE-approved. As to be expected, NARA lures and liquid fit perfectly. For the rat trap, a new 'banana' adapter means the vibration-activated eMitter BEEP, the eMitter BASIC and PRO transmitters can all be added.



www.gorillatraps.com

Let the sunburst

The Sunburst TAB from PestWest is designed for catering outlets in both front and back-of-house areas thanks to its concealed fly catch behind a brushed stainless steel cover. This versatile unit can be wall mounted vertically, horizontally or suspended from the ceiling. A high quality 24 watt compact tube is powered by electronic ballast, and is backed by an aluminium reflector, ensuring optimum fly control and reduced electricity costs.



www.pestwest.com

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Use of Quartz extended

Introduced back in 2013 by Lodi, the original Quartz insecticide dust is now Quartz AZ. Containing the active azamethiphos, it was first labelled in the pest control market for wasps and hornets.

The range of use has now been extended to cover bed bugs, ants, fleas and cockroaches, so ideal for dusting all those cracks and crevices – as well as treating wasp and hornet nests.



www.lodi-uk.com

All ready for off

Another useful addition from Lodi is their Phobi Dose product, now available as a ready-to-use formulation – and unsurprisingly it's called Phobi Dose RTU!



Containing the same actives as the original concentrate, imiprothrin and cyphenothrin, it can be used on mattresses and bedding, as well as on houseflies, mosquitoes, cockroaches, fleas, ticks and moths as a surface spray in indoor situations only.

www.lodi-uk.com

Easy access for the flies

Minimalistic and contemporary are two adjectives used to describe this new fly control unit from Yorkshire-based Control Zone Products. The VortX Stealth, as displayed by Luca Delrio at PPC Live, blends into any front of house application.



The unit can be either wall mounted or suspended, whilst the minimal frontage, reduced by 90% claims the manufacturer, allows unrivalled light output and so greater access by the flies to the glue board.

www.flyvortex.com

Get unstuck made smaller

Designed to get you out of any sort of sticky mess is Romax Glue Solvent. Previously sold in a larger dispenser, it now comes in a handy and easy-to-carry 50ml hand pump spray bottle.

It is ideal for removing insects from the glue boards to aid identification or for cleaning surfaces, or even your hands, if covered in glue. It is also ideal if any non-target catches need releasing.



www.barrettine.com

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www.pestcontrol.basf.co.uk

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Curves – the latest design

New to the UK, the Rotech Curve is this sleek and stylish steel bait station supplied complete with bespoke bait tray capable of holding grain and block bait. It is front opening, floor or wall mountable and can hold rat break back traps.

Tenv Solutions can personalise it in your company's livery.

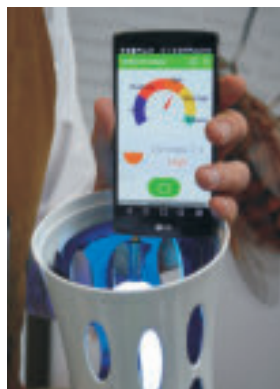


www.tenv.co.uk

Checking UV-A output

Spotted on the Sentomol stand at PPC Live was the very neat and natty mobile UV-A light tester for use checking EFK tube output. This was first seen on the Alcochem stand at Pest-Protect in Germany.

The user simply pops the tester's mini jack plug into their Smartphone which provides the power to run it. The tester measures the UV-A output intensity, shows the read-out on the phone screen and allows the user to record or transmit the result. At only a few £s each these are considerably cheaper, lighter and easier to use than traditional UV-A meters.



www.insect-trap.net

Pests out – heat in or heat out!

Safety Screens has launched a new – door for all seasons – a fast action door that is designed to be more versatile than the standard rapid door, yet for exactly the same cost. Clear PVC sheet panels allow heat retention during the winter. These can be switched during the summer for mesh panels to provide extra ventilation. The panels are attached by industrial Velcro fastenings making them easy to exchange. Ideal, says the manufacturer, for any site involved in food manufacturing – maximum ventilation, yet pest prevention obligations adhered to.



www.safetyscreens.co.uk

Broad spectrum and flexible



The latest addition to the Vazor range from Killgerm is Vazor Cypermethrin 10. It is a residual, broad-spectrum, 'oil in water' emulsion concentrate for surface spraying. Its use is extensive – both crawling and flying insect pests – in and around domestic premises, public buildings and food processing factories. Also approved for use in and around farm buildings, refuse tips and waste sites.

www.killgerm.com



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25-29 July 2016

15th Conference on Rodent Biology

Faculty of Science, Palacký University, Olomouc
Czech Republic
<http://rodensetspatium.upol.cz/>

27-29 August 2016

PestWorld East

Grand Hyatt Hotel, P.O. Goa University, Bambolim, North
Goa, Goa, India, 403206
www.npmapestworld.org/education-events/upcoming-events/pestworld-east/

5-7 September 2016

2nd Euroasian Pest-Management Conference

Technopark SLAVA, Nauchny Proezd, Moscow,
Russia www.pestmanagement.su/english/

14-16 September 2016

27th FAOPMA Conference 2016

Sea World Resort and Conference Centre, Gold Coast,
Australia
www.aepma.com.au/Conference

18-21 October 2016

PestWorld 2016

Washington Convention Center/Sheraton Seattle Hotel
Seattle, Washington State, USA
www.pestworld2016.org/

2 November 2016

PestTech 2016

National Motorcycle Museum, Birmingham B92 0EJ
www.npta.org.uk/pesttech

16-18 November 2016

Parasitec 2016

Paris Event Center, 20 Avenue de la Porte de la Vilette,
75019 Paris, France
www.parasitec.org/

...and finally, when it all goes wrong!

Read any brochure proclaiming the need for pest control and one feature always appears, notably: 'Prosecution and fines for pest-infested premises make headlines,' and also 'loss of business means loss of profits, damaged confidence and lost goodwill.'



At the end of March there was no better example than the case of Teeside-based Baketime Limited whose products hit the national headlines. A range of baked products (savoury cheese and sweet biscuits), sold under the Aldi and Bestway labels had to be recalled. A notice posted on the Food Standard Agency website says: "All batches of the products are being recalled as they may have been subject to pest contamination."

Consulting Baketime's own website it states: "Baketime can confirm that an issue with pest activity was identified at our premises in January 2016. The health and safety of our consumers is of upmost importance to us and therefore the company took immediate steps, together with our reputable pest control company, to manage the situation and eradicate it as quickly as possible.

"A programme of intense pest control measures was actioned and the site was declared clear of pest activity within two weeks. Our pest control contractor continued to make frequent visits to ensure pest control measures were effective.

"In March further evidence of pest activity was identified and an intense programme of pest control measures was again implemented. In mid-March, in consultation with the local Environmental Health Officer, following a routine site inspection, Baketime voluntarily ceased production, temporarily. As a precautionary measure, the company also decided to recall product manufactured between 18 January 2016 and 16 March 2016.

"On 23 March 2016, the production area was again declared cleared of pest activity and, after determining that it was safe to produce, Baketime recommenced manufacturing."

An Aldi spokesperson said: "We have recalled a number of Aldi-branded products that have been manufactured by Baketime and have immediately suspended all orders with this supplier while we investigate this matter."

Who knows?

Whether it was the food company trying to cut the cost of its pest control contract, or poor practice by the pest control company involved, it is hard to tell. Suffice to say pest control will not be top of the popularity stakes at Baketime. As to who the contractor was, our lips are sealed!

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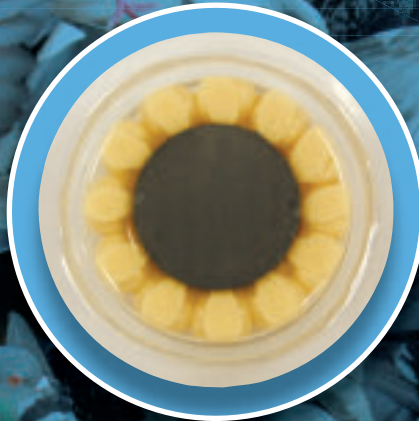
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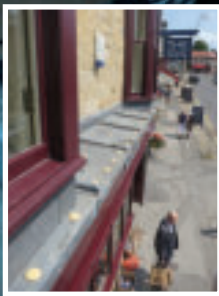
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