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News for from Vita (Europe) Ltd

Vita takes on wax moths

Vita (Europe) Ltd has just begun marketing a biological control for wax moth. The product, known as B401 or Certan, has until now had a very limited availability, but Vita plans to market the treatment globally through its distributor network.



The ravages of wax moth

Wax moth can be an extremely destructive pest and can destroy empty combs in a very short space of time. In the USA it is estimated that wax moth damage costs more than \$5 million annually. Wax moths are found across the globe and cause most damage where winters are mild.

B401 is a biological control that is up to 100% effective and has no negative impact on humans or the environment. B401 is a concentrated

solution of *Bacillus thuringiensis*, a micro-organism that is harmless to humans and honeybees and leaves no residues in honey or wax. It is a preventative measure that is easily applied by spraying a diluted amount of the solution on combs before they are stored. B401 acts by killing young wax moth larvae.

B401 has many advantages over other treatments such as PDCB (paradichlorobenzene) crystals which are toxic to humans and honeybees and leave residues in wax and honey. (Many countries reject honey with PDCB residues.)

Vita has purchased the B401 wax moth control product as part of its acquisition of Swarm SA, a French company. Swarm will now be known as Vita-Swarm.

Adult female wax moths (greater and lesser wax moths: *Galleria mellonella* and *Achroia grisella*) fly at night and lay eggs on honeycomb and in tiny crevices in hives. After a few days the larvae hatch, crawl onto the comb, and begin to feed, damaging or destroying combs by boring through the cells as they consume cocoons, cast skins, and pollen. As they chew through the wax, they spin silken galleries for protection, reducing combs to a mass of debris and dust.



120ml container of B401

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European Directive & bees

As reported in the special European issue of NewsMite in December, a new EC Directive plans to make bee treatments available only through vets.

Vita and many beekeeping organisations have made strong representations. You can see our German distributor's views on page 4.

The consultation period ends in June 2005. Be sure to comment!

EDITORIAL

Thank you for your warm response to our first newsletter. We want your feedback – good or bad – and particularly want to hear about successes, difficulties and challenges in your area.

I suspect that many beekeepers are tired of hearing about varroa resistant to pyrethroid treatments

– but only if they haven't yet suffered the phenomenon themselves. As with the arrival of varroa, it's

hard to imagine the impact of resistant varroa. But if you look around, the message is plain.

Beekeepers across the USA report that they are facing a very difficult situation and simply cannot supply the number of colonies for pollination that the market requires. With varroa resistant to pyrethroids (Apistan and Bayvarol) organophosphates (Perizin and Checkmite) and amitraz (Apivar) cropping up across North America, their beekeepers are facing the same desperate dilemma as those in Europe and elsewhere. Thankfully, Apiguard is now registered and available in 30 countries to help control these resistant populations and USA registration is expected in the summer.

Apiguard works in a very different way to these "synthetic treatments" and is an ideal control agent for use in rotation with other measures as part of an integrated approach to varroa management, especially where there are resistant mites. By attacking the mites in different ways it may be possible to prolong the effective life of existing products, such as Apistan, which has been and still is so effective in many countries.

Like it or not, we need as many tools as possible to keep the varroa mite at bay. There are no easy solutions just around the corner.

Dr Max Watkins

**BEEKEEPING FEATURE**

On the trail of resistant varroa

The spread of varroa resistant to pyrethroids shows different patterns in different countries. But the solution is always the same – the alternation of treatments in an Integrated Pest Management programme.

Italy – migratory trails

Vita's research showed that in Italy resistance was first identified in the south of the country in an area where many professional beekeepers overwinter their bees. When the hives were transported back to the north, resistant mites hitched a lift and then spread the length of the country within about 18 months, following the migratory route of beekeepers.

UK – unrelated hotspots

In the UK in 2004 resistant mites were identified by the National Bee Unit in apparently unrelated hotspots across the country. Only some of the outbreaks can be related to hive movements.

Resistant mites were found as far apart as Cornwall in the extreme South West, Kent in the extreme South East and Durham in the far North East of England as well as West Wales.

The widespread nature of the UK outbreaks suggests that resistant varroa mites will spread eventually throughout the whole country.

Spontaneous outbreaks?

Another significant difference suggests that the resistance in the UK may have a different mechanism to that found in resistant mites in continental Europe.

In Italy and France, for example, the resistance factor of the resistant varroa is consistently high – about 400, but in Britain, the resistance factor seems to be much lower. This suggests that the UK resistance is "home-grown" rather than imported and that outbreaks are spontaneous and often not clearly linked to each other. If that is so, we would

expect to eventually see the spread of resistant varroa mites across the country, unless beekeepers use alternative treatments.

Adopt IPM immediately

Beekeepers should therefore not delay in alternating their anti-varroa treatments. They can continue to use products containing pyrethroids such as Apistan, but should alternate these with non-pyrethroid products like Apiguard, so that the build-up of resistance is kept in check.

Inevitability

Through natural selection an organism (like varroa) may develop resistance against almost any treatment applied to control it. It was only a matter of time until pyrethroid-resistant mites would arise. Unfortunately, the population increase of resistant mites seems to have been accelerated in some areas due to irregular methods of treatment (where many Apistan strips were left in the hive for years on end). As a result resistance has become an issue sooner than expected.

Reversion fights back

The good news is that even if mites become resistant to a particular treatment, that does not mean that the colony has to die. Use of alternative methods can safeguard the bees and it is possible that the pyrethroid resistance we are now witnessing could be reverted in a few years time, provided alternative treatments such as Apiguard are used in place of pyrethroid strips for a period of time. A move to Apiguard should enable Apistan to be used again alternating with Apiguard in a few years. The message is clear – move to IPM as soon as possible to minimise problems.

NEW PRODUCT FOCUS

Vita news and research

Winter Apiguard® on the way

Low-temperature trials of Apiguard® are very encouraging. In its current preparation, Apiguard works best at temperatures above 15C. However, trials at the Central Science Laboratory, York, England have shown that Apiguard can also be effective in winter temperatures.



“The potential to use Apiguard effectively at these low temperatures is a very important discovery because it will encourage even more beekeepers to alternate treatments – something that is essential to combat varroa resistance,” said Dr Max Watkins. “Beekeepers find Apistan extremely easy to apply and we want to make Apiguard just as easy to use so that it becomes part of every beekeepers’ anti-varroa weaponry.”

Apiguard is a thymol-based natural product which works in a completely different way to Apistan and can therefore form part of an Integrated Pest Management strategy to control varroa.

At present small aluminium trays of Apiguard are opened and placed on the brood frames. The warmer the temperatures, the faster the thymol gel evaporates and the quicker it is dispersed around the colony.

Vita acquires Swarm



In December 2004, Vita acquired Swarm SA

of France and renamed the company Vita-Swarm SAS. Vita will make Vita-Swarm’s key wax moth control product available across the globe (see page 1 story). The former owner of Swarm SAS, Mr Jacques Tricoire, will continue his relationship with the new subsidiary, Vita-Swarm SAS. Dr Jerome Trouiller has been appointed as Director of Vita-Swarm.

Small Hive Beetle treatment research

The small hive beetle (SHB) that has caused so many problems in Africa and the Americas was discovered in Europe for the first time last October.



SHB seems to have arrived in Portugal in an unauthorised consignment of queen bees imported from Texas, USA. The Portuguese Veterinary Authorities took rapid action and hope to have eradicated the pest.

No authorised treatments for SHB are yet available in Europe, but Vita is actively researching possibilities.

BUZZWORDS

No IPM equals fewer honeybees and almonds

The almond centre of the world suffered a shortage of pollinating bees this year. California supplies about 75% of the world’s almonds, and its \$1 billion almond crop is entirely dependent on honeybee pollination. Pollination rates are often exceeding \$80 per colony.

An estimated one million honeybee colonies are needed each year, but a lack of Integrated Pest Management (IPM) has led to varroa resistant to Apistan and Checkmite+, and a consequent shortage of pollinators.

Pheromone keeps young bees home

Zachary Huang of Michigan State University has discovered the pheromone that stops young bees going out to forage too soon.

Foragers carry the pheromone ethyl oleate in their honey stomachs. Young bees don’t have it and it acts as the primer pheromone that keeps them at home. If there are not enough foragers, the young bees don’t receive the inhibiting pheromone and go foraging sooner.

Beekeeping president wins

Viktor Yushchenko who was recently elected President of Ukraine happens to be a beekeeper. He was eventually and convincingly voted into office in a second election after the first vote, which gave victory to his opponent, was declared fraudulent.

DISTRIBUTOR NEWS

An end to healthy beekeeping?

S+BmedVET, Vita's German distributor reports

The December special issue of *Newsmite* reported on new moves by the EU to categorize bee products, such as Apiguard, as veterinary medicinal products. This will probably make Apiguard more difficult and more expensive to obtain. The move will also encourage the use of unsafe or illegal substances and applications.

Apiguard has a proven track record in treating varroa – it is safe for both bees and man. And recently Prof Rosenkranz of the University of Hohenheim confirmed just how efficient Apiguard is in killing the mites.

Veterinarians' situation

In Germany very few vets are beekeepers and fewer still are well-informed about bee diseases. This is a new area for them and they are not at all confident in treating varroa themselves. Many vets see bee work as a huge additional burden with very small profit margins. There are even reports on the Internet that vets might even have to examine every single bee colony after treatment.

Beekeepers' situation

In Germany, Apiguard has until now been available via the veterinary service. Orders from beekeeping associations went to their relevant veterinary inspection office which sourced the product in bulk directly from the importer and distributor (S+BmedVET) at a lower cost to the beekeeper. So the uptake of Apiguard will now be inhibited because of the inconvenience of placing individual orders and the cost of vet's visiting fees.

In some parts of Germany, Apiguard also received state subsidies (from the Länder and from the EU of up to 50%).

Under the new arrangements which affect prescription-only treatments, procuring Apiguard will therefore be made much more difficult than other available, non-prescription products.

Availability in Germany

Under the terms of the German Drug Act (AMG), due to come into force in May, the



veterinary inspection offices will no longer be permitted to sell prescription drugs. However, unlicensed substances such as oxalic acid and dangerous vaporizers are now being promoted. As a result, the treatment of varroa is heading into territory that harbours risks for people and bees.

Foulbrood susceptibility

Henrik Hansen of Denmark, an experienced bee specialist who has worked for his national government for many years, showed that AFB has increased considerably over the past few years and is now at its highest level since 2001.

Hansen confirmed that aggressive varroa treatments for bees (eg formic acid or oxalic acid) can exacerbate the foulbrood situation. In contrast, bee-friendly methods of treatment such as Apiguard can have a very positive impact on foulbrood particularly because it does not impair the bees' hygienic activities.

Susceptibility to foulbrood is bound to increase as a result of the current EU and AMG plans to restrict bee-friendly varroa treatment. In effect, beekeepers are being encouraged to use treatment methods that are illegal and even hazardous to both bees and beekeepers. The long-term effects from the use of oxalic acid for example can be severe: even if apparently safe face masks are worn (most do not filter the hazardous oxalic vapour properly) exposure can lead to serious lung complaints like oedema or even to COPD.

So where do we go from here? Does this mean an end to healthy beekeeping?

MORE BUZZWORDS

Danish Black bee under threat

The Læsø Black Bee is under threat because the Danish Government is to allow other races of bees onto the remote Island of Læsø. There's a campaign by some Danish beekeepers to conserve the genetic diversity in the face of the liberalisation stance of the government and the import of other strains of bee by some beekeepers.

Beehive heist

A Californian beekeeper has reported that 128 of his colonies ready to pollinate the State's almond crop were stolen by a thief using a fork lift truck and low trailer. The haul was estimated to be worth \$26,000 (about Euros 20,000).

Vita products

Apistan
Varroa control strips
(pyrethroid)

Apiguard
Varroa control gel (thymol)

EFB Testing Kit
European Foulbrood hiveside test

AFB Testing Kit
American Foulbrood hiveside test

B401
Biological wax moth control



NEWS MITE

The newsletter for distributors of Vita (Europe) Ltd. mite control products.

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