

BEEKEEPING FEATURE

Varroa spread nearly global

Vita Sales Director **Jeremy Owen** has just returned from New Zealand where there has been a varroa scare in South Island, one of the last places on Earth where the honeybee mite had not been previously detected.

Initial reports of the appearance of the varroa mite in New Zealand's South Island seem to be a false alarm, but most beekeepers believe that it is only a matter of time before one of the last remaining varroa-free areas in the world has to cope with the mite.

Varroa was first identified in New Zealand's North Island in 2000 and controls were imposed to try to keep it out of the rest of the country. But in June, varroa was thought to have been discovered in South Island. It transpired that the sitings probably resulted from cross-contamination from North Island samples. Preferring to be safe rather than sorry, the New Zealand authorities ordered the destruction of 40 hives and inspection of a further 1000 colonies in the suspected source area. Nothing further was found.

Estimates have put the potential cost of the arrival of varroa in South Island at \$NZ10 million (€5million) annually for 30 years.

"There is a strategy in place to try to keep varroa out of South Island, but I think beekeepers have accepted that the arrival of the mite is only a matter of time," said Jeremy Owen. "Their management practices will have to change, but as beekeepers across the globe have shown, our varroa control treatments mean that beekeeping can survive the crisis."

Other areas where varroa has yet to be discovered include Australia and Hawaii.

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Varroa's Global Spread

Soviet Union	1948
India	1961
Bulgaria	1967
Germany	1971
Libya	1978
United States	1987
United Kingdom	1992
New Zealand (North Island)	2000

(Source: Eva Crane and others)

EDITORIAL

Why are we publishing a newsletter?

Welcome to Vita's first newsletter. Although it is written specifically



for our global network of distributors, we hope they will pass it on to others interested in honeybee

health and mite control generally.

We try to meet as many of our distributors as often as we can. Your feedback is vital to our work in developing better honeybee health products. But because we are a small and lean team, we can't get to meet you as often as we'd like. So we spoke to some of you and you welcomed the idea of a newsletter. Here it is.

Most of you ask about our ongoing product development. Products take time to develop, and through this newsletter we can keep you up-to-date with progress. We have many interesting projects at the moment, including an exciting new organic product that is effective against many different types of mite.

As we travel around, we also hear interesting stories about the challenges you face and interesting ways people use our products. So keep telling us those and – if it doesn't give away any secrets – we will pass them on.

Dr Max Watkins

NEW PRODUCTS

EFB and AFB field diagnostics

Onsite diagnostic tests are now available from Vita for two of the great scourges of honeybees across the world: European Foulbrood (EFB) and American Foulbrood (AFB). The test results which are available within minutes enable remedial action to be started immediately and can lead to considerable savings because a follow-up visit can be avoided.

Both kits use similar technology to home pregnancy test kits and can be used on-site to give instant results. They are low-cost and suitable for use by field teams with little training and hobbyist beekeepers.

The AFB kits have already been authorised for official use in the UK and Italy and the EFB kits are currently being validated in the UK. These official authorizations are accepted by many other countries across the world.

Each AFB and EFB kit contains a sample bottle, a spatula, a pipette, test solution and the test device. A suspect larvae is put into the bottle containing the

test liquid. After a quick shake, drops from the liquid are placed on the test device and the position of the control line(s) indicates the result in 2-3 minutes.

European Foulbrood (EFB) is a bacterial brood disease mainly caused by bacterium *Melissococcus plutonius*. It occurs most frequently in the spring or early summer during brood rearing and is thought to be caused by stress in the colony and lack of pollen. Symptoms vary and it is difficult to identify with certainty, frequently disappearing once there is a nectar flow. Nonetheless, EFB can seriously effect brood development, is infectious, and needs to be identified in a colony as soon as possible.

American Foulbrood (AFB) is an infectious brood disease caused by the spore-forming bacterium *Paenibacillus larvae var larvae*. It is the most destructive and widespread of the honeybee brood diseases. AFB spreads rapidly through the colony and if left unchecked infects other healthy colonies nearby.



PRODUCTS UNDER DEVELOPMENT

Vita begins new product trials

Chalkbrood

Trials of biological methods of controlling chalkbrood are continuing in Greece again this summer following successful trials last year. The signs so far this season are excellent.

Chalkbrood, a fungal (mycotic) disease of honeybee larvae that debilitates honeybee colonies in many parts of the world. Vita has been extending the work of the Kimron Veterinary Institute, the *Tierhygienisches Institut* and the Bee Keeping Centre at Chiang Mai to find a biological method of controlling the disease.

Pheromones

Vita and the University of Udine are continuing to explore the potential of using pheromones to control varroa. The prospects are excellent, but a final product is some way off.

The role of pheromones in regulating bee colonies is well-known and the University of Udine with Vita has been investigating this phenomenon amongst varroa populations. Pheromones are commonly used in many areas to attract and trap insects in agriculture and public health applications.

With varroa, it has been discovered that their reproduction levels can be affected, but the challenge is to find a suitable pheromone blend that will produce optimum results.

Further tests are underway at the University of Udine and preliminary results are expected towards the end of the 2004 season.

A commercial pheromone-based product will not be ready in the very near future, but Vita is committed to continuing investment in this area because a successful product would be a huge boost to the beekeeping industry.

Other mites

In developing treatments for varroa, Vita has discovered a promising substance that kills not only varroa, but also many other mites regarded as pests in agriculture, horticulture and even public health.

The organic active ingredient is benign to humans. Vita is running tests to establish the full effects of the treatment and its effect on a wide spectrum of mites, and has been surprised by its efficacy.

The UK Government, impressed by the prospects and by Vita's ability to develop a product, has helped fund the development of a veterinary database which will be essential in the regulatory approval process.

Timescales for the development of products cannot yet be determined, but when the results of current tests are known, a realistic timescale may be confidently predicted.

Vita's route to market with these products may vary according to sector, but may be through its existing global distribution network and specialists in particular industries.

The honeybee pest *Varroa destructor* (below) is not the only mite that Vita is developing products to combat.



BUZZWORDS

EU lifts ban on Chinese honey

In July, the European Union lifted its two-and-a-half year ban on Chinese honey imports because of "significant improvements" in Chinese veterinary standards. The EU banned imports of Chinese honey in 2002 because it had been found to contain residues of antibiotics.

Irish apiarists ban "alternative treatments" talk

For the third year running, there was an "alternative varroa treatments session" at the famed Irish beefest in Gormanston, but the venue was a nearby drinking den because the Federation of Irish Beekeeping Associations would not authorize an official lecture.

Canada bee deaths blamed on kashmir

There has been a sudden rise in bee mortality attributed to Kashmir Bee Virus (KBV) in the Canadian province of British Columbia(BC).

Although known to be present in BC for two decades, KBV has until now been considered fairly benign. No-one knows why KBV has suddenly become virulent.

Varroa is considered to be important in the transmission of KBV, but some of the affected colonies had no detectable mites.

Paul van Westendorp, BC's Provincial Apiculturalist, says it is not yet known if the KBV virulence is an isolated occurrence, a local phenomenon or the early stages of a developing situation.

COMPANY NEWS

1997

Vita timeline

With Vita on the verge of important new developments, here is a quick overview of the important milestones in the company's first seven years. A full company history can be found on the World Wide Web at: www.vita-europe.com/timeline.htm



Vita was founded as an MBO from Novartis.



Apistan remains the world's most widely-used treatment for honeybees affected by the varroa mite (above).



1998

Vita founded ❖ Vita (Europe) Ltd is founded by Dr Max Watkins and Jeremy Owen through a management buy-out from the pharmaceutical giant Novartis (Sandoz-Ciba). The new company aims to produce advanced honeybee health products and mite controls.

Apistan ❖ Vita purchases the rights to Apistan (except in the USA and Canada), and adopts a global network of distributors. Apistan is still the world's most widely-used varroa control.

University collaboration ❖ Vita and the Universities of Milan and Udine begin investigations on honeybee health projects.

Resistant varroa test unveiled ❖ A Vita laboratory test to identify mites resistant to current varroa treatments is developed at Udine and adopted by the UK Government and other key organizations across the world. Vita also develops a field test for varroa.

Mite control in agriculture and horticulture ❖ Vita discovers a potentially highly-effective acaricide derived from active ingredients known to be benign to humans. Work begins to develop a commercial product.

1999

Foulbrood treatment research begins ❖ A collaboration of Vita, the Central Science Laboratory and the University of Cardiff, supported financially by UK beekeeping associations, begins to investigate treatment for European and American Foulbroods.

Global tests for Apiguard ❖ Vita runs international tests involving universities and institutes across the world for Apiguard, an advanced varroa treatment in the form of a sophisticated slow-release gel of a naturally-occurring active ingredient, thymol.

Vita receives UK government grants ❖ The UK Government gives Vita two major investment awards, one to develop mite treatments in other agricultural and horticultural arenas and the second for the development of a biological agent against foulbroods.

2002

EU licence granted ❖ Apiguard, a new natural varroa control, is registered for use throughout the European Union. Apiguard can be used alongside Apistan in an Integrated Pest Management Programme to prevent the emergence of resistant mites.

Global tests for chalkbrood product ❖ Vita collaborates with veterinary institutes in Israel and Germany to investigate a biological control for chalkbrood.

New acaricide ❖ Vita begins field tests on new acaricide that shows great promise in controlling a huge range of mites affecting many different economic sectors.

2003

Foulbrood diagnostic kits ❖ In partnership with the UK Central Science Laboratory, Vita produces an on-site diagnostic kit for both European and American Foulbrood.



NEWS MITE

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

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