

# Contingency planning at the NBU: part 2

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*We continue our look at the work of the NBU to plan for the possible arrival of exotic pests*

**IN LINE with the Plant Health Division's engagement in the Defra overall contingency planning process there will be a need in the future to fully 'exercise' the England and Wales Contingency Plan for exotic pests and diseases of honeybees. We need to see that the plan will really work as we intend and make further adjustments where necessary.**

At a more local level, regional Contingency Plan training is taking place, starting in East Anglia this year. This 'small scale' exercise had two main objectives:

- ◆ to demonstrate that regionally we were able to bring together bee inspectors into a given area and co-ordinate a series of apiary inspections specifically for exotic bee threats and
- ◆ to practise and assess bee inspectors' competences in the use of monitoring and examination techniques for exotic pest surveillance.

During August 2006 bee inspectors and a local beekeeping association disease liaison contact (DLC, of which there is an active network of over 40 in East Anglia) were brought together to an area of Norfolk near Kings Lynn, where a bee farmer had agreed to allow NBU personnel to utilise his apiary sites for an exotic threats exercise.

Where an exotic threat is discovered and the plan is put into operation it is likely that a local disease control centre would be set up. The local village hall was utilised on this occasion. A local Defra Office would probably be used as a location where bee inspectors could be briefed and from where coordination of activities could take place.

Personnel at the NBU at Sand Hutton were also involved in the receipt of information updates from the field, mapping findings and progress of inspections.

The scenario focused upon day two of the discovery of an exotic bee pest. On day one the scenario had been that a bee farmer had discovered a beetle and sent it as a voluntary sample to the NBU. It had been identified as a small hive beetle. Colony examinations took place throughout the day using the techniques advocated in America for examination of colonies for small hive beetle, combined with the use of corrugated monitoring squares, West beetle traps and floor monitoring inserts to examine debris.

At the same time as the exercise was taking place samples of floor debris were collected which were also being sent to the NBU for analysis, to simulate what would actually happen.



Andy Wattam

A plastic corrugated square placed on the hive floor attracts small hive beetles. The square can be removed at intervals

## MOLECULAR TESTS

As part of the implementation of the national bee health programme for England and Wales, the NBU is currently developing a suite of novel molecular tests to improve the detection and diagnosis of bee pests and diseases. These tests could be used for large scale survey work as well as for general diagnosis and as a research tool. Testing is based on a technique called real-time PCR (TaqMan®), which is a highly sensitive, fast and accurate method of detecting the DNA or RNA of organisms. The NBU aims to develop tests for most of the different pests and diseases of honeybees, a 'one stop shop' approach. These include bee viruses, foul brood diseases, pathogenic fungi, tracheal and varroa mites and Nosema. In addition, tests are being developed for the detection of exotic pests, such as tropical mites (beginning with tropilaelaps mites) and the small hive beetle (*Aethina tumida*). The TaqMan® technology can be used to screen individual bees but can also be used to test up to 1500 samples per week for the range of pests and diseases mentioned. As well as screening bees, methods are also being developed to examine hive debris on a large scale. Again, it is anticipated that a large number of hive debris samples could be screened rapidly in the event of an incursion of an exotic pest, such as the small hive beetle or tropilaelaps.

## PORTS AUTHORITIES

Over the last two years the NBU has been in contact with contingency planning officers of the Associated British Ports Authority (ABP) who are the operators of the major ports in the UK.

They have agreed to notify the NBU if they find bees, either established colonies or swarms at ports, on shipping vessels or within freight or freight containers. Prior to this the Ports Authorities did not have a specific procedure for dealing with bee related incidents.

We know in the past that swarms of bees from unknown sources have been found at or adjacent to ports and docks in England where freight is brought in from all over the globe. The initial reaction of the ports authorities has

been to call a local beekeeper to remove them. It is noteworthy that some of the most established varroa populations in the country were adjacent to ports when varroa was first discovered in 1992.

The ports authorities (both ABP and other private port operators) have now agreed that they will allow us to attend to take samples of the bees prior to instructing pest control operatives to destroy the bees.

## BEEKEEPER VIGILANCE

Finally as beekeepers we can all do our bit by monitoring our own bees. This must start with ascertaining if you have apiaries in at-risk areas. If you are unsure ask your local bee inspector who will be able to help. If you are a

A tiny tropilaelaps mite is visible on the thorax of this *Apis dorsata*. It is very similar in size and colour to a varroa mite, but more elongated



beekeeper we have not previously contacted and visited and you think you are within an at-risk area then please get in touch with us either through your local regional bee inspector or electronically at BeeBase on-line (<http://beebase.csl.gov.uk>). Follow the link to Register Online to receive the benefits of the Bee Health Inspection Service which is free and confidential.

For winter reading ensure you have read the NBU advisory leaflets on small hive beetle and tropilaelaps, or look at other information sources on the internet.

If you know that you are in an at-risk area here are some simple monitoring procedures you can adopt.

Use a 'monitoring square' on the floor of hives. These can be made from corrugated cardboard faced on one side with PVC tape to slow down their destruction by the bees. Alternatively use plastic corrugated material such as the squares available from Bee Equipment Suppliers in

the United States of America. Small hive beetles are likely to shelter beneath them if they are placed in the corner of the floor away from the entrance.

These should then be examined at regular intervals (monthly) during the season. It would not be necessary to have them in all hives on all sites, just a representative sample.

Examine mites carefully when 'forking out' brood for varroa monitoring. If tropilaelaps is present it will be seen but they are quite similar to varroa mites unless you look very closely. Consider using a hand lens.

If you use 'sticky inserts' under open mesh floors, again examine them carefully for mites other than varroa.

Finally if you have any concerns, contact your regional bee inspector whose contact details are shown on the NBU website or alternatively contact the NBU directly who will be able to assist. ♦

The square is placed in a plastic bag for transport to the laboratory

