

The Small Hive Beetle in Hawaii – update on the threat posed to UK Apiculture 20/5/10

- In response to the discovery of small hive beetle (SHB) in Hawaii, the US authorities have suspended all exports of bees, pending investigation.
- Fera's Bee Health Policy Unit and the National Bee Unit (NBU) are working with the EC to make certain that any decisions made regarding the long term future of importing queens from Hawaii will ensure the continued safety of the UK's honey bee stocks.
- The NBU has checked all consignments imported from Hawaii before the ban was put in place. Nothing has been found.
- Fera's Contingency Plan for exotic pests and diseases of honey bees has recently been updated. In the event of SHB arrival here, we have clear procedures in place to manage the pest.
- Bee inspectors would work closely with beekeepers to achieve this.
- The Contingency Plan can only be effective if all beekeepers are registered on BeeBase.

Background

Increased world trade in bees provides opportunities for exotic pests to cross international borders. SHB is indigenous to Africa, where it feeds and breeds inside honey bee colonies, causing comparatively little harm. However, outside its native range, within colonies that lack African bees' natural defences, adult SHB enter hives unchecked, causing devastating infestations. The SHB is readily spread through movements of colonies, beekeeping equipment, hive products, soil and fruit. As a result, it now thrives in North America: First detected in Florida in 1998, SHB has since spread to 30 US states. In one year, in Florida alone, 30,000 colonies were lost; infestation-damage and honey-contamination cost the industry \$3million. Since 2002, SHB has also established in Australia. SHB is absent from the UK and from other Member States in the European Union (EU), but in 2004 it was intercepted on an unauthorised consignment of queen bees imported into Portugal from Texas. Although immediate destruction of affected apiaries eradicated the pest, this incident highlights the reality that SHB could arrive in the EU.

Arrival in Hawaii

On 5th May 2010 the World Organisation for Animal Health (Office international des épizooties (OIE)) received the first report of the SHB in the US state of Hawaii. This discovery has serious implications for UK beekeepers. In a typical year, England and Wales receive over four thousand honey bee queens from Hawaii, which represent 80% of the UK's total queen imports from 3rd countries (countries outside the EU). It is understood that the UK is currently the only Member State to import from this source. Beetles were initially detected in a beehive located in a macadamia nut orchard, and subsequent searches by Hawaiian State Officials have found outbreaks in five locations. Additional inspections and a programme of trapping have not detected any further incidence to date. There is no evidence that SHB is present in any apiaries belonging to the three major queen breeders: Kona Queens, Hawaiian Queen and Big Island Queens. However surveys are still continuing.

Existing EU legislation regarding honey bee imports

In 2003 the European Commission (EC) made SHB a notifiable pest throughout the EU, and established additional import controls to reduce risks of introduction. Harmonised legislation ensures that all Member States are obliged to control and monitor imports of bees into the EU. In the UK, honey bee imports from almost all other 3rd countries are restricted by law to queen bees and attendant workers only, and these can only enter the UK through designated Border Inspection Posts (BIPs). Heathrow, Gatwick and Manchester airports are the approved BIPs for entry to England and Wales. Queens must be accompanied by a health certificate issued by the competent authority of the

3rd country, confirming that the stringent conditions laid down in the legislation have been met. Imports must be notified to the BIP in advance and health certification is issued electronically, at point of export, and placed onto the Trade Control and Expert System (TRACES), allowing the National Bee Unit (NBU) to closely monitor imports. Upon arrival in the UK, documentation is checked by Veterinary Officers at BIPs. Once queens have arrived at their destination, they must be transferred to new queen cages before being introduced to recipient colonies. All their attendant workers and accompanying packaging must be forwarded to the NBU laboratories at York to be screened for exotic pests, including SHB.

Response of the European Commission to the Hawaiian outbreak

The EC has contacted the Chief Veterinary Officers in all Member States to alert them to the discovery of SHB, and stating its intention to review the honey bee export status of Hawaii. Current EU legislation states that all exports of queen bees must be certified as coming “from an area of at least 100 km radius which is not subject to any restrictions associated with the small hive beetle... and where infestations are absent”. While investigations into the extent of the outbreak in Hawaii are ongoing, it is not clear whether these certification requirements can be properly met. In the interim, Hawaiian authorities have suspended all honey bee exports. The export of queen bees to the EU from Hawaii is allowed under a derogation granted in 2005. If the derogation is removed, imports of bees from Hawaii will no longer be allowed to enter the UK (or other Member States). The EC remains in close contact with the US Department of Agriculture’s Animal and Plant Inspection Service, and has officially informed the Plant Protection Standing Committee on Food Chain and Animal Health (SCOFCAH) about the issue of SHB in Hawaii. When SCOFCAH meets again, in early June 2010, it will update Member States on its position.

What are we doing now?

- All known bee importers and the Healthy Bees Plan Project Board members have been advised of the situation regarding the discovery of SHB in Hawaii.
- Up to date information about the situation regarding Hawaiian honey bee imports will continue to be posted on the front pages of the NBU’s *BeeBase* website (www.nationalbeeunit.com), as it emerges.
- Fera’s Bee Health Policy Unit and the NBU are working with the EC to make certain that any decisions made regarding the long term future of importing queens from Hawaii will ensure the continued safety of the UK’s honey bee stocks.
- Packaging from all honey bee imports received from Hawaii during 2010 (570 units) has been checked at the NBU’s diagnostic laboratories in York, for any signs of SHB, including eggs that could be concealed in the crevices of queen cages. Nothing has been found.
- It is extremely unlikely that an adult inseminated SHB female (i.e. an individual capable of breeding within a colony) could travel unnoticed on a queen bee, and be introduced into a recipient colony in the UK without being detected. However, the NBU’s Inspectors are carrying out post-import inspections of a proportion of apiaries that have received Hawaiian queens at any time during 2010, as a matter of priority.
- Fera has recently (March 2010) completed a comprehensive Pest Risk Assessment for the SHB, which takes into account current research findings about its biology, behaviours, and potential methods of control, which have been included in the Contingency Plan (England and Wales) for exotic pests of the honey bee. This plan describes the action that will be taken if SHB should arrive in the UK. It will be published in June 2010, and will be made available in full on *BeeBase*, and on the Healthy Bees pages of the Defra website: <http://www.defra.gov.uk/foodfarm/growing/bees/index.htm>

Summary of main actions in the Contingency Plan

In brief, this is what would happen according to the UK Contingency Plan:

- Immediately upon discovery of SHB, even before identification is confirmed, the NBU will inform Defra and the Welsh Assembly Government (WAG) that there has been a suspected incursion.
- Defra will notify the EC and the OIE.
- The NBU will set up a National Disease Control Centre at Fera (in York, or regionally if appropriate) to coordinate the emergency response, which that will include an immediate and intensive regime of searches, in which NBU inspectors and beekeepers will work together to establish the extent of the outbreak.

- Defra/WAG will declare a Statutory Infected Area (SIA) to extend over an area with a radius of at least 16km from the point at which SHB has been found.
- Samples will be collected from all known apiaries within the SIA, plus any others identified as having received potentially infested material (for example through sales of hive products).
- Movement of colonies, queen bees, hives, combs, hive debris, bee products, ancillary beekeeping equipment, and anything else liable to further spread SHB will be prohibited within the SIA.
- If the outbreak is isolated so that eradication is practicable, all affected apiary(ies) and neighbours that have been exposed to SHB will be destroyed. All soil surrounding these hives (within a radius of 20m) will also be treated to kill pupae, provided safe, effective treatments are available.
- Experiences of American and Australian beekeepers demonstrate that, once established, SHB cannot be easily eradicated. Instead, a policy to slow down spread, by restricting movements and treating affected apiaries, will be implemented. Control measures and veterinary medicinal products effective against SHB in other countries will be adopted, provided they are appropriate, safe, and approved by the Veterinary Medicines Directorate (VMD) or Chemical Regulations Directorate. In the absence of any authorised products, approval will be obtained from VMD to apply emergency treatments.
- The NBU holds substantial stocks of Checkmite (the only product authorised by the VMD for emergency control of SHB in the UK; sufficient reserves to treat several thousand colonies), for immediate use in event of an incursion.

Existing Surveillance for SHB in UK

The NBU already actively monitors for SHB in England and Wales. Exotic Pest Surveillance (EPS), focuses on “at risk apiaries” (ARAs), located at sites considered to be particularly vulnerable to exotic pest incursion. They include: apiaries within 5km of seaports; apiaries within 5km of airports, including military airfields; apiaries within 5km of freight depots; apiaries within 5km of container and cargo yards; apiaries owned by queen importers. Inspection of honey bee colonies for SHB is carried out by Appointed Bee Inspectors, following set protocols for SHB detection. Beekeepers who maintain ARAs are made aware of their status, and their need for extra vigilance. In spring 2010 the NBU raised the level of EPS to over 7% of all inspections (equivalent to ~780 EPS inspections/annum). In addition to routine EPS, the inspectorate will also visit an additional number of “sentinel” apiaries (15/region = 120 total). Sentinel apiaries will add to existing awareness of exotic pest threats. They will be sampled bi-annually, from risk and random areas. The NBU has a nominated Contingency Planning Officer, who coordinates Pests Emergency Exercises, to train Inspectors in what to do in the event of incursion by SHB.

Responsibilities of the beekeeper

- Be vigilant – keep an eye out for SHB in your colonies. Look at available information to help you understand the beetle’s biology, and signs of its presence. (See details in our leaflet *The Small Hive Beetle*, freely available through BeeBase (www.nationalbeeunit.com), or from the NBU).
- Send suspect samples to the NBU immediately – details of how to do this are also available from BeeBase.
- If you are an importer of bees, it is really important that you maintain accurate records, which allow you to keep track of the whereabouts of your imports. Full guidance regarding the importation of bees, can also be found on BeeBase.
- Import regulations are our main defence against the introduction of SHB (and other very serious bee pests and diseases) from overseas to the UK – it is absolutely essential that all beekeepers abide by them.
- It is extremely important that all beekeepers register on BeeBase. If we don’t know where at risk apiaries are located, then our chances of effectively monitoring for the arrival of SHB, or achieving control in event of an incursion, are seriously jeopardised. This is the responsibility of the beekeeper.
- To register as a beekeeper, please visit: www.nationalbeeunit.com
- Please send any enquiries about honey bees to: nbu@fera.gsi.gov.uk. For enquiries regarding Bee Health Policy and Regulatory issues, contact Bee Health Policy at: beehealthinfo@fera.gsi.gov.uk