



Animal &
Plant Health
Agency

National Bee Unit

Statutory Procedures

for controlling honey bee pests and
diseases



Pollination

Pollinating insects provide almost incalculable economic and ecological benefits to society, wildlife and flowering plants. Honey bees, *Apis mellifera*, are the third most economically important agricultural livestock globally after cattle and pork. Honey bees, along with other pollinators are indispensable to the stability of crop production and food security in the UK and across the world, contributing many millions to crop quality and quantity via pollination services. The first step in the production of fruit and vegetables is the pollination of the flower, of which 70% of the 124 main crops used directly for food depend on pollinators.

Pollination of apple blossom by a honey bee



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This document is also available on BeeBase (National Bee Unit) website, www.nationalbeeunit.com

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About this leaflet

Statutory Procedures for Controlling Honey bee Pests and Diseases

Honey bees are affected by a range of pests and diseases. This leaflet explains the procedures for the control of the statutory notifiable pests and diseases of honey bees in England and Wales. The Animal and Plant Health Agency (APHA) National Bee Unit (NBU) is responsible for bee pest and disease control in England and Wales.



KEY



Known apiary sites



Apiary sites inspected and clear



Apiary sites inspected and notifiable disease found



Former apiary sites



Other issues

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UK Bee Disease Legislation

The Bees Act 1980

The Bees Act 1980 empowers Ministers or the Secretary of State to make Statutory Orders to control diseases and pests affecting bees, and to provide powers of entry for authorised persons. The relevant Orders are The Bee Diseases and Pests Control (England) Order 2006: SI 2006 No. 342, and The Bee Diseases and Pests Control (Wales) Order 2006: Welsh Statutory Instrument 2006 No. 1710 (W.172). Separate Orders are in force in Scotland and Northern Ireland.

Figure 2. An APHA Bee Inspector carrying out a colony inspection for pests and diseases.



The Bee Diseases and Pests Control (England and Wales) Order 2006, as amended

The Bee Diseases and Pest Control Orders are made up of 16 articles which define various bee diseases and pests as statutory notifiable across the UK and defines the action which must be taken to control them. This means that if any of those diseases/pests listed in the Order are suspected in a colony which you as the beekeeper are responsible for, then you are legally obliged to inform the NBU. The diseases and pests listed under the order are:

- American foulbrood (AFB);
- European foulbrood (EFB);
- *Aethina tumida* (Small hive beetle (SHB));
- and *Tropilaelaps spp.* mites.

If any of the diseases and/or pests are found then procedures are triggered in order to contain and eradicate them. These various procedures are outlined later in this leaflet, see pages 5-14.

The Great Britain Non-native Species Strategy 2015

There are nearly 2,000 non-native species established in Great Britain which not only cost billions of pounds to control but also pose a serious threat to our environment. Such threats include challenging the survival of our rarest native species to damaging some of our most sensitive ecosystems. In response to these threats, Defra and the Welsh and Scottish Governments published a joint Great Britain Invasive Non-native Species Strategy which set out key aims and actions to tackle these species.

The Asian hornet, aka, the yellow legged hornet is an aggressive predator of honey bees and other insects. It was introduced accidentally to France 10 years ago where it quickly became widespread and has now reached Spain, Majorca, Belgium, Portugal, Italy, Germany and Switzerland. The hornet is not included in the Bee Diseases and Pests Control (England and Wales) Order 2006 and there is a great concern that it will establish in the UK, posing environmental and public health risks.

As a result of the Strategy, *Vespa velutina* is a notifiable pest and sits in the Non-native Species legislation. Any sightings should be reported to alertnonnative@ceh.ac.uk.

Notification

Any beekeeper in England or Wales who **suspects** the presence of either AFB, EFB, SHB or *Tropilaelaps* mites in a colony must contact their local Bee Inspector or the NBU office to have the colony officially examined. Details about who your local Inspector is can be found on our website, BeeBase: <http://www.nationalbeeunit.com/public/Contacts/contacts.cfm> on the contacts page. Alternatively, you can submit a suspect pest or disease sample to the NBU laboratories for analysis. Beekeepers elsewhere in the UK who suspect the presence of these pests and/or diseases should contact

The Notifiable Pests and Diseases

the local office of the relevant Government Department for advice.

The Orders also cover the legal requirements for importing honeybees and bumblebees from both countries inside and outside the European Union (EU). Explanatory notes for the English and Welsh Orders are available on the National Bee Unit's Website, BeeBase (Legislation Pages): <http://www.nationalbeeunit.com/index.cfm?sectionid=31>

The Statutory Apiary Inspection and Surveillance Programme

In order to control statutory bee diseases and pests, the NBU operates a risk based apiary inspection and surveillance programme in England and Wales. Bee Inspectors inspect bee colonies for statutory diseases and pests free of charge. When a disease or pest is suspected, samples are tested either in the field using a rapid diagnostic kit known as a Lateral Flow Device (LFD) or they are sent to the laboratories at the NBU for analysis. If a disease or pest is suspected, a Standstill Notice is issued, prohibiting the removal of bees and equipment from the apiary. If AFB or EFB is confirmed the Bee Inspector will carry out the necessary disease control measures. In the case of confirmation of the SHB or *Tropilaelaps*, Defra's and the Welsh Government's Contingency Plan for Exotic Pests and Diseases of Honey Bees will be invoked and emergency searches and control measures will commence immediately.

Apiary inspections

Beekeepers have a responsibility to inspect their bee colonies regularly for signs of pests or serious diseases. However, as not all beekeepers have the confidence or experience to identify problems, the NBU organises routine inspections to assist with identification and provide advice. All Bee Inspectors are experienced beekeepers who have been trained to identify and control pests and diseases and provide help and advice. They usually carry out their inspections during the active beekeeping season, although the Bee Inspectorate will deal with suspect diseases and pests reported by

beekeepers outside this period as promptly as conditions allow. Bee Inspectors have powers to enter premises to inspect colonies and equipment, if notifiable pests or disease are thought to be present or the apiaries are considered at risk. However, they always prefer to work alongside beekeepers with their full cooperation as the NBU has done for decades. All Bee Inspectors carry a warrant card, which contains their photograph and details of their authority to carry out the inspection. This should always be shown to you.

Figures 3, 4 and 5. Small hive beetle, foulbrood and *Tropilaelaps* spp. mites are monitored for through the statutory inspection programme



Disease Control Procedures

Foulbrood

The term 'foulbrood' covers two bacterial diseases of honey bee larvae, AFB and EFB. The names bear no relation to the geographical distribution of the diseases: both occur in Great Britain and cause considerable economic damage to the beekeeping industry each year. These two diseases are subject to statutory control in the UK. Despite their similar names they are caused by two unrelated bacteria and need to be controlled using different approaches. Further information about these two diseases can be found in the leaflet "Foulbrood disease of honey bees: recognition and control" which is available along with the other leaflets from APHA Bee Inspectors, the NBU main office at York or online from the NBU's website, BeeBase: www.nationalbeeunit.com.

Small hive beetle and *Tropilaelaps* spp. mites

SHB and all species of *Tropilaelaps* spp. mites are subject to statutory control in England and Wales. Both are still currently considered exotic pests in the EU, with the exception of South West Italy, where Small hive beetle was found near Gioia Tauro in 2014.

SHB is native to sub-Saharan Africa. Outside this area, it has become an invasive species and a major threat to beekeeping worldwide. Adult beetles are able to locate and enter hives and once inside the female beetle can lay thousands of eggs, which quickly develop into voracious larvae. The larvae proceed to destroy the colony quite literally by consuming it, eating honey, pollen and bee larvae. The beetle has spread to North America and Australia where it has caused very considerable economic damage.

The exotic Asian mites known as *Tropilaelaps* are also potentially serious threats to beekeeping. The mites have spread from their original host, the giant honey bee, *Apis dorsata*, to the European honey bee, *A. mellifera*. There are four species currently documented in the literature with only two (*Tropilaelaps clareae* and *Tropilaelaps mercedesae*), currently considered harmful for *Apis mellifera*.

All beekeepers should familiarise themselves with the life cycles of both these pests and learn how to recognise and control them. Further details about them and the types of management/surveillance beekeepers can put in place to monitor their colonies are available in advisory leaflets which can be obtained from APHA Bee Inspectors or the NBU website: <http://www.nationalbeeunit.com/index.cfm?pageid=167>

If foulbrood or an exotic pest is suspected?

If foulbrood disease, SHB or *Tropilaelaps* are suspected or confirmed, the Bee Inspector will immediately issue the beekeeper with a Standstill Notice. This prohibits the beekeeper from moving any bees, equipment or hive products from the apiary. An apiary inspection report (called a B2 or X2) detailing the beekeeper's contact address, the apiary size and location and the condition of the colony is sent to the NBU laboratory together with a recommendation on control action. In the near future, these paper forms will be replaced by electronic forms on mobile devices. With the report, the Bee Inspector may also decide to send a sample, often a representative suspect comb, by first class post or courier to NBU laboratory for confirmatory diagnosis. In the case of suspect exotic pests, samples will **always** be sent by courier to the NBU laboratory for confirmation.

The Standstill Notice remains in force until the statutory control measures have been completed and the apiary declared apparently disease free. This is for a minimum of six weeks. The apiary will then be re-examined and if found to be clear of notifiable disease, a new notice (known as a Withdrawal of Standstill Notice) will then be issued lifting the Standstill Notice. It is possible that the standstill period may last for many weeks, depending on the circumstances. The beekeeper will still be able to move beekeeping equipment they need to look after the colonies onto the site. However **no** equipment, bees or honey may be removed from the site while the Standstill Notice is in place. In special cases a Licence can be approved by the Regional Bee Inspector to allow ripe honey to be harvested or colonies to

Disease Control Procedures, EFB

be moved to a new standstill site/ hospital apiary if, for example:

- The apiary is vulnerable to insecticide spraying operations;
- The beekeeper has died and the bees must be moved;
- The beekeeper needs to remove honey before winter;
- A colony of bees is required to be destroyed because of foulbrood infection and cannot be burned in the apiary;
- The landowner requests colonies to be moved;
- There are issues with bees stinging neighbours;
- There is a sale of the property on which the apiary is sited;
- Combs from an infected apiary are to be Gamma irradiated.

The local Bee Inspector can provide advice as required.

Laboratory examination

On receipt of the Bee Inspector's report and sample, the NBU laboratory will aim to complete an examination and produce a diagnostic report on the same day.* A copy of the diagnostic report will ordinarily be sent by email to the beekeeper, unless they are not signed up to email alerts, in which case the report will be sent by first class post. The Bee Inspector will also contact the beekeeper to explain the procedures.

*When a significant number of samples are received by the Laboratory, for example in the event of an exotic pest contingency, routine diagnostics and their reports may take a few days to be issued. All foulbrood samples are also sequence typed using Multi Locus Sequence Typing (MLST).

If European foulbrood is confirmed

Following the issue of a Standstill Notice after EFB has been confirmed, either a Treatment Notice or a Destruction Notice will be issued, which explain the beekeeper's responsibilities and the action that will be taken. There are three actions for the control of EFB:

- Destruction;
- Shook Swarm;
- and, antibiotic treatment (rarely applied).

These can be seen in detail in Figures A, B and C.

The recommended action will depend, for example, on the time of year, the level of infection in the affected colonies and colony strength. The Bee Inspector may recommend one of the three options to control EFB. The NBU aim to complete the disease control measures in infected colonies within 10 days of diagnosis. However, if there are postal delays or if large numbers of colonies are involved this period may have to be extended. The NBU Inspectorate is on hand to provide practical advice on the appropriate options available to deal with EFB, minimise spread and the risks of disease recurrence.

Destruction Notice (Figure A)

In general a Destruction Notice is issued for heavily infected EFB colonies if the percentage of diseased larvae in the sample comb, and the percentage of apparently infected open brood in the colony, is 50% or greater. In addition, a Destruction Notice will also be issued for a colony in which treatment has previously been ineffective whatever its condition or level of infection. A recommendation by the Bee Inspector for destruction will not normally be reversed but the beekeeper can choose destruction instead of other treatment recommendations if they wish.

Examples of suitability for colony destruction:

Weak colony ✓	Heavily infected ✓	Autumn/ Winter ✓
Strong colony ✓	Lightly infected ✓	Summer ✓

Disease Control Procedures, EFB

Treatment Notice

In general a Treatment Notice will be issued if the infection is light enough to respond to either shook swarm or antibiotic treatment.

Oxytetracycline (OTC) will only be offered if it is inappropriate to destroy the colony and it is unsuitable to carry out a shook swarm, for example at the end of the beekeeping season. In this instance, OTC is only deemed a 'holding' treatment and the beekeeper will be advised to carry out a shook swarm as soon as the weather is suitable. The Bee Inspector will discuss the options directly with the beekeeper during the apiary visit. However, if the beekeeper wishes to destroy a colony recommended for treatment then this decision will be respected.

Shook swarm (SSW), Figure B

The shook swarm method involves removing and destroying all the infected brood combs (a potential source of re-infection) from a colony and shaking the adult bees onto fresh wax foundation in new or sterilised brood boxes. This is the preferred method of EFB control for colonies which are not to be destroyed.

If a shook swarm is the selected method of treatment then the beekeeper will need to prepare sufficient clean brood chambers filled with frames of foundation, clean floors, crown boards and queen excluders prior to the treatment being carried out by the Bee Inspector. When the treatment is carried out, the Bee Inspector will place a queen excluder between the brood box and the floor to prevent the queen from absconding. After treatment, unless there is a strong nectar flow, it will be necessary to feed the bees with 'heavy' sugar syrup i.e. 600 ml of water to 1 kg of white granulated sugar (1 pint water to 2 lbs. sugar). It may be beneficial to delay feeding until the following day as in this way any bacteria and contaminated nectar carried by the bees are used in comb building, essentially *purging* the infection. About a week after treatment when brood is present, the queen excluder should be removed. Unless there is a continuing nectar flow it will be necessary to maintain the feeding until all combs are drawn out. It may be possible to remove and extract ripe honey prior to

treatment, subject to a licence being issued by the Bee Inspector.

Examples of suitability for colony shook swarm:

Weak colony ✘	Heavily infected ✘	Autumn/ Winter ✘
Strong colony ✔	Lightly infected ✔	Spring/ Summer ✔

Figure 8: NBU Inspector carrying out a shook swarm



Figure 9: Adult bees are shaken onto foundation. A queen excluder is placed between the floor and brood box to prevent the queen from absconding



Figure A: Flow Chart of European Foulbrood Control - Destruction

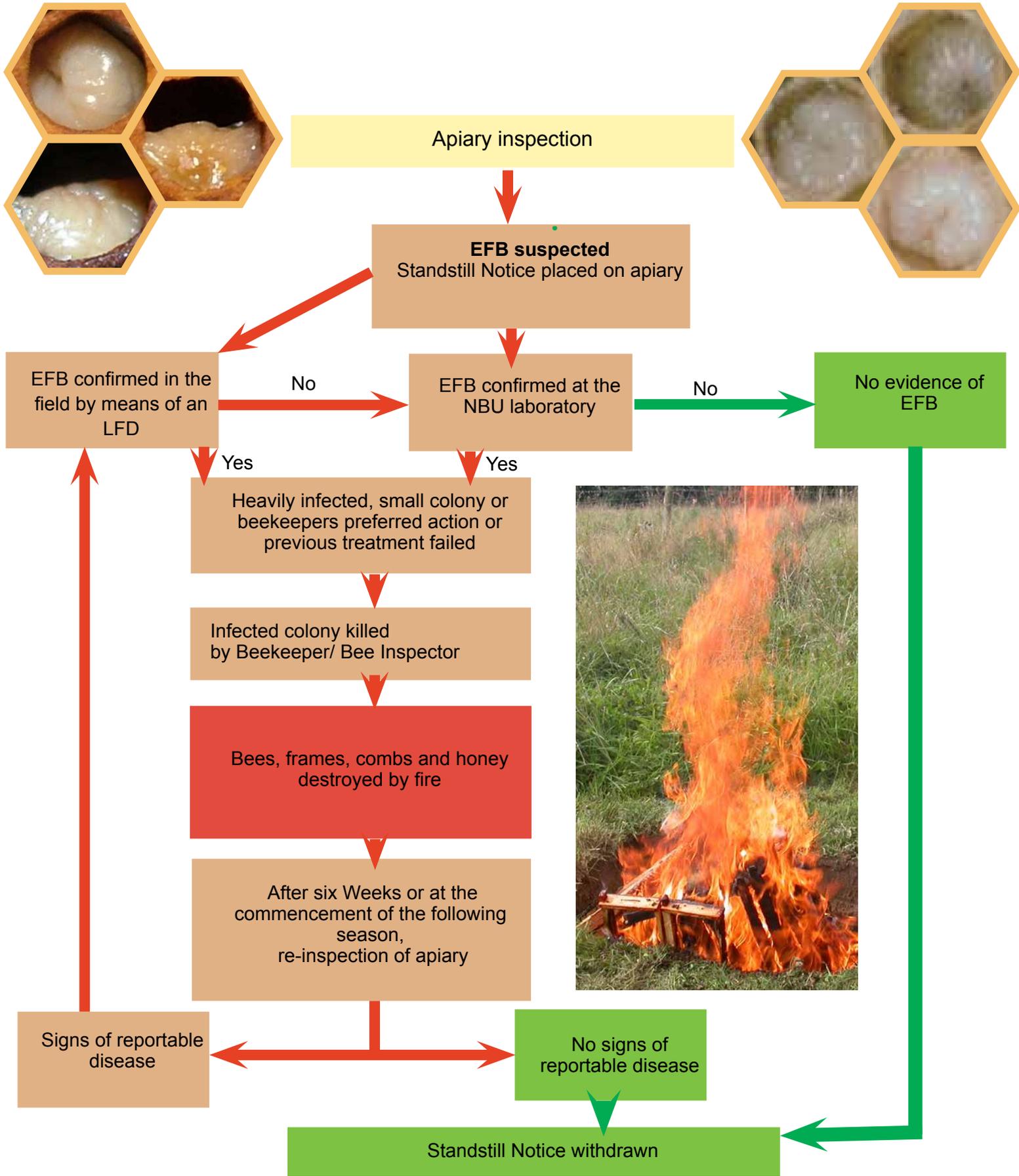
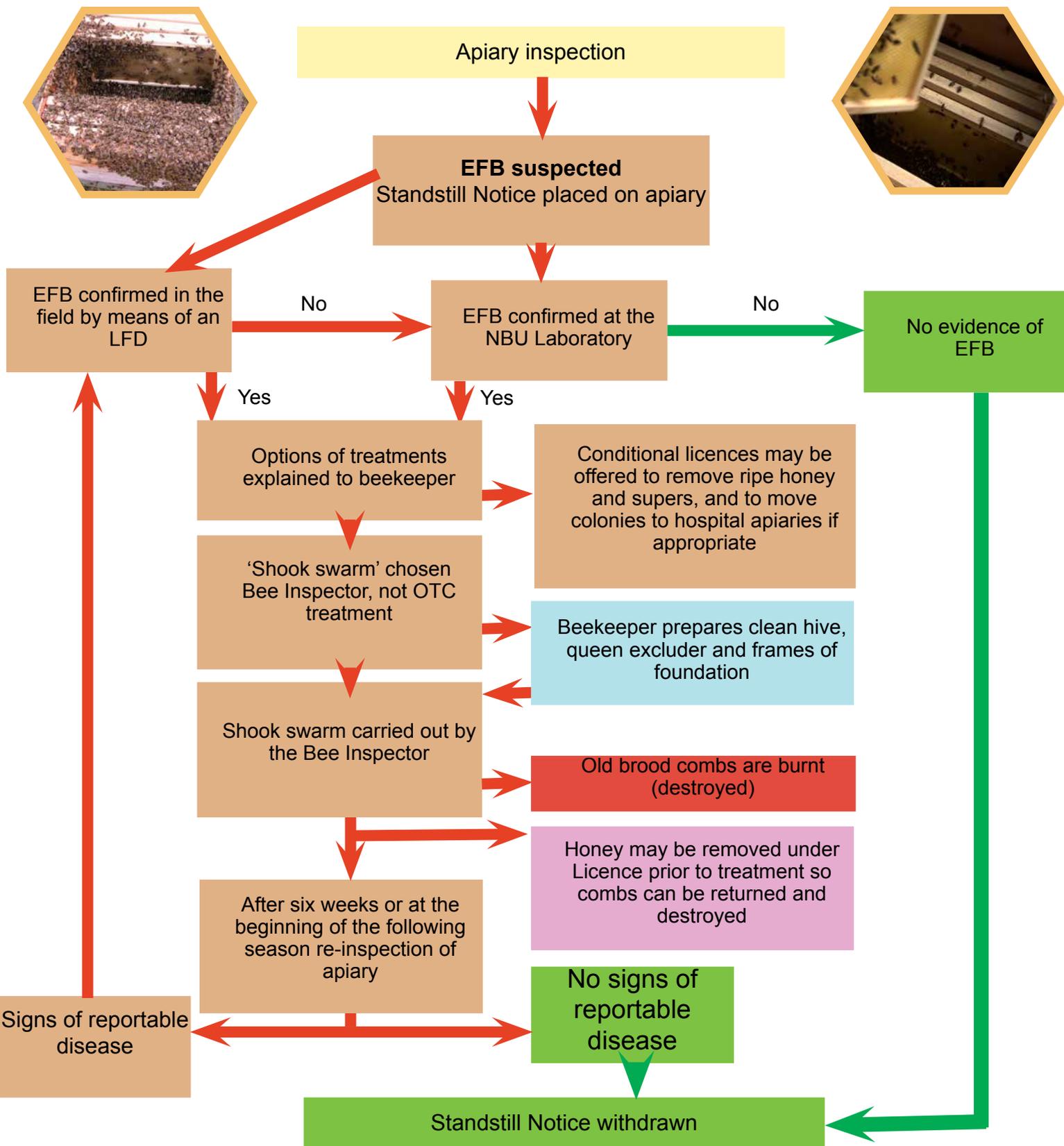


Figure B: Flow Chart of European Foulbrood Control - Shook Swarm



Disease Control Procedures, EFB

Conventional antibiotic treatment (Figure C)

An antibiotic, normally oxytetracycline (OTC) can be administered to the EFB infected colony by the Bee Inspector. This drug is prescribed and dispensed by Defra's APHA laboratory at Weybridge and delivered directly to the Bee Inspector. It's use is restricted to authorised officers only and is applied by Bee Inspectors or other authorised persons. Normally a dose of OTC suspended in a small volume of sugar syrup is sprinkled on to the area immediately around the brood nest, usually in an empty brood comb. Nucleus colonies, or developing colonies early in the season are not strong enough for OTC to be administered to, and so will be destroyed. The Bee Inspector will advise the beekeeper on any work needed to follow up the treatment. For example, in most cases, colonies will need to be fed with 5-10 litres of thick sugar syrup immediately after treatment to ensure the antibiotic is distributed slowly and widely throughout the colony unless the bees are on a significant nectar flow. An extended 'withdrawal period' (period before honey can be marketed or consumed) of a minimum of 6 months will apply for honey produced on OTC treated colonies to allow for breakdown of the antibiotic.

Figure 10: Using OTC to treat European foulbrood



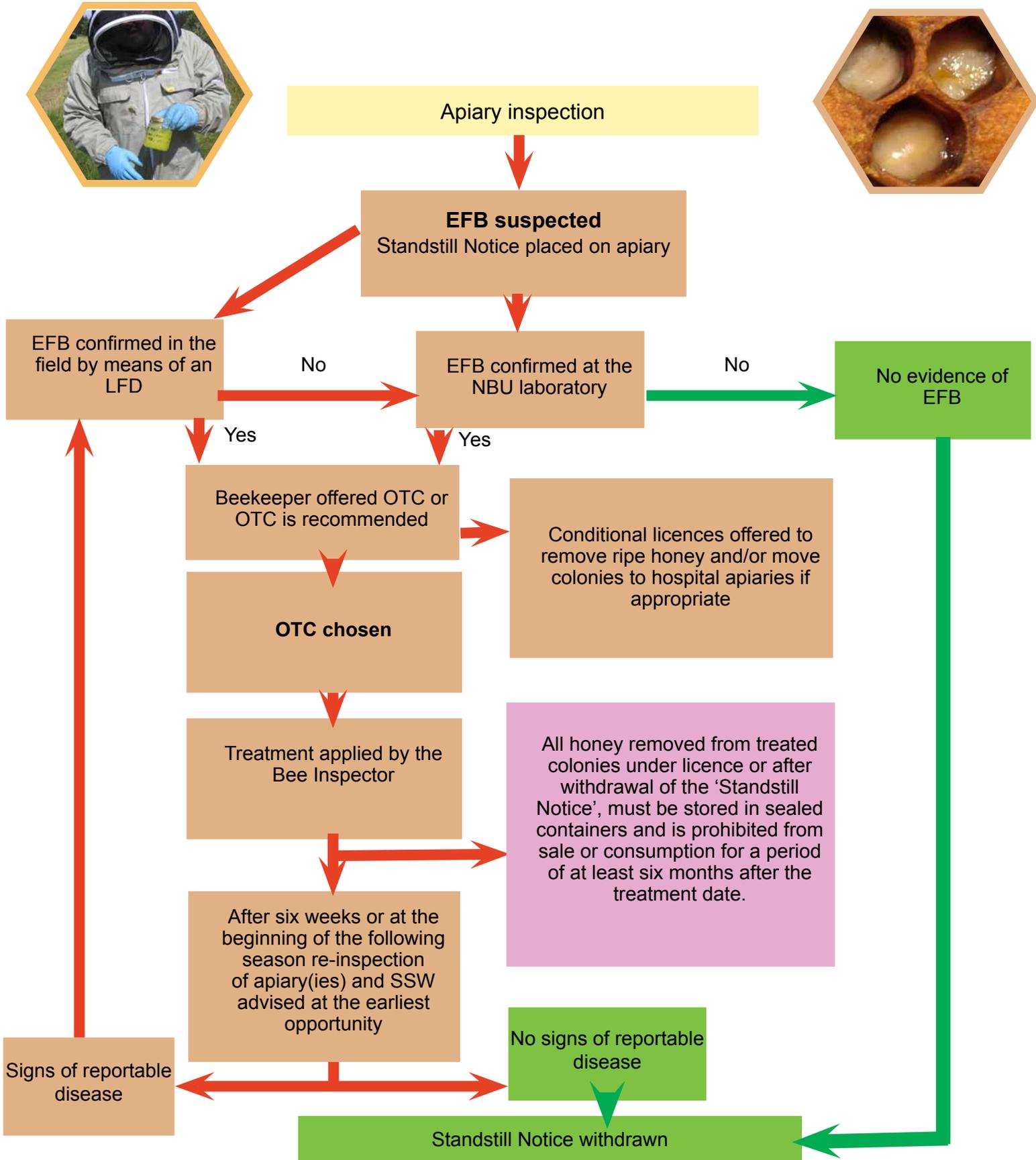
Points to note

- This treatment is only normally available by recommendation of the Bee Inspector for lightly infected colonies early in the season during periods of bad weather or, at the end of the active season, when it is too late to carry out a shook swarm. A shook swarm will be carried out as soon as possible or the following spring;
- If the honey is unripe and unfit to extract, it must stay on the hive during an OTC treatment;
- A Licence to Remove Honey may be made available to harvest **ripe** honey from colonies in infected apiaries prior to OTC treatment;
- Instructions in writing about separate extraction and storage of honey will be issued to all affected beekeepers by the Inspectors. The instructions will state that the honey must not be made available for sale before a specified date (usually a minimum of 6 months);
- The beekeeper is responsible for arrangements to ensure that any honey removed from treated colonies is labelled, kept separate and stored for at least the expiration of the withdrawal period before use. Bee Inspectors can make spot checks and penalties could ensue if withdrawal requirements are not followed;
- It is important that antibiotics are not permitted to enter the food chain; therefore all the circumstances surrounding its selection as a preferred treatment option must be considered;
- No OTC treatment should have already been carried out on the particular colony within the past 10 months.

Examples of suitability for OTC treatment on a colony:

Weak colony ✘	Heavily infected ✘	Autumn ✓
Strong colony ✓	Lightly infected ✓	Summer ✘

Figure C: Flow Chart of European Foulbrood Control OTC Treatment



Please note that OTC treatments will not be given to a colony which has previously been treated and any reoccurrence of foulbrood will result in the destruction of the colony

Disease Control Procedures, AFB

Checking the success of destruction/treatment

The Standstill Notice remains on the apiary for a minimum of six weeks to allow time for any infection not obvious at the first inspection to develop and become visible and to confirm, where treatments have been carried out, that these have been successful. As soon as possible, after this period, all the colonies in the apiary will be re-inspected. If the original infection is found late in the year, this follow up inspection will be at the beginning of the next season. The Bee Inspector will withdraw the Standstill Notice when he or she is satisfied that all remaining colonies on the site are clear of clinical signs of foulbrood. As a result of statutory disease being found, the apiary will be regularly checked after the withdrawal of the Notice to make sure it is still free from clinical signs of disease.

If American foulbrood (AFB) is confirmed (Figure D)

Following the issue of a Standstill Notice, if AFB is confirmed, the beekeeper will be issued with a Destruction Notice. Colony destruction has proved to be the most effective way of controlling AFB. Antibiotic treatments for AFB are not permitted as the bacterium responsible for the disease forms highly resistant spores that will survive in the colony to re-infect it long after any antibiotic has ceased to be active. Therefore OTC simply masks the signs of AFB that would otherwise have become apparent if the colony was left untreated. When AFB is confirmed, the beekeeper will therefore have to destroy the infected colony by burning all its bees, frames, combs, honey and quilts, usually in a pit dug in or near the apiary. The Bee Inspector will supervise this work. The hive bodies must be sterilised by either scorching the woodwork or by using a strong hypochlorite bleach (plastic or polystyrene hives) and may then be reused. The standstill will remain in force for a minimum of six weeks after the destruction of the colony(ies). The Bee Inspector will then re-inspect the apiary and withdraw the Standstill Notice if no further signs of disease are seen.

If AFB and EFB are found in the same apiary

This is rare, but if AFB is found at the same time in an apiary as EFB, antibiotics cannot be used in that apiary (as this may mask the signs of other AFB infected colonies), even if AFB is found in a different colony. All infected colonies are destroyed.

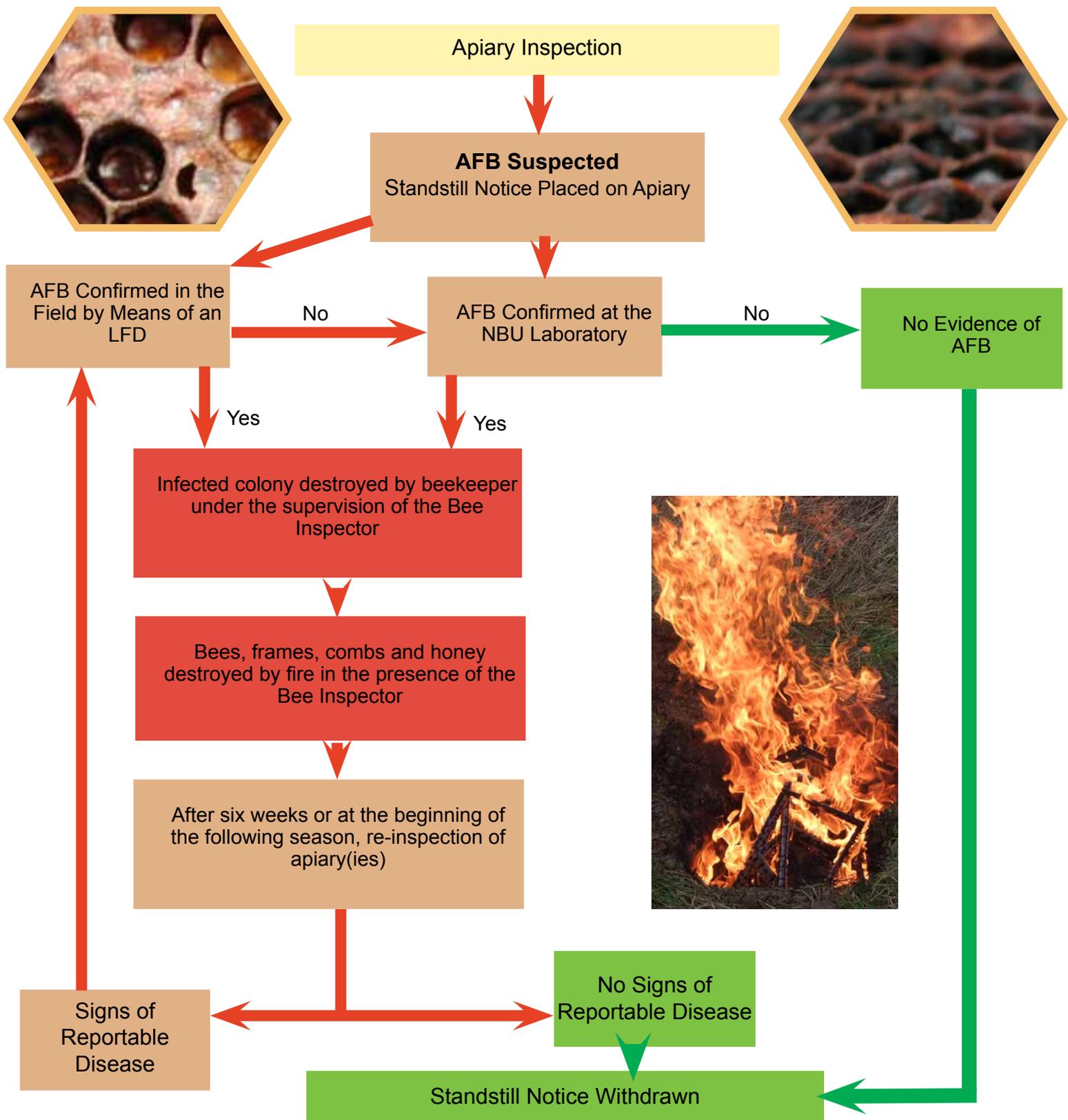
If no foulbrood is found

If foulbrood is not confirmed, the Bee Inspector will issue a "Withdrawal of Standstill Notice" to the beekeeper who is then able to move bees and equipment as required.

Follow up inspections

Bee Inspectors will usually carry out a follow-up inspection of the apiaries for a few seasons after a confirmed case of AFB. This is simply to check that there has been no recurrence of the disease.

Figure D: Flow Chart of American Foulbrood Control - Destruction



Help and advice

The National Bee Unit

The NBU provides an integrated statutory and advisory service to beekeepers in England and Wales. It provides diagnostic, consultancy and research services to Defra, Welsh Government, the Scottish Government, commerce and beekeepers. The NBU is a recognised centre of excellence for the provision of advice and research in bee health. The Unit's laboratories are fully compliant with ISO 17020 quality schemes to ensure a high professional standard, and use as a base, EURL validated methods. Most staff are trained practical beekeepers as well as scientists and are supported by teams of specialists across APHA and Fera Science.

The Unit has modern facilities, including laboratories and the apiary buildings needed to support the 150 plus colonies that are managed by the Unit. Computer support for all services is provided through BeeBase (see next section).

The NBU provides a bee health inspection and advisory service operating in England and Wales, comprising a regional network of Inspectors. The technical head of field inspection services is the National Bee Inspector (NBI). Regional Bee Inspectors (RBIs) reporting to the NBI, working with APHA field delivery, manage teams of Seasonal Bee Inspectors (SBIs) throughout England and Wales. As well as the statutory inspections and apiary surveillance programme, Bee Inspectors provide free advice and assistance to beekeepers on a range of bee health issues and run training courses for beekeepers on disease recognition, disease control and good husbandry, often in conjunction with local Beekeeping Associations. The NBU team delivers around 200 training events every year. Bee Inspectors also assist with field trials within the NBU's Research and Development programmes.

For further information contact the NBU, who will put you in touch with the appropriate Bee Inspector for your area, or visit the key contact pages on the NBUs BeeBase website. (<http://www.nationalbeeunit.com/public/Contacts/contacts.cfm>).

The NBU has broad research and development interests (current list is outlined on BeeBase <http://www.nationalbeeunit.com/indexcfm?sectionid=48>). Our portfolio covers varroacide development, EU-wide colony loss surveillance, risk assessment and novel control methods for exotic pest threats (e.g. *Tropilaelaps*, SHB and Asian hornet), and the economics and biology of pollination. The NBU was a contributor within the Insect Pollinators Initiative (IPI) (www.bbsrc.ac.uk/pollinators), leading research into systems that model the epidemiology of disease to enable improved management in the future. We are also using advanced molecular techniques to identify specific bacterial strain types, which will add to our understanding of the spread of serious brood diseases. The NBU works in partnership with many Universities and Organisations both in the UK and overseas to achieve these shared research goals.



BeeBase is the NBU's award winning website. BeeBase contains all the apicultural information relating to the statutory bee health programme in England and Wales. In June 2010, the information for the Scottish inspections programme was also incorporated into BeeBase. BeeBase contains a wide range of beekeeping information, such as the activities of the NBU, the bee related legislation, pests and diseases information including their recognition and control, interactive maps, current research areas, publications, advisory leaflets (including this one) and key contacts. To access this information visit the NBU website (www.nationalbeeunit.com). Many beekeepers find this website to be a very useful source of information and advice. In addition to the public pages of the BeeBase website, registered users (see below) can view their own apiary records, diagnostic histories and details.

Help and advice

Why is it important to register on BeeBase?

As well as containing useful information on beekeeping, BeeBase is a vital tool to help control bee diseases and pests. Where statutory pests or diseases are confirmed, the NBU can use BeeBase to identify apiaries at risk in the local area and, as a result, target control measures effectively. By knowing where colonies are, we can help you manage disease risks in your apiaries. Risks include European and American foulbrood (EFB and AFB), as well as the incursion of serious exotic pest threats such as *Tropilaelaps* mites and the Small hive Beetle *Aethina tumida*. The more beekeepers who are registered, the more rigorous our bee health surveillance can be and, crucially, the better our chances of eliminating pests and diseases.

How to sign up to BeeBase

If you are not yet registered please visit the public pages of Beebase at : www.nationalbeeunit.com where you can sign up online. Otherwise you can get in touch with the NBU office team who will be happy to help. You can email us at: nbu@apha.gsi.gov.uk or contact us by telephone on: 03003030094. By telling us who you are, you will be playing a very important part in helping to maintain and sustain honey bees for the future.

How do I know that my details will be secure?

All of the information that you provide for the purposes of registration on BeeBase is covered by the Public Service Guarantee on Data Handling (see Confidentiality page of BeeBase). In addition, all data will be handled according to rules stated in the Data Protection Act, 1998. All levels of access to BeeBase are protected in the same way as on-line banking. Your personal access is password-protected. When you first register you are allocated a temporary password, which is valid for your first visit only. You will then be prompted to set your own password. You need to ensure that your own password remains confidential. You will also be allocated a personal ID Number,

which relates solely to you. As a personally registered beekeeper, once you have received an inspection visit, you can check your own record on BeeBase. If you wish, you can make use of the apiary records system to record your apiary visits. The Inspectors and NBU staff will have access to your records, but will not disclose to others that you have been inspected or any details about you, your bees or beekeeping without your consent. Although BeeBase includes public pages containing information such as disease, colony losses, leaflets, useful links and much more general information, the public has no access to your or other beekeepers' details.

Beekeeping Associations

In many areas, Beekeeping Associations operate disease training schemes and provide practical advice and advisory leaflets to members on bee disease recognition and management. Contact your local Beekeeping Association for details (England - www.bbka.org.uk; Wales - www.wbka.com; Scotland (SASA) - <https://www.sasa.gov.uk/wildlife-environment/bee-health> and the Bee Farmers Association – <http://beefarmers.co.uk/>).

Figure 1: National Agri-Food Innovation Campus, Sand Hutton, York



Useful addresses

National Bee Unit (NBU)

Sand Hutton, York,
North Yorkshire, YO41 1LZ
Tel: 0300 3030094
Fax: 01904 462240
Email: nbu@apha.gsi.gov.uk
Web: www.nationalbeeunit.com

Office of the Chief Veterinary Officer

Department for Environment and Sustainable Development
Hill House, Picton Terrace
Carmarthen SA31 3BS
Tel: 01267 245007
Web: www.wales.gov.uk

Scottish Government

Pentland House, 47 Robb's Loan
Edinburgh,
Scotland EH14 1TY
Tel: 01312 446178
Web: www.scotland.gov.uk

Science and Advice for Scottish Agriculture

SASA, Roddinglaw Road
Edinburgh, Scotland EH12 9FJ
Tel: 01312 448890
Fax: 01312 448940
Email: info@sasa.gsi.gov.uk
Web: www.sasa.gov.uk

European Union

(website for details of European Community legislation in force)
Web: <http://eur-lex.europa.eu/browse/directories/legislation.html?locale=en>

Animal and Plant Health Agency

New Haw, Addlestone, Surrey,
KT15 3NB
Email: corporatecorrespondence@apha.gsi.gov.uk
Web: www.gov.uk/apha

Development, Northern Ireland (DARDNI)

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Northern Ireland
Tel: 02890 24488
Web: www.dardni.gov.uk

Agri-Food and Biosciences Institute (AFBI)

Newforge Lane,
Belfast, BT9 5PX
Web: <http://www.afbini.gov.uk>

Veterinary Medicines Directorate

Woodham Lane,
New Haw, Addlestone,
Surrey KT15 3LS
Tel: 01932 336911
Web: <https://www.gov.uk/government/organisations/veterinary-medicines-directorate>

Office of Public Sector Information

(European Community and UK Legislation)
Web: www.opsi.gov.uk

British Beekeepers' Association

(county and local beekeeping associations)
National Agricultural Centre,
Stoneleigh,
Warwickshire, CV8 2LG
Tel: 08718 112282
Web: www.bbka.org.uk

Welsh Beekeepers' Association

Web: www.wbka.com

Scottish Beekeepers' Association

Email: secretary@scottishbeekeepers.org.uk
Web: www.scottishbeekeepers.org.uk

Bee Farmers' Association of the United Kingdom

Web: www.beefarmers.co.uk

International Bee Research Association

(library and beekeeping information services)
Unit 6, Centre Court,
Main Avenue, Treforest, CF3 5YR
Tel: 02920 372409
Web: www.ibrabee.org.uk

Ulster Beekeepers' Association

Web: www.ubka.org

World Organisation for Animal Health, Office International des Epizooties (OIE)

Web: www.oie.int

Bee Diseases Insurance Ltd (BDI)

Registered Office
National Beekeeping Centre,
NAC Stoneleigh Park,
Warwickshire, CV8 2LG
Tel: 08718 112337
Web: www.beediseasesinsurance.co.uk

Overseas information

NSW Department of Agriculture, Australia

Web: <http://www.dpi.nsw.gov.au/agriculture/livestock/honey-bees/pests-diseases#Small-hive-beetle-in-honey-bees>

Department of Entomology, University of Georgia, USA

Web: <http://www.ent.uga.edu/bees/disorders/small-hive-beetle.html>

University of Florida

Small hive beetle fact sheet
Web: <http://www.invasive.org/species/subject.cfm?sub=9335>

USDA Bee Research Laboratory

Beltsville, Maryland, USA
Web: <http://www.ars.usda.gov/News/docs.htm?docid=15572>

Honey bee and pollinator extension website: Bee Health extension

Web: http://www.extension.org/bee_health

Plant Health Australia, Canberra, Australia.

Level 1, 1 Phipps Close
DEAKIN ACT 2600
Web: <http://www.planthealthaustralia.com.au/>
Web: <http://beeaware.org.au/>

ANSES

14 rue Pierre et Marie Curie,
94701 Maisons-Alfort Cedex,
FRANCE
tel: +33 (0) 1 49 77 13 50
Web: <https://www.anses.fr/en>

References and Acknowledgements

References

Legislation:

- The Bees Act 1980;
- The Bee Diseases and Pests Control (England and Wales) Order 2006, as ammended;
- Balai Directive' 92/65/EEC
- Foulbrood Disease of Honey Bees and Other Common Disorders.

Acknowledgements

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Acronyms

AFB	American foulbrood
APHA	Animal and Plant Health Agency
BBKA	British Beekeepers' Association
Defra	Department for Environment Food and Rural Affairs
EFB	European foulbrood
EU	European Union
EURL	European Union Reference Laboratory
Fera	Fera Science Limited
GIS	Geographical Information Systems
LFD	Lateral Flow Device
NBI	National Bee Inspector
NBU	National Bee Unit
OTC	Oxytetracycline (antibiotic treatment)
RBI	Regional Bee Inspector
SASA	Science and Advice for Scottish Agriculture
SBI	Seasonal Bee Inspector
SG	Scottish Government
SHB	Small hive beetle
UK	United Kingdom
WBKA	Welsh Beekeepers' Association
WG	Welsh Government



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