The Scottish Government

Rural Payments and Inspections Directorate

GUIDANCE NOTES

FOR

BEE DISEASES AND PESTS CONTROL (SCOTLAND) ORDER 2007

AND

CONTINGENCY PLAN

FOR

PROPOSED ACTION IN THE EVENT OF AN INTRODUCTION OF AN EXOTIC PEST OR DISEASE OF HONEY BEES

Contents

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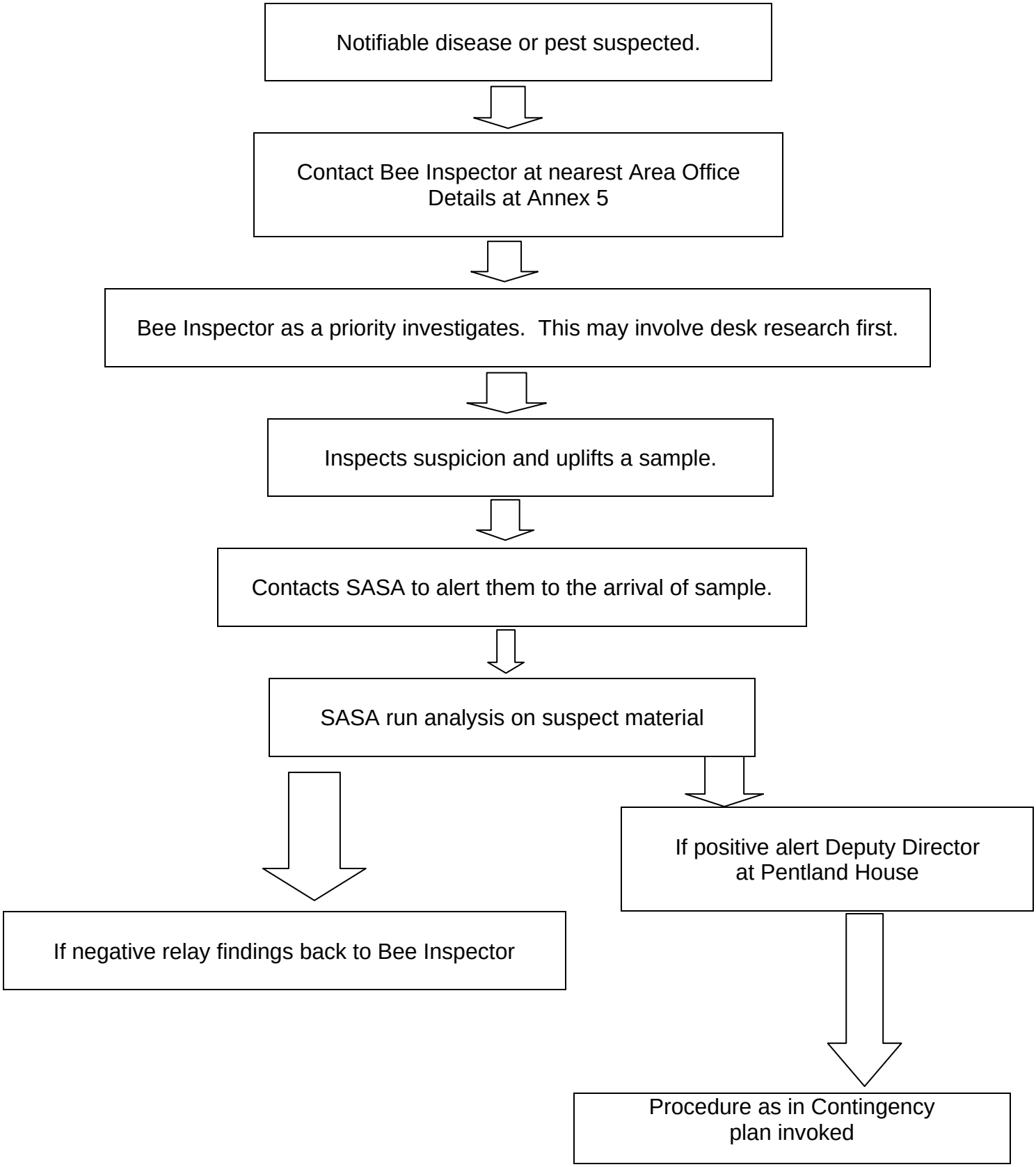

2. Guidance Notes on The Bee Diseases and Pests Control (Scotland) Order 2007

a. General Background

The Bee Diseases and Pests Control (Scotland) Order 2007 (the Order) came into force on 1 December 2007. It revokes and replaces the Bee Diseases Control Order 1982 (S.I. 1982/107) and revokes the Importation of Bees Order 1997 (S.I. 1997/310) where these relate to Scotland.

b. Division of Responsibilities and Requirements

i. Scottish Government Rural Directorate (SGRD), Animal Health Branch, Pentland House (the Branch) is responsible for:-
   - policy on the control of bee diseases in Scotland
   - through the Deputy Director Regional Delivery Division, liaison with the officers appointed as authorised persons (Bee Inspectors) on the operation of the Order.
   - consultation with the Scottish Government Legal Directorate in cases of non-compliance with the Order
   - issuing a card (BDClO(S)) to each Bee Inspector giving them the authority to carry out inspections and other duties under the Order
   - maintaining the records of action taken in respect of individual beekeepers, including any necessary action in cases where beekeepers refuse inspection, or otherwise fail to comply with the provisions of the Order
   - declaring infected areas and for making arrangements for publicity.

ii. The Deputy Director Regional Delivery Division, Scottish Government Rural Payments and Inspections Directorate (SGRPID) has responsibility for:
   - liaison with the Branch and Science and Advice for Scottish Agriculture (SASA) to plan and co-ordinate activities relating to the Order
   - acting as a focus for information during outbreaks of statutory bee diseases and pests
   - allocation of appropriate resources to deal with matters arising from the Order.

iii. The Bee Inspectors, based at the Area Offices of SGRPID, are responsible for the operation of the Order in their area with duties including:-
   - inspection of apiaries for presence of statutory bee diseases

- taking and delivering samples to SASA, with relevant information and advance notice where possible
- issuing and removal of ‘Standstill Notices’
- issuing of ‘Destruction Notices’ and supervising destruction
- informing beekeepers of treatment options for European Foul Brood (EFB), where appropriate
- granting the option, after taking account of the recommendations of SASA, and carrying out treatment
- carrying out follow-up inspections after destruction or treatment
- issuing licences, after consultation, allowing removal of specified items, eg hives, equipment, honey, etc from premises on which a Standstill Order has been placed because of American Foul Brood (American Foul Brood) or European Foul Brood (EFB)
- reporting contraventions to Branch and generally ensuring that the Order and any Notices are complied with
- during an outbreak of a statutory disease or pest to maintain records on form BDCII(S) of all colonies inspected and action taken and informing Branch, on a monthly basis, of the number of inspections undertaken including the results.

iv. Science and Advice for Scottish Agriculture (SASA) at Roddinglaw, Edinburgh is responsible for providing Branch and the Bee Inspectorate with the specialist technical support required to operate the Order and is authorised under the Order as "SASA". Duties include:
    - examination of submitted samples suspected of being infected with AFB, EFB, Varroasis, Small Hive Beetle (SHB) or *Tropilaelaps*.
    - advising Branch, without delay, that a suspected case was under investigation
    - reporting results on which pathogen or pest is present
    - recommending, in consultation with the Bee Inspector, the most suitable option, destruction or treatment, for each individual case of EFB.
    - where treatment is agreed, ordering supplies of the approved antibiotic
    - sending the Bee Inspector a copy of Form BDC7(S), setting out dosages required and the time and place of treatment.
    - maintaining technical liaison with the Department for Environment, Food and Rural Affairs (Defra) Bee Specialist at the National Bee Unit, Central Science Laboratory (CSL), Sand Hutton, York.
    - providing technical documentation as required

- providing training courses and demonstration material as required

- Requirements of Beekeepers under the Order: Beekeepers who suspect the presence of a statutory bee disease or pest – AFB , EFB, SHB or *Tropilaelaps*:
- must notify their local Bee Inspector at the local Rural Payments and Inspections Directorate as given at Annex 5
- are prohibited from removing any hive, bees, combs, quilts, honey etc, or appliances from the premises
- notwithstanding the prohibition on movement, the beekeeper may submit samples of combs to SASA to see if they are free from infection
- must not interfere with any form of identifying mark made by a Bee Inspector
- must provide reasonable facilities and information to the Bee Inspector
- must not treat their bees with a drug that disguise the presence of disease (e.g. oxytetracycline)

3. Contingency Plan for proposed action in the event of an introduction into Scotland of an exotic pest or disease of Honey Bees

This Contingency Plan for proposed actions in the event of an introduction into Scotland of an exotic pest or disease of honey bees and sets out the response to an outbreak in particular the notifiable pests the Small Hive Beetle (SHB) and *Tropilaelaps* mites. The Plan establishes the organisational roles, responsibilities and legal framework required at strategic and tactical levels to support the operations on the ground that would be taken should an outbreak occur. The Plan is the operational document that will be subject to change as developments occur. Responsibility for reviewing the plan lies with the Branch.

All personnel and officials who will be involved in responding to an exotic pest or disease outbreak will keep copies of the plan. It is intended that all stakeholders, including representatives of the national beekeeping associations in Scotland, should be aware of the contingency procedures.

In the event of a suspect case of an exotic pest or disease, SASA will immediately contact the Branch and the Deputy Director Regional Delivery Division at Pentland House. The Pentland House contact (normally the Deputy Director or their nominee) will, upon confirmation, notify other key national and local stakeholders, including Defra and the local Bee Inspector.

Defra will notify the European Commission (EC) and the Office International des Epizooties (OIE), the world organisation for animal health, within 24 hours of the confirmation of the primary outbreak.

A response unit would be set up within the Branch to:

- co-ordinate the response to the outbreak
- arrange for delimiting surveys to be undertaken to assess the extent of the outbreak
- procure and deploy the necessary resources
- liaise with the beekeeping associations and other interested parties both locally and nationally
- provide up to date information to stakeholders and the media as appropriate

A Statutory Infected Area (SIA) will be declared under the powers provided by national bee health legislation in Scotland, covering an appropriate geographical area. For an incursion of SHB, an area extending to a minimum 16km radius will be established around the suspect infected apiaries or premises where the beetle has been found. The SIA will be widened as necessary. Movement restrictions imposed by Standstill Notices in the SIA will be in force from the time of detection of the outbreak until such time as an

assessment is made on the extent of spread. The timescale for this is expected to be one to three weeks.

While Standstill Notices are in force, bee colonies, queen bees, hives, combs, hive debris, bee products, bee pests, ancillary beekeeping equipment or any other thing liable to spread a notifiable pest or disease shall not be moved except under the authority of a licence issued by a Bee Inspector.

If the outbreak is found to be isolated and eradication considered practicable, all colonies in the affected apiaries and the surrounding area will be destroyed. In the case of an SHB infestation, surrounding soil in apiaries (10-20m from hives) will also be treated where possible. In all other circumstances, e.g. with SHB established then, based on present technical knowledge, there would be no benefit from attempting eradication and instead a policy of containment will be implemented through colony movement restrictions and treatment.

If the outbreak is widespread and therefore not containable, appropriate control methods and veterinary medicinal products used overseas, will be adopted, provided that they have been evaluated and judged to be appropriate and safe, and approved in advance by the Veterinary Medicines Directorate (VMD) or Pesticides Safety Directorate. In the absence of any authorised products, approval will be sought from VMD to apply emergency treatments under the Veterinary Medicines Regulations 2005.

SASA will provide support on pest or disease management and containment providing advice and training for beekeepers, drawing on expertise form CSL where appropriate.

The purpose of the actions is to seek to:

- eradicate any outbreak of the SHB, *Tropilaelaps* mites or other exotic pests or diseases, if considered practicable, and to maintain the pest or disease free status of Scotland. This will only be feasible if the outbreak is detected very early after incursion, and before the pests or diseases become permanently established and widespread. The Administrations in England and Wales and Northern Ireland will implement similar contingency measures.
- contain and control an outbreak, if field evidence suggests that it is well established in a defined but limited geographical area.
- provide assistance to the beekeeping industry in the form of training and pest or disease control.
- provide good channels of communication to apiculture industry stakeholders, and make information available as soon as possible.

4. Action on suspicion of the Small Hive Beetle (SHB), *Tropilaelaps* or other exotic pests or diseases of Bees

The notifiable status of the SHB or *Tropilaelaps* mites makes it a requirement to report the suspicion of the presence of either pest in apiaries in Scotland to the Bee Inspector at the appropriate SGRPID Area Office. Beekeepers are also encouraged to inform SGRPID if they suspect the presence of other novel exotic pests or diseases.

5. Action on confirmation of the Small Hive Beetle (SHB), *Tropilaelaps* or other exotic pests or diseases of Bees

If a suspected case is subsequently confirmed in Scotland, the contingency plan will be initiated by the Branch. Immediate action will be taken to establish whether the outbreak is isolated or widespread. Roles and responsibilities are set out in **Annex I**.

6. The First Hours

Actions taken within the first hours of a contingency can determine the success of the Department's response. The Branch in close liaison with SASA will consider the following issues, which are set out more fully at **Annex 2**:

The Outbreak	Confirm the facts and implement the agreed plan.
Notification	Inform Ministers, Press Offices, Defra and other Government Departments as necessary. Inform key stakeholders.
Analysis	Determine the extent and impact of the outbreak.
Information and Briefing	Disseminate decisions and actions; prepare media line and public enquiry line; brief Press Offices as appropriate.
Defra Plant Health Division (PHD) will inform the Chief Veterinary Officer (CVO), who will notify the EC and the OIE of the primary outbreak. Thereafter, PHD will be responsible for providing at least weekly update reports to the EC and OIE.	

7. Outline of Actions

a. Statutory Infected Area and movement restrictions

In the event of detection of SHB or *Tropilaelaps*, the outbreak area will be isolated and a demarcation zone, known as a Statutory Infected Area (SIA), declared around the affected apiaries under the provisions of the Bee Diseases and Pests Control (Scotland) Order 2007. If necessary, the Branch will introduce new Orders establishing powers to manage outbreaks of exotic

bee pests or diseases not covered by bee health legislation at the time of the outbreak.

The initial SIA will depend on the extent of the outbreak and the pest or disease concerned. For example, based on current knowledge of the dispersal of SHB, the area will cover a minimum 16km radius to begin with and may be altered as circumstances change.

For *Tropilaelaps* mites, the SIA is likely to cover a smaller area in the first instance. The declaration of the SIA will define precise boundaries. All apiaries within the designated SIA will be placed under a Standstill Notice, effectively restricting movement of colonies, queen bees, bee pests, beekeeping equipment hive debris, all hive products, including harvested honey and any thing else which is liable to spread the pest or disease, within, into or out of the infected area except under a Licence issued by the Bee Inspector at SGRPID Area Office level. Contact list for Bee Inspectors is given at Annex 5.

These restrictions will take immediate effect and will remain in force while Bee Inspectors complete emergency apiary searches and delimiting surveys within the SIA, and until a decision is taken on the extent of the outbreak and whether or not eradication could be attempted. The extent of the SIA will be reviewed as the situation develops. If necessary, Standstill Notices will be placed on infected apiaries outside the SIA or the SIA extended.

Export health certificates for honey bees will not be issued until the extent of the outbreak is known, and pending any decisions taken by the Branch.

b. Emergency Searches and Inspections

Searches would be made of all known apiaries in an appropriate and scientifically based radius of the outbreak where practicable. In addition apiaries that are identified through subsequent tracings will also be searched such as any bee movements or sales of honey bees, hive products and beekeeping equipment from the designated premises within the SIA. The Branch in consultation with SASA and the Deputy Director Regional Delivery Division will define search areas and priorities.

Through emergency searches, Bee Inspectors will establish rapidly the extent of the outbreak and, if possible, determine its source. They will also establish if there are further primary infestations in the restricted area and any secondary infestations further afield. The results of the search will provide the data to decide whether the outbreak is isolated or established.

Follow-up inspections will be completed based on any information gathered by this process. Risk analysis will be an integral component of the emergency searches to predict potential spread from the point of entry and assist with targeted inspections.

c. Laboratory Diagnosis

All suspect samples collected by Bee Inspectors will be despatched to SASA for confirmatory diagnosis using traditional entomological identifications and rapid molecular diagnostic techniques. Beekeepers will also be encouraged to check their own colonies and forward samples to SASA.

SASA will send laboratory reports to affected beekeepers (copied to the appropriate Bee Inspectors) as soon as possible after receipt. Samples will be dealt with as promptly as possible. As information on new positive apiaries becomes available, this will be made available to beekeepers and interested parties and will be placed on the SGRPID website together with detailed maps of the outbreaks.

d. Isolated Outbreaks

If the outbreak is considered to be an isolated incident, then eradication might be practicable and attempted. "Isolated" means that the pest or disease has only been found in a limited number of apiaries in a restricted geographical area, (and data from the emergency searches shows a high probability of success in this endeavour).

Steps to eradicate the outbreak will only be taken:
after completion of the initial search, which should be known within one or two days of the initial discovery,
after consultation with Defra, other Government Departments and representatives of the beekeeping industry.

If such steps are taken, all colonies and contaminated hive products in the affected area will be destroyed. All potentially infected equipment will be sterilised or destroyed, as appropriate.
Where the SHB has been found, soil in an area of around 10-20m from the infested hives may also be treated, if an approved chemical is available, since the larvae pupate in the soil before emerging as adult beetles.

Thereafter, the affected apiaries will need to be surveyed regularly and neighbouring unaffected apiaries placed under close surveillance for at least two years after the pest or disease has been "eliminated", to confirm continued freedom from it.

e. Widespread and Established Outbreaks

In the event that an outbreak proves to be established and widespread, Ministers will consider whether eradication as a control method remains practicable.

If eradication is no longer feasible, a policy of containment will be implemented. It may be necessary to extend the SIA to contend with

outbreaks that spread slowly, in an attempt to further slow them down and contain them geographically.

Restrictions on colony movements will slow down spread but not eliminate apiary infestations. Otherwise, all Standstill Notices and movement restrictions will be lifted, and Scotland declared a SIA. SASA and the Scottish Agricultural College will then concentrate its efforts on providing technical advice and training services for beekeepers to recognise and efficiently control affected colonies.

f. Emergency Pest or Disease Control: Product Treatment Availability

Currently, most medicaments available overseas to control many of the exotic pests and diseases of bees are not approved or available in the UK for general use in apiculture. In the event of an outbreak of SHB or *Tropilaelaps* (or other exotic pests or diseases), the Branch will apply to the VMD for Special Treatment Certificates (STC) to use acaricides or other alternative medicaments considered appropriate to control or treat affected colonies.

g. Management of Information and Communication

The Branch will keep all interested parties informed of developments of the outbreak as they emerge. The precise nature of any communication will depend on the circumstances at the time. The Branch will be the focal point of communication for the main stakeholders — including beekeeping associations or organisations, the bee press and individual beekeepers.

h. Situation Updates

The Branch will be responsible for collating and processing information on pest or disease incidence. It will be used for planning the next phases of the emergency searches.

i. Media — Scottish Government Press Offices

The issue of News Releases will be co-ordinated through the Scottish Government Press Office. The Press Office will take all respective national media enquiries and organise press briefings, if considered necessary. The Press Office will liaise with Defra and Welsh Assembly Government (WAG) Communications Directorates.

j. Websites

The SGRPID website will be a key source of information in the event of a pest or disease outbreak. It will be used to rapidly disseminate information, and be updated daily, or at the very least when there are significant developments to report. The website information may include:

- Full details of the statutory infected areas, control measures and restrictions. This will include maps of the outbreak areas at minimum 10km level.
- Copies of the Statutory Notices issued declaring infected areas.
- Advisory and technical information on biology of the pests or diseases and detection and control methods.
- Details of how to package and send samples to prevent, as far as possible, the risk of spread of the (suspect) pest or disease during transit.
- Technical advice to beekeepers.
- General advice for interested parties, e.g. Press.
- Links to relevant websites for further technical information.

k. Mailshots

Mailshot letters will be sent to all known beekeepers within a 5-16km radius of any outbreaks. The letter will give details of the outbreak, provide advisory material, and seek their co-operation in providing information relevant to the outbreak and return to SASA/Bee Inspectors. Completed returns will help inform decisions for follow-up inspections etc. Information to be collected is indicated in Annex 3.

I. Publicity and Awareness Campaigns

The awareness of the beekeeping industry to the threats and identification of exotic bee pests and diseases is an essential element of this contingency plan. Information about the potential threats to UK apiculture from SHB and *Tropilaelaps* is already available through the National Bee Unit (NBU) and Defra websites, advisory leaflets and through the NBU's inspection and training programmes in England and Wales. Dissemination in Scotland will be increased during the outbreak through the beekeeper and farming press as appropriate.

Roles and Responsibilities

Ministers

Responsibility for the control of bee pests and diseases in Scotland lies with the Scottish Ministers. Bee health policy and the direction of disease control strategy is the responsibility of SGRD's Animal Health Branch.

SGRD Animal Health Branch

The Branch has overall responsibility for:

- bee health policy in Scotland; implementation of EU and national bee legislation; implementation of bee health policy and contingencies in Scotland;

- liaison with SASA and stakeholders or interested organisations;

- reviewing the contingency plan with SASA and SGRPID Bee Inspectorate.

With respect to the contingency plan, the main responsibilities of the Branch are:

- initiation of the contingency plan;

- implementing emergency searches and search targets (in agreement with the Bee Inspectorate and SASA)

- keeping Ministers and senior officials briefed about any emergency response to an exotic pest or disease outbreak;

- implementing the measures and communication principles of the First Hours (Annex 3). This is a checklist of actions that might be taken immediately after the discovery of infested apiaries;

- provision of any necessary and additional funding required for the duration of the emergency. This would require close communication with SGRD Finance Division;

- consultation and liaising with the Office of the Solicitor to the Scottish Government as appropriate and issuing declarations of Statutory Infected Areas in Scotland;

- notification of Defra Plant Health Division and the Defra Chief Veterinary Officer (CVO) in order that the Defra CVO should formally notify the Commission and Member States of the primary outbreak of an exotic notifiable pest or disease within 24 hours of its discovery. Defra CVO should also formally notify the OIE of the primary outbreak and thereafter send update reports;

- liaising with SGRD Press Office and Defra/DEPC Communications Directorates and Press Offices as appropriate;

- liaising with SGRPID Bee Inspectorate and SASA on a daily basis during the outbreak;

- liaising with the other Government Administrations in Wales and Northern Ireland, and other Government agencies (e.g. VMD, VLA, FSA) as necessary;

- liaising with key stakeholders in the apiculture and any other affected sectors;

- sending update reports to Defra to submit to the EC via its web-based Animal Disease Notification System as appropriate.

SGRPID Bee Inspectorate HQ

The SGRPID Bee Inspectorate HQ is responsible for implementing the emergency searches and collecting information on the outbreak. In conjunction with the Branch and SASA, the inspectorate will agree search targets.

The Bee Inspectorate HQ is responsible for:

- Designating a Bee Inspector to coordinate local arrangements and emergency searches in the outbreak area;

- Allocation of appropriate resources to undertake the searches and gathering of information on the outbreak;

- If necessary, liaising with the Branch about resources;

- Collecting and processing of data;

- With the Branch and SASA reviewing the incident status and assessing the impact of the outbreak.

Designated Bee Inspector

A designated Bee Inspector will be responsible for carrying out operational tasks and managing field activities. Depending on the scale of the outbreak the designated inspector will be responsible for deploying resources and providing materials and equipment for the teams of inspectors carrying out emergency/statutory searches and inspections and activities to contain the outbreak or restrict its spread.

The designated Bee Inspector will be responsible for:

- Organising searches and delimiting surveys in the in the outbreak area
- Obtaining information relevant to the outbreak from beekeepers and other parties within the outbreak area
- Communication of information to the Branch , SGRPID Bee Inspectorate HQ and SASA
- Organising submission of samples to SASA.
- Liaison with local experienced beekeepers who may be asked to assist in conjunction with national and local beekeeping associations.

Science and Advice for Scottish Agriculture (SASA)

SASA provides diagnostic support and advice on statutory bee diseases in Scotland. SASA is responsible for:

- Providing a report to the Branch of the discovery of an exotic pest or disease within 24 hours of the suspect or confirmed finding.
- Deploying appropriate staff resources in the laboratory.
- Liaising with the Branch about necessary resources.
- Providing diagnostic support to Bee Inspectors undertaking searches, reporting results to the designated Bee Inspector.
- With the Branch and Bee inspectorate HQ reviewing the incident status and assessing the impact of the outbreak.
- Reporting to and providing technical advice and advisory information to the Branch and Bee Inspectorate HQ.
- Consulting colleagues at the NBU, for example regarding current treatment options.

SG Press Office

Responsible for delivering key messages to the Scottish media and any stakeholders.

SGLD Legal Directorate

Responsible for providing legal advice and drafting any necessary (additional) bee health legislation and SIA notifications in Scotland.

Defra Plant Health Division

Plant Health Division (PHD) has overall responsibility for:

- bee health policy in England, and for the UK at international level;
- implementation of EU and national bee legislation and contingencies in England;
- liaison with the NBU and stakeholders or interested organisations on the operation of the Defra bee health programme.

Pesticides Safety Directorate

Responsible for approving the use of appropriate pesticides if necessary for the treatment and control of pests and diseases of honey bees.

Veterinary Laboratories Agency

Executive agency of Defra providing veterinary support to government and its agencies. The Agency will be responsible for distributing medicines to SGRPID to treat a pest or disease outbreak.

Veterinary Medicines Directorate

Executive agency of Defra responsible for approving and providing advice on the use of veterinary medicament products to treat and control pests and diseases of honey bees in the UK, including approval of emergency treatments under the STC provisions of the Veterinary Medicines Regulations 2005.

Food Standards Agency

The Agency is responsible for recommendations on measures to protect consumer health and the removal of products from the food chain (through local authorities). It will liaise with Defra, WAG, the NBU and the media/ consumers on any aspects of bee disease control that affects public health.

Beekeepers

All beekeepers are encouraged to work in partnership and closely with SGRPID to:

- Make available all facilities and to provide Bee Inspectors, on request, with accurate information relating to their own bees and bee colonies, including the number, location and any movements (particularly sales) of hives, bees, combs, bee products and appliances.

- Allow Bee Inspectors access to their bee colonies to inspect them and to control or contain any confirmed outbreaks.

- Ask members of their associations and local beekeepers to check their hives for the presence of any exotic pathogens and to rapidly provide information to SGRPID of the results of these inspections.

- Monitor the health of their colonies and to notify SGRPID if they suspect presence of the SHB or *Tropilaelaps* or other (notifiable) exotic pests or diseases in their colonies. Beekeepers may also submit voluntary samples to SASA if they suspect the presence of a notifiable pest or disease on their premises.

Other Stakeholder Organisations

Whilst bees are the principal means of spread of the **Small Hive Beetle (SHB)**, it can also survive away from nests and the apiary environment and potentially be introduced to the UK by other means such as imported wax, fruit consignments, imported soil (with plants) or with imported bumble bee colonies.

While these risks are considered small they should not be discounted. the Branch will seek to ensure:

- that fruit and plant importers,
- bumble bee colony producers/importers,
- tomato producers/glass house managers,
- wax refineries
- and honey packers

are aware of the notification provisions in the Bee Diseases and Pests Control (Scotland) Order 2007. Also to be made aware of the measures that SGRPID may take should SHB be found on a premises or place for which they are the owners or responsible.

The "Initial Actions after Confirmation of the Outbreak"

A checklist of actions that might be considered or taken within the "First Hours" following the discovery of suspect infested apiaries. This list is not prescriptive:

The Outbreak	• Bee Inspector investigates the suspect outbreak of an exotic bee pest or disease in Scotland. SASA confirms the presence of the pest or disease. • The Branch , SGRPID Bee Inspectorate HQ and SASA assesses, if known at that stage, whether the outbreak can be eradicated or simply contained and controlled.
Notification	• SASA notifies the Branch when the outbreak was detected and confirmed and provides initial assessment of impact. • The Branch notifies Defra PHD and Defra CVO. • Defra CVO informs European Commission, other Member States and the OIE of primary outbreak. • Defra and WAG notify Ministers • The Branch notifies the Press Offices. • The Branch notifies other Authorities and relevant Government agencies (e.g. VMD).
Lines of Communication	• SGRPID Bee Inspectorate at HQ designates Bee Inspector to manage local arrangements. • Distribute telephone numbers and contact details.
Media Handling	• The Branch prepares briefing for Press Office and Helpline. • Consider timetable for press statements. • Consider Parliamentary business in respect of Ministerial statements.
Administration by the Branch	• Confirm command structure. • The Branch declares the Statutory Infected Area. Animal Health Branch seek authorisation from Veterinary Medicines Directorate for emergency Special Treatment Certificates , if required. • Record actions - set up log

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Information to be obtained to assess a pest or disease outbreak affecting the beekeeping sector

In the first instance, information about the outbreak is likely to be sparse and a picture will only materialise as developments on the ground are understood, lines of communication established and the position clarified. Assessing the affect of an outbreak on the beekeeping sector is likely to be gradual. The following information, at the very least, would be needed to help support the decision making process and any ensuing actions:

- Nature of the outbreak
- Extent of the outbreak, area and bee population affected
- Whether the outbreak can be eradicated, or contained and controlled
- Beekeepers and apiculture businesses affected
- Press/media interest
- If action is needed, what can be done and who can do it? What measures would be needed?
- Which interested beekeeping organisations need to be kept informed?

When responding to an emergency, the following points should be considered within the Branch, particularly within the first hours:

- Hold an initial meeting of key staff to take stock of the information available and what is required.
- Confirm responsibilities covering:
- *communications* — managing the flow of incoming information and ensuring the right people see it. Maintaining a log of information provided.
- *co-ordination* — assigning responsibilities and ensuring the most important tasks of the Division get done.
- *information and briefing* — gathering information from SGRPID/SASA and briefing Ministers, senior officials and Press Office
- Consider putting staff and industry contacts on notice to be ready to respond (even if nothing then happens).
- Consider the need to hold regular stakeholder meetings, as the picture develops.

Format of Situation Reports

Situation reports to the Branch may cover the points detailed below:

a. **a brief description** of the event (more abbreviated for subsequent reports in a series), including date (and time) of occurrence, location (including geographical boundaries);

b. where appropriate, a note on which **Department** is leading the Government response;

c. the effects of the outbreak, with particular reference to the **implications for the beekeeping/apiculture industry** including any consequent problems and so on;

d. an indication of any **Branch action** which is considered desirable or necessary, including any likelihood of imposing statutory restrictions (with a note of the legal basis);

e. a note of what others are doing. Will need to identify the organisation concerned.

f. a forecast of media interest and a note that another Department is the contact point for enquiries if this is the case;

g. the likely timing of the follow-up report

An example of the format of a situation report is shown below.

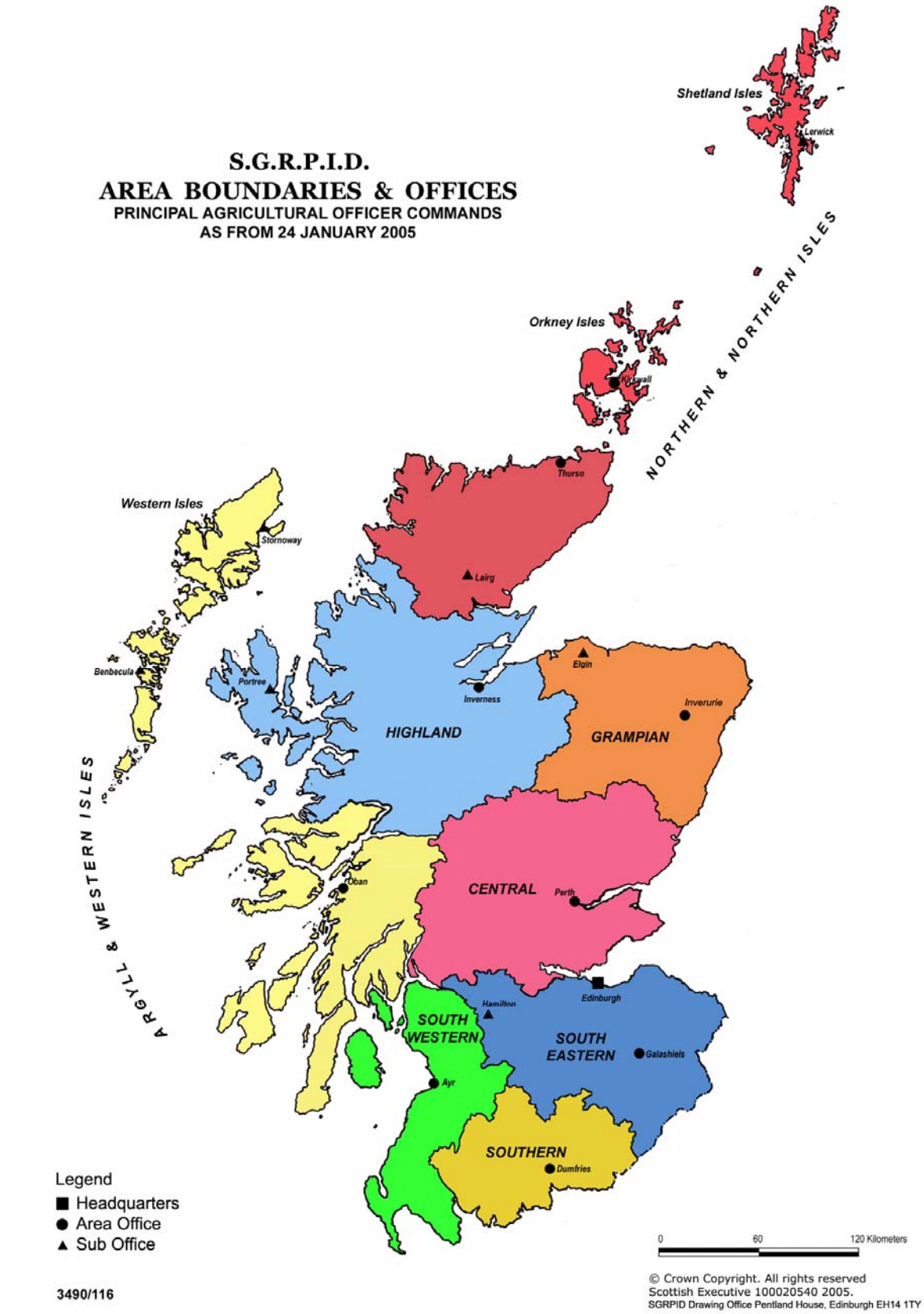
EXAMPLE SITUATION REPORTS
TEMPLATE FOR SGRD BRANCH SITUATION REPORT FOR A BEE PEST OR DISEASE OUTBREAK

DATE:	
REPORT NUMBER:	
TIME:	

The following situation report must provide a summary of the current status, highlighting priority critical areas.

CURRENT POSITION
Outbreak confirmed at: OS map reference Name(s) and address of beekeeper(s) or Location (data protection)
FACTS AND GENERAL SUMMARY
Summary of disease outbreak Progress on Implementation of Contingency Plan Surveillance and inspections planned Next steps
SPECIFIC ISSUES

SGRPID Area Office network



Bee Inspectors

The following SGRPID staff are authorised Bee Inspectors. All Bee Inspectors have email addresses as "firstname.surname@scotland.gsi.gov.uk"

Bee Inspector	Address	Telephone	Area Office
Angus Cameron	161 Brooms Road, Dumfries, Dumfries & Galloway, DG1 3ES	01387274400	Dumfries
Clem Cuthbert	Longman House, 28 Longman Road, Inverness, Highland, IV1 1SF	01463253053	Inverness
Sandy Lister	Strathearn House, Broxden Business Park, Lamberkine Drive, Perth, Perth & Kinross, PH1 1RZ	01738602000	Perth
Angus MacAskill	Cotgreen Road, Tweedbank, Galashiels, Scottish Borders, TD1 3SG	01896892400	Galashiels
John Smith	Russell House, King Street, Ayr, South Ayrshire, KA8 0BG	01292291300	Ayr
Steve Sunderland	Cameron House, Albany Street, Oban. PA34 4AE	01631 563071	Oban
Kirsteen Sutherland	Thainstone Court, Inverurie, Grampian, Aberdeenshire, AB51 5YA	01467626247	Inverurie
Paul Svenson	Strathearn House, Broxden Business Park, Lamberkine Drive, Perth, Perth & Kinross, PH1 1RZ	01312446599	Perth

Link to The Bee Diseases and Pests Control (Scotland) Order 2007

http://www.oqps.gov.uk/legislation/ssi/ssi2007/pdf/ssi_20070506_en.pdf

American & European Foul Brood (AFB & EFB)

Honeybees are affected by a number of diseases, but two of the most serious affect the developing brood. They are American Foul Brood (AFB) and European Foul Brood (EFB) and despite their names, both occur in the UK. Both diseases are notifiable under the Bee Diseases and Pests Control (Scotland) Order 2007, so if either of these diseases is suspected, the local Bee Inspector must be informed (Annex 5).

A Bee Inspector may, on request, give information about occurrences of Foul Brood disease to bona fide inquirers such as beekeepers' associations or known beekeepers. Care should be taken, however, to ensure that the inquirer would not be able to identify an individual beekeeper on whose premises the disease had occurred. It will generally be permissible to disclose the number of occurrences in a particular area.

Bee Inspectors should refrain from offering unsolicited advice to beekeepers on matters not connected with notifiable diseases.

A comprehensive note on AFB and EFB can be found at the Central Science Laboratory (CSL) website by clicking on the following link.

http://beebase.csl.gov.uk/public/BeeDiseases/foulbrood.cfm

Action when European (EFB) or American Foul Brood (AFB) is present or suspected

Note: Shook swarm technique for dealing with Foul Brood is a development which has achieved notable success. Further details are available via the Beebase website at:
http://beebase.csl.gov.uk/public/BeeDiseases/foulbrood.cfm

Restriction on beekeeper who suspects Foul Brood

As soon as a beekeeper suspects that EFB or AFB is present, they become subject to the Order, and the prohibition on removal of hive, bees, combs, quilts, honey etc., or appliances from the premises.

Initial action by Bee Inspectors

Powers of entry: Bee Inspectors can use the powers granted under the Bees Act 1980 to enter premises at any time, but normally from April to September (inclusive), in the presence, or with the knowledge, of the beekeeper, to inspect bees, hives, combs, quilts, honey, etc. Inspection may be at the request of the beekeeper, or on suspicion.

Serving Prohibition Notice if entry is refused: Where a Bee Inspector is refused entry to any premises on which he suspects that any infected hive,

bees, combs, quilts, bee-products or appliances may be present, the Order authorises the Bee Inspector to serve a Notice on the beekeeper, prohibiting the movement of such items without a licence.

Extent of Inspection:

If either Foul Brood disease is suspected, all colonies in an apiary should be inspected and combs examined.
If the Bee Inspector and the beekeeper agree that AFB is present, contact colonies, as defined below, should be inspected also.
Otherwise, contact colonies should be inspected only if positive diagnosis of AFB or EFB is confirmed by examination at SASA.

Definition of Contact Colonies: Contact colonies are defined as "All colonies belonging to the owner of an apiary wherever they are sited, ie including colonies transferred from the apiary to another site, during the current season, and all colonies in the vicinity, normally defined as within 5km (3 miles), belonging to another owner".

Action if AFB Diagnosis Agreed at Inspection

Serving of Notice for destruction: If, at the initial inspection, the Bee Inspector and beekeeper both agree that AFB is present, the Bee Inspector should serve a notice, Form BDC2(S), on the beekeeper requiring him to destroy, by fire, the bees, combs (including any containing honey) and quilts etc no more than 10 days after the issuing of the notice.

If the beekeeper signifies his agreement to destruction by signing a copy of the notice, action can be taken without sending samples to SASA and receiving a confirmatory positive diagnosis. A copy of the Notice, signed by the beekeeper should be retained by the Bee Inspector. The Branch, SASA and Deputy Director Regional Delivery Division should be notified for their records.

Extension of Destruction Notice to equipment etc: If the beekeeper agrees, the notice may require him to destroy by fire or treat by scorching (apart from polystyrene or non-timber hives) or irradiation, hives and any appliances which appear to the Bee Inspector to be infected or to have been exposed to infection with AFB. Such action must be specified in the Notice. Also note that care should be taken to ensure that plastic, rubber or other materials likely to produce noxious smoke are not included in the burning requirement. As it is not practical to scorch by fire polystyrene and non-timber hives these should be disposed of in a way as agreed with the local Environmental Health Officer.

Personnel Involved in Destruction: Destruction should be carried out by the beekeeper or someone authorised by him in the presence of the Bee Inspector.

Recording: After the appropriate action has been taken, the Bee Inspector should complete the destruction report, form BDC9(S).

Inspection of Contact Colonies: Immediately following diagnosis of AFB, all colonies which may have come into contact with bees from infected hives should be inspected. This will include colonies on adjacent premises (within a 5km/3 mile radius), or on other premises operated by the same beekeeper. If further AFB is found at inspection, or confirmed in a suspect sample sent for laboratory examination, the full procedures as set out above for destruction etc, should be repeated.

Follow up Inspections: Follow up inspections of contact colonies will be required not less than 6 weeks after destruction. If it is too late in the season to open hives safely, the 6 week inspection can be held over until the spring.

Lifting of Standstill: The standstill notice BDC(1)S should remain in force until follow-up inspections confirm freedom. When a further inspection of contact colonies in the apiary reveals no trace of disease, the standstill can be lifted by serving form BDC(5)S on the beekeeper.

Action if Approved Laboratory Diagnosis of Foul Brood is Required

Serving of Holding Notice: Following inspection, if the Bee Inspector suspects the presence of either Foul Brood disease, he should serve a signed Notice, Form BDC1(S), on the beekeeper, prohibiting the removal of any hives, bees, combs, quilts, honey, etc, or appliances from the premises. This Notice takes over from the interim standstill which became operative with the beekeeper's suspicion.

Sampling of combs for either Foul Brood disease: If a Bee Inspector suspects, but cannot identify the disease as AFB, or if the beekeeper does not agree that there is an infection of AFB, of if the officer suspects or is certain that EFB is present, the Bee inspector is empowered under the Order to take samples.

Method of sampling for submission to SASA: A sample comb should be selected from each hive under suspicion. Sample combs should, if possible, contain brood at all stages of development and a minimum of honey.

Any hive from which a sample is taken should be marked with a wax crayon by the Bee Inspector so that each sample taken can be related to an individual hive, eg 3/2, where 3 is the identifying number of the Bee Inspector and 2 is the identifying number of the hive.

Combs removed from the hive should be packed immediately, in the presence of the owner or his representative; they must not be left exposed to the attention of foraging bees, which can easily pick up and carry infection to a clean hive.

Bees may emerge from the sample brood enclosed within a package in the post. To safeguard against bee escape, comb should be double wrapped, using two of the 8" x 16" paper bags provided. Polythene bags should not be used, as 'sweating' makes samples difficult to examine.

Combs within the standard bags should be packed in the boxes supplied, one frame per box. The box should be so packed that, even with rough handling, adjoining parcels cannot be soiled by escaping honey.

The Bee Inspector should complete part I of the sample diagnosis form BDC6(S) and send the top copy, along with the sample comb or combs to SASA; the Inspector should retain a copy for himself.

Samples should be delivered to SASA as quickly as possible, either by hand or by post. Normally, post should be first class but, if there is any doubt on delivery, the special delivery post should be used. Packages should be clearly marked "URGENT -BIOLOGICAL SPECIMENS" and addressed to Zoology Laboratory (Bee Diseases), SASA, Roddinglaw Road, Edinburgh, EH12 9FJ.

SASA should be advised immediately that a sample is being submitted.

Action following receipt of diagnosis from SASA.

Notification of Sample Diagnosis: Immediately the diagnosis is completed at SASA, results will be e-mailed to the appropriate Principal Agricultural Officer, normally on the day the sample is received. The written confirmation will follow later.

Sample Free from Infection

Lifting of Standstill Notice: On confirmation that there was no infection in the sample/s taken, the Bee Inspector should serve the notice, Form BDC5(S), lifting the standstill imposed earlier.

AFB Diagnosed

Serving of Destruction Notice and Further Action: Notification diagnosing the presence of AFB will be on Form BDC6(S). On receipt of this the Bee Inspector should serve a destruction notice, Form BDC2(S), on the beekeeper. He should proceed thereafter as at page 28 above (Action if AFB Diagnosis Agreed at Inspection).

EFB Diagnosed: If EFB presence is confirmed by SASA, two distinct situations must be considered. In each situation, the decision will be taken on whichever option is the more appropriate in the prevailing circumstances. For each of these there are several possible options:

For "infected" colonies the options are destruction or treatment.

For “contact" colonies, the options are for or against treatment.

As many factors are involved, further consultation is required before decisions on action can be taken. The Bee Inspector must consult and pay due regard to the views of the guidance provided by SASA and, where appropriate, the wishes of the beekeeper. In cases of doubt, the Deputy Director Regional Delivery Division should be consulted. The decision taken will depend on the seriousness of the infection in relation to such factors as are set out below.

Preparation for Consultation: In preparation for consultation, the Bee Inspector should have prior discussions with the beekeeper to establish:

- the beekeeper's preferences between the options so that, in borderline decisions, this can be considered
- whether queenless hives would be requeened, etc

Factors Relevant to "Infected Colonies": In deciding on the action to be taken, SASA and the Bee Inspector should consider the following factors, and any others which appear to be relevant:

- Strength of the "infection" in the colony: an infection is classed as heavy if more than 50% of uncapped larvae in the brood combs are infected; as light, if less than 50% of uncapped larvae in brood combs are infected.

- Strength of the colony: a colony is considered weak if less than 5 brood combs are present; as stronger, if there are 5 or more brood combs. This is of course dependent on the time of year but above indication is good for summer consideration.

- Time of the year: Weak colonies may survive treatment in spring but weak colonies treated later in the year, may not survive the winter; thus, for the latter, destruction may be the only option. In general, late in the year, destruction is the preferred option.

- Number of colonies infected: Following the destruction of infected colonies, the standstill period for contact colonies is 6 weeks only, whereas after treatment of infected colonies, the standstill on all colonies in the apiary, would be 8 weeks. So, if only a few colonies are infected, say l0%, destruction may be the more appropriate option.

- Siting of apiary: Colonies on a temporary site, eg heather or oil seed rape, could be stranded on these sites by a Standstill Order. An alternative would be to move them under licence to an approved site; "treated" colonies, however, may not be moved.

Factors Relevant to "Contact" Colonies: In deciding whether or not "contact" colonies should be treated, SASA and the Bee Inspector should consider the following factors, and any others which appear to be relevant:

- Contact colonies in large concerns: In large concerns, eg those with 15 or more contact colonies per apiary, or 50 or more contact colonies in total, Defra, as a rough guide, advocates treatment of the contact colonies, if more than 30% of colonies are found infected.

- Contact colonies in small concerns. In concerns smaller than those described above, Defra does not advocate treatment of contact colonies.

- Effect of Standstill Order: Where treatment is being considered for colonies, thought should be given to the effect of an 8 week standstill period.

Inspection of Contact Colonies: Immediately following diagnosis of EFB, all colonies which may have come into contact with bees from infected hives should be inspected. This will include colonies on adjacent premises (within a three mile radius), or on other premises operated by the same beekeeper. Any further suspect samples should be sent to SASA for diagnosis. If EFB is

confirmed in such samples, the full procedures as set out above for consultation on the most appropriate action should be repeated.

Written agreement of agreed treatment: If suitability for treatment has been agreed in a particular case, and the extent of treatment decided, Part II of form BDC6(S) which confirms the diagnosis and records when and where the treatment will be carried out, will be completed by SASA and sent to the Bee Inspector.

Availability of Antibiotic. The Medicines Act 1968: The sale and supply of veterinary medicinal products is controlled by the Medicines Act 1968. Broadly speaking, under this Act, all veterinary medicines are put into one of 3 categories for the purpose of sale and supply. These categories are:

- POM -Prescription Only Medicines -which may be sold or supplied only under the authority of a veterinary surgeon.

- PML -Pharmacy and Merchants' List -these products can be sold only from a pharmacy or an agricultural merchant who is registered with the Royal Pharmaceutical Society of Great Britain.

- GSL -General Sales List -consisting of those products which may be sold without any restriction.

Prescription only Medicines (POMs): These medicinal products can only be supplied and administered by a veterinary surgeon or person acting under their direct responsibility to animals under their care. These limitations on the use of POMs are designed to avoid under or over-dosing which could lead to resistance or toxicity problems and to ensure that residues or POMs do not remain in the animal or its product. To this end, it is a legal requirement to keep records of all medicines used particularly noting the withdrawal period during which time neither the animal nor any of its products may be used for human consumption.

Use of Antibiotic: Oxytetracycline is the only antibiotic that may be used for treatment of EFB. This is a POM which is not licensed for use in bees and, therefore, as such, can only be supplied or administered by a veterinary surgeon. However, under the Bee Diseases Control Order 1982, appointed officers are authorised to treat bee colonies with the drug. Beekeepers are not permitted to obtain or administer the antibiotic.

Oxytetracycline is a bacteriostat; it does not kill the bacteria but stops them multiplying while the bees clean out the infected debris. The use of antibiotics for preventative purpose, as distinct from treatment, will not be authorised by Branch; it is considered that the wider use could hasten the evolution of strains of EFB bacteria resistant to antibiotic treatment.

Ordering and issuing supplies of antibiotic: Arrangements have been made for SASA to order supplies of oxytetracycline from the Veterinary Laboratories, New Haw, Weybridge, Surrey, KT15 3NB. To order the required

dosages, SASA will complete Part I of Form BDC7(S). The top copy will be sent to the Veterinary Laboratories Agency, Weybridge, along with a copy of BDC6(S) which records the relevant sample diagnosis. The required dosages will be sent to the Bee Inspector directly from Weybridge.

Procedure where treatment agreed – EFB light infection and serving treatment Notice. If it had been agreed at consultation that infection was light and treatment appropriate, the Bee Inspector should serve a notice Form BDC3(S) on the beekeeper. The time of treatment should be arranged within the time limits agreed previously and set out in form BDC6(S).

The owner, or person in charge of the hives, must be present when treatment is administered. Treatment may be administered only by a Bee Inspector. Oxytetracycline, in a water solution mixed into sugar syrup, is sprinkled over combs placed in the hive, or sprinkled over bees and top bars of the brood chamber.

Serving Notice of Standstill continuation and follow up inspection: After treatment, the Bee Inspector should complete Part I of form BDC8(S) requiring a continuation of the Standstill until cleared by a follow up inspection.

In the eighth week after treatment, the Bee Inspector should inspect the treated colonies to assess the effectiveness of the treatment and to confirm that no honey from treated hives has been harvested in the period since treatment. If it is too late in the season to open hives safely, the eighth week inspection should be held over until the spring.

Lifting of Standstill: If clear at re-inspection, the standstill notice can be lifted. The Bee Inspector should complete Part II of form BDC8(S) and note the beekeeper's record card; the beekeeper can then harvest honey.

Follow up inspection of contact colonies: Contact colonies which have or have not been treated should also be subjected to post-treatment inspection in the eighth week after treatment. If infection still exists, infected colonies previously treated should be destroyed, the above procedures repeated, and the Standstill Notice remains for a further six weeks before re-inspection of contact colonies.

Procedure Where Destruction Agreed –EFB, heavy infection. Serving Destruction Notice: If the infection is serious, the Bee Inspector should serve a destruction notice BDC2(S) on the beekeeper requiring the destruction by fire of bees, combs (including any containing honey), and quilts from the hive.

Destruction of Colonies: After a destruction notice has been issued to a beekeeper, destruction should be carried out by him, or his duly authorised agent, in the presence of the Bee Inspector as soon as possible; this should normally be no more than 10 days after the notice has been issued.

Destruction of equipment: As with AFB, hives and appliances will either be destroyed, scorched or irradiated.

After destruction of the colony, the Bee Inspector should complete form BDC9(S) and note the beekeeper's record card.

Follow up Inspection after Destruction: The Bee Inspector should arrange a post-destruction inspection of contact hives not less than six weeks after destruction. If it is too late in the season to open hives safely, the follow up inspections should be postponed until spring.

Spring Follow-up Inspections -**for EFB only**. In apiaries where action has been taken to control EFB - destruction or treatment, all contact colonies should be inspected again at the beginning of the next season. If infection still exists, the above procedures are repeated.

Default by Beekeeper: In the event of the beekeeper defaulting on specified actions, the Order authorises Bee Inspectors to take the required actions.

Licensing for Foul Brood

To Allow Movement or Removal during Standstill. An owner or person in charge of colonies may apply in writing to the Bee Inspector for a licence permitting the movement or removal of specified items from premises on which a standstill order has been placed because of EFB.

Movement of Contact Colonies. Prior to the destruction or treatment of EFB infected colonies, contact colonies may be moved to an approved site, under a licence issued by the Bee Inspector. A new standstill notice will be issued for the new site.

Removal of honey before destruction or treatment: Licences, to permit the removal of honey from apiaries where infected colonies will be destroyed or treated, can be issued only with the agreement of the Branch, and subject to the condition that the honey can be used only for human consumption, and must not be fed to bees.
Removal of honey after treatment: Licences will not be issued for the removal of honey from treated colonies, or from their contact colonies until the eight week standstill period has elapsed and the certificate of post treatment inspection ie Form BDC8(S), stating that no honey has been harvested from the treated hives, has been issued.

Removal of colonies and equipment: If exceptional circumstances such as the death of the owner, make the removal of colonies of bees and equipment imperative, a special inspection should be made. The details necessary to complete the licence must be ascertained; any licence granted should stipulate conditions along the following lines:-

- that the hives etc., shall be removed from the premises subject to the Standstill Order, only for the purpose of transfer to the new premises specified on the Schedule to the Licence;

- that after removal to the specified premises, the hives etc., shall remain there and not be further removed until a new licence to do so be granted or until the original Standstill Order expired (or would have expired);

- that the removal of the hives etc., shall take place only in accordance with the terms of the schedule.

Notification of removal to another area: If the site to which the hives are being moved is in another area, the Bee Inspector in that Area should be notified and informed whether any of the hives have recently been or are due to be given antibiotic treatment. If the intended site is in England or Wales, this information should be sent to Defra, Plant Health Division, Foss House, 1-2 Peasholme Green, York YO1 7PX or the Welsh Assembly, Animal Health Division, Cathays Park, Cardiff CF1 3NQ as appropriate.

Exemptions from Provisions of Order: The appropriate Minister may by licence, exempt educational or research establishments from the provisions of the Order.

TREATMENT OF EUROPEAN FOUL BROOD (EFB) WITH ANTIBIOTIC - INFECTED & CONTACT COLONIES

Treatment is to be administered only by a Bee Inspector. Beekeepers are not permitted to obtain or administer oxytetracycline (trade name terramycin).

Materials required for treatment:

Phials of terramycin, containing 1 g oxytetracycline
One 1 lb honey jar with coarsely perforated lid
A wooden stirring rod
Small quantity of water to liquefy terramycin
Thick sugar syrup (2lb sugar dissolved in one pint water)

Preparation of treatment syrup.

Empty the contents of phial into the llb honey jar.
Add approx 3 teaspoonfuls water, and swirl to mix.
Add sugar syrup to fill the honey jar, stirring all the while to mix the antibiotic thoroughly with the syrup
Screw on the perforated lid.

Application:

Treatment of small colonies – 5 frames or fewer:

The mix, as prepared above, is sufficient for two small colonies. Lay an empty, drawn comb, on its side, on a horizontal surface. Sprinkle one half only of the contents of the honey jar, over the exposed side. So hang the comb, now containing treated syrup, in the hive, that a comb containing either stores or unmedicated syrup, separates it from the cluster. If the comb with stores is sealed, the cappings should be bruised.

Treatment of larger colonies - 6 frames or more:

Standard method : Remove the crown board, and any supers and or crown board and close down the hive. Sprinkle the whole of the contents of the honey jar over the bees and the top-bars of the brood chamber. If necessary to prevent syrup from trickling out of the hive entrance, tip up the hive at the front for a few minutes. Replace the crown board, supers and or crown board and close down the hive.

Alternative method, especially useful in cold weather, or when there is a high proportion of unsealed brood in the colony : Remove one or two, but not more than two, unoccupied combs from the edges of the brood box and lay them on a horizontal surface. Sprinkle the whole of the contents of the honey jar into the cells on the exposed side of the comb taken. The treated combs should be rehung in the hive, so that they are separated from the cluster by a comb

containing either stores or unmedicated syrup. If this is not possible, the treated comb should be placed, sugar side outwards, on the flanks of the brood box. any treated syrup remaining in the honey jar, should be sprinkled over the top bars, away from the combs of unsealed brood. The supers and or crown board should then be replaced and the hive closed down.

Subsequent feeding : Advise the beekeeper to give the treated colonies a contact feeder, containing up to 5 pints of sugar syrup, on the evening of the treatment day. This will help to distribute treated syrup evenly throughout the hive. Standard precautions should be taken to prevent robbing.

Varroasis

Varroa was found in the south of England in April 1992 and spread steadily throughout the country until it finally crossed the Scottish Border and was found at Canonbie in 1997. Isolated instances of varroa had been identified in Scotland prior to this as isolated illegal movements of bees. Varroa has spread steadily to most parts of Scotland although there are still discrete areas clear of the disease.

Varroasis ceased to be a notifiable disease under The Bee Diseases and Pests Control (Scotland) Order 2007 which revoked the Bee Diseases Control Order 1982.

Laboratory diagnosis. Preferably, samples of hive debris should be obtained on "Fablon" inserts in combination with the Bayvarol strip method, as these can be easily examined under a microscope.

Method of mite extraction from scrapings of hive debris: The technique requires that a sample of debris is washed through a series of sieves of mesh size 2mm, 1.7mm and 0.71mm, using a hose with a rose attachment, fitted to the tap. Adult bees and bulky debris are separated from any mites present, which are washed into the 0.71mm sieve, together with the finer debris. Mites are separated from the finer debris by means of a simple flotation technique, using 95% alcohol. The 0.71mm sieve with the debris is set in a white container containing the alcohol which is at a depth sufficient to cover the debris in the sieve and allow the mites to float.

After a gentle stir, the debris is allowed to settle. Mites, together with Braula and the chitinous parts of bees, float to the surface, and are picked off for microscopic examination. The alcohol can be reused.

COSHH regulations require gloves, respirators, etc to be worn during processing. The use of petrol, benzedrine etc as substitutes for alcohol is not recommended, as these substances are dangerous to health.

Interpretation of results: There is a rough correlation between the number of mites found and the total number of mites present in a colony e.g. 40 to 50 mites in an insert sample would indicate a colony population of about 1000 mites.

Materials for Bayvarol strip detection to obtain mite samples for diagnosis

Materials required:

Bayvarol OR Apistan strips, (4 strips of Bayvarol or 2 strips of Apistan per brood chamber) and a drone uncapping fork
"Fablon" and plastic mesh glasshouse shading cut to size (the preferred type of insert). Decorator's lining paper is an alternative material which can be used as inserts.

Sellotape for sealing greaseproof paper bags
Marker pens to identify samples
BDC(S)6 forms and questionnaires to accompany samples
Smoker, newspaper, matches and protective clothing.

Method for Bayvarol strip detection: Follow instructions on the packet

Varroa Monitoring By Beekeepers

Beekeepers should be encouraged to check their colonies regularly for infestation, by sending "insert" samples directly to SASA at Roddinglaw. The experience of other countries has been that, the sooner the initial infestations are found, the greater the chance of operating a successful control.

Preferred Monitoring Technique: Bayvarol strips used in conjunction with the drone brood uncapping method is the most effective method available for varroa detection at present in the UK.

Bayer states that "Best efficacy is to be expected when Bayvarol strips are used in late summer, after the honey harvest. Ideally they should not be used during peak honey flow periods. However they can be used at any time of the year for diagnosis, or treatment of severe infestations where there is a threat to the survival of the colony". There is less debris, and when used with "Fablon" inserts with plastic mesh overlay, even live mites falling onto it are trapped on the sticky surface, making it more efficient and easier to spot any mites present. For diagnostic purposes in the laboratory, this method provides the best sample.

Preferred times spring and autumn: To ensure that all mites are exposed to Bayvarol and are not protected inside sealed brood cells, detection is best done in March and at the end of the season when there is little or no brood in the colony. Detection using Bayvarol can be done at any time.

Use of inserts :"Inserts" are made of one of the following three types of material: flat sheets of light coloured paper, cardboard, or "Fablon" with the backing paper removed (and retained) and replaced and supported by 3mm mesh plastic glasshouse shading.

Inserts are cut to the size required to cover the floor area of the hive. "Fablon" with 3mm mesh plastic glasshouse shading attached is the preferred type of insert. Any mites, whether dead or alive, falling onto it will be trapped on the sticky surface.

Inserts of decorators' lining paper or cardboard should be put into the hive dry as, when coated with lard, they are very difficult to process and examine in the laboratory. Inserts can be effective on their own, but they are much more efficient when combined with Bayvarol.

Summer Inserts : Summer inserts are more efficient than winter inserts. In mid to late July, a paper insert, protected with a 3mm plastic or metal mesh screen

is placed on the hive floor. The mesh screen prevents the bees removing mites and debris and chewing the insert. The insert is left in position for 6 weeks. As, at this time of year, bees tend to carry mites in larger numbers, the chances of catching those mites that die naturally and fall to the floor, are increased.

Winter Debris: Scrape hive floor from each colony in the apiary during the spring inspection. Dry samples and sieve through 2 - 3 mm mesh to remove coarse material. Mix remainder in alcohol or methylated spirit (1 debris:4 alcohol by volume) and examine the surface for floating mites when the dross has settled. This technique will not detect small to moderate levels of infestation, which require specialist extraction methods. It is therefore preferable to send samples to SASA for examination.

Link to CSL website

http://beebase.csl.gov.uk/index.cfm

Flow chart of how various bodies associated with beekeeping fit in with each other

To be added to site later

Glossary of terms and acronyms

Super	Chamber of bee hive from which the queen is excluded to prevent her laying eggs in the “honey” department
Brood chamber	Chamber of a bee hive where the queen lays her eggs
Queen	Fertilised female bee
Drone	Male bee
Worker	Unfertilised female bee
SASA	Science and Advice for Scottish Agriculture
SGRPID	Scottish Government Rural Payments and Inspections Directorate
AFB	American Foul Brood
EFB	European Foul Brood
Approved Laboratory	SASA
Bee Inspector	Person authorised under the Bee Diseases Acts
AH	Animal Health Branch (of Scottish Government Rural Directorate)
COSHH	Control of Substance Hazardous to Health
CSL	Central Science Laboratory
CVO	Chief Veterinary Officer
DEFRA	Department for Environment, Food and Rural Affairs
DEPC	Welsh Assembly Government Department for Environment, Planning and Countryside (DEPC)
EC	European Commission
EU	European Union
FSA	Food Standards Agency
GSL	General Sales List
NBU	National Bee Unit
OIE	Office International des Epizooties (World Organisation for Animal Health)
PHD	Plant Health Division
POM	Prescription Only Medicines
PML	Pharmacy and Merchants List
SBKA	Scottish Beekeepers Association
SG	Scottish Government (The Legal name, which appears in Statutory Instruments will remain as Scottish Executive.)
SGRPID	Scottish Government Rural Payments and Inspections Directorate
SGLD	Scottish Government Legal Directorate
SGRD	Scottish Government Rural Directorate

SHB	Small Hive Beetle
SIA	Statutory Infected Area
VMD	Veterinary Medicines Directorate
VLA	Veterinary Laboratories Agency
WAG	Welsh Assembly Government