

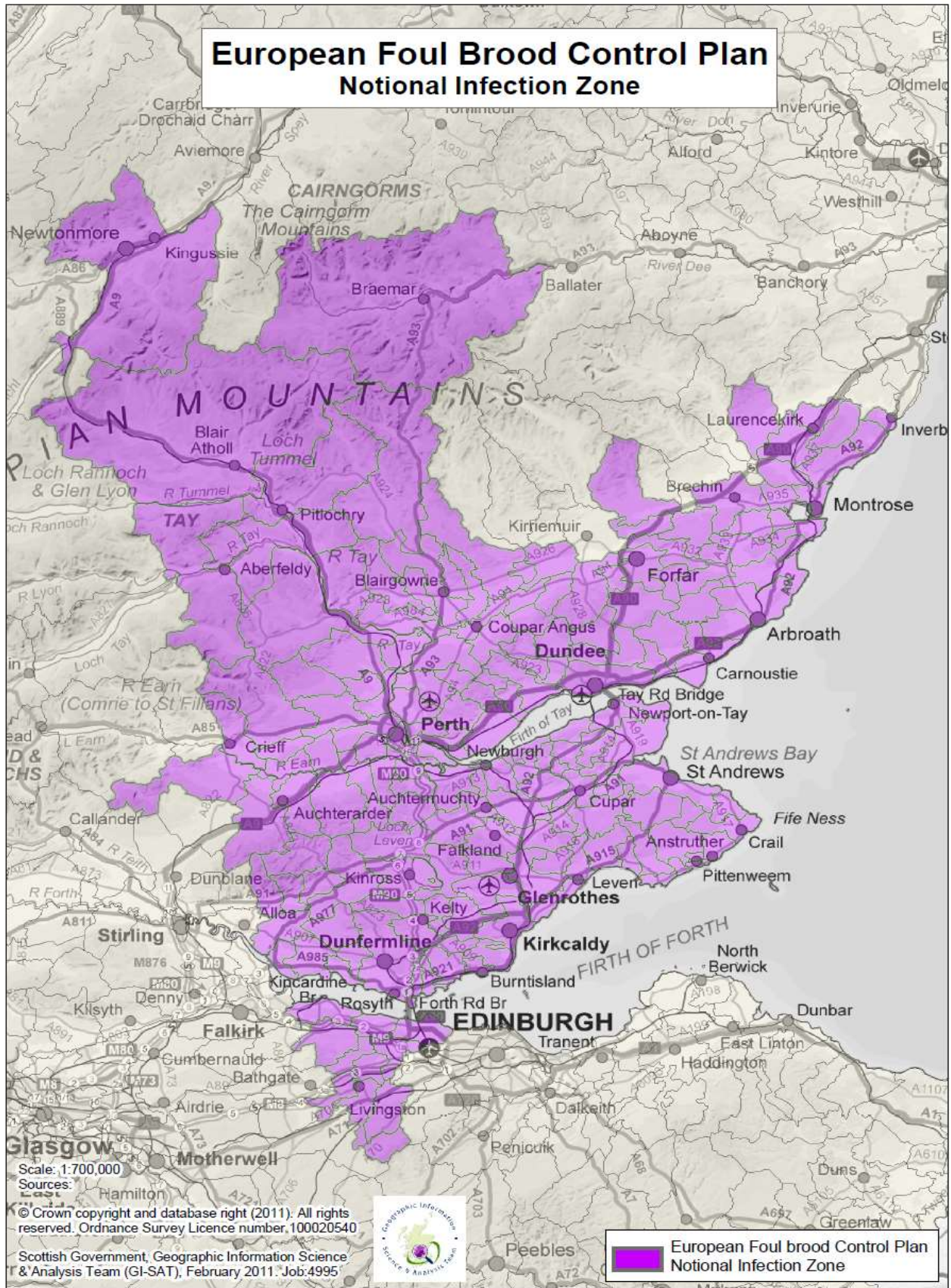
European Foulbrood Control Plan: 2020

October 2020

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The European Foulbrood Control Plan 2020 is a voluntary scheme for commercial beekeepers within the notional infection zone. The purpose is to ensure that the outbreak of EFB is contained, reduced and any further spread prevented whilst allowing movements of apiaries which are key for the viability of beekeeping businesses within the affected area.

Figure 1 European Foul Brood Control Plan: Notional Infection Zone



Introduction: The Principles of the 2020 EFB Control Plan.

- EFB control rules require that any apiary where EFB has been diagnosed is placed under movement restrictions. Restrictions can only be lifted if there is a 6 weeks post-EFB-diagnosis, clear inspection. (to allow two brood cycles)
- This plan is for the benefit of signatory beekeeping businesses within the notional infection zone. This plan allows the movement of apiaries with the purpose of ensuring their viability and economic survival.
- Beekeeping plays an indispensable role in the survival of honey bees in Scotland where there are very few feral or wild colonies remaining. In Scotland there are around 25 commercial bee farmers whose businesses depend on the management of healthy honey bees, around 1,400 bee hobbyists who are members of the Scottish Beekeepers Association (SBA) and an estimated further 1,000 hobbyists who are not. Bee farming businesses in Scotland are generally small to medium sized enterprises, the value of their honey production varies from year to year but collectively it averages several million pounds per annum, in addition these businesses are important locally as employers.
- Healthy thriving bee colonies are also important to soft fruit and arable farmers as crop pollinators, and although it is difficult to put a definitive economic value on this, using the methodology of the National Audit Office (NAO) it was estimated to be worth around £12m in 2009 . Other estimates, including a wider range of crops, put this figure at £17m. The contribution of honey bees to pollination of Scotland's flora should also be recognised but its value is difficult to estimate.
- Scottish beekeeping businesses rely on the frequent movement of hives and apiaries to seasonal crops, heather crops being the main financial income. SG understands that for some of these infected businesses, inability to move apiaries under EFB restriction might result on financial loses which would deem their businesses no longer viable. It might also represent a welfare issue for bees in affected apiaries as survival at certain locations might not be possible at certain times of the year (i.e. Heather moors in winter).
- EFB control restrictions on movements would pose a significant impact into these benefits to the Scottish economy and environment.
- However, there is a risk that by allowing these moves disease is spread to other businesses and hobbyist beekeepers. This plan minimises and reduces the risk of spread of EFB due to movement of hives by implementing strict control, health management and biosecurity measures. Failure to adhere to these measures would pose a risk to other business and beekeepers and SG would not be able to further support the plan.
- To benefit from this plan, businesses will need to fully comply with the requirements and measures stated. Failure to do so will result in the immediate cancellation of their membership to the plan or the complete cancellation of the plan for all businesses, returning to strictly enforced movement restrictions on apiaries infected with EFB until clear inspections are completed. This is necessary in order to protect all other Scottish businesses, hobbyist and wild bee populations.

Disease Prevention and Control Measures – Legislation

The Bees Act 1980 empowers Ministers to make Orders to control diseases and pests affecting honeybees, and provides powers of entry for authorised persons (to carry out necessary surveillance, inspection and certification requirements). **The Bee Diseases and Pests Control (Scotland) Order 2007 (as amended)** requires beekeepers (and others) to notify the Scottish Ministers of the suspicion of the presence of a notifiable disease or pest, and provides powers for control such as destruction, treatment and prevention of movement of infected hives.

Summary of EFB Control Plan Actions and Notifications

- Certification: at least 1 member per business. Revalidation every 3 years.
- Registration on Beebase and notification of all active apiaries and location of colonies to the Bees_mailbox@gov.scot
- Participating businesses agree to operate within the notional infection zone.
- Minimum of two health inspections to all colonies each season reported to the bee inspectorate.
- All apiaries which are to be moved must have a health inspection a maximum of 12 days prior to the move to ensure freedom of EFB.
- 100% of colonies from each apiary inspected at each inspection.
 - If no foulbrood found: Notify bees_mailbox@gov.scot using self-inspection form, or notify in a single notification using template on Annex II of all clear inspections once all movements are completed.
 - If foulbrood signs suspected: take samples from each infected colony and send to SASA using self-inspection form (Annex I)
- If positive EFB results received the apiary will be placed under movement restrictions.
 - Infected colonies:
 - If heavily infected: destroyed within 3 days of receiving results.
 - If low levels of infection:
 - Based on our experience, we recommend destruction.
 - Option to move to quarantine apiary and do shook swarm.
 - Remaining colonies on apiary: Recommendation to be shook swarmed.
 - The apiary must remain as a single unit and under no circumstances must be mixed with other apiaries until a clear 6 weeks follow up inspection has been completed. The Apiary is under restriction, the EFB control plan allows for it to be moved within the infection zone as an unit, not to be split or mixed with other apiaries.
 - Beekeepers must notify on their self-inspection form their chosen management method if the sampled colonies are positive.

- If the inspection and samples are taken by the bee inspectors, the beekeeper must notify the bees_mailbox@gov.scot of their method of control upon receipt of results.
- Infected apiaries will be under movement restriction until there is a clear inspection no sooner than 6 weeks after the diagnosis of EFB.
- All infected apiaries must receive a health inspection between 6 and 10 weeks after the infected colonies were either destroyed or moved to a quarantine apiary. 100% of the colonies must be inspected on apiaries under restriction.
 - If negative results: notify the bees_mailbox@gov.scot using the self-notification form. Restrictions will be lifted.
 - If further samples are required, send samples to SASA using the self-notification form.
 - If the results of these samples are negative: The bee inspectorate team will receive the results from SASA and lift restrictions.
 - If the results are positive the bee farmer will be notified and must take action on the infected colonies within 3 days. The apiary will continue under restriction until a clear inspection is completed no sooner than 6 weeks after the removal of the infected colonies.
- Movement of apiaries under restriction: The main purpose of this plan is to allow the movement of these apiaries. Strict conditions must be observed:
 - All infected colonies must have been either destroyed or moved to a quarantine apiary.
 - All remaining colonies must have been inspected and found clear of infection.
 - The apiary must be treated as a single unit and not mixed with any other apiary until a clear 6 weeks follow up has been completed.
 - If the movement is to happen prior to the 6 weeks post removal of infected colonies: the apiary must be inspected at the new location as soon as practical once the 6 weeks period has elapsed.
 - If the movement is to happen after at least 6 weeks have elapsed since the removal of infected colonies, the apiary should be re-inspected prior to the move:
 - If clear results: report clear inspection to bees_mailbox@gov.scot and restrictions will be lifted.
 - If suspect EFB: take samples, send to SASA with self-certification form and do not move apiary until results received or move only clear colonies, moving suspected colonies to a quarantine apiary.
 - Any movement of apiaries under restriction must be notified to the Bees_mailbox@gov.scot stating:

- Current location
 - Proposed destination location (can be done once move completed)
- All apiary movements must be notified to the Bees_mailbox@gov.scot . A template for notification is included as an annex II on this plan. It has been agreed that this notification can be done once all movements are concluded. The notification must include:
- Number of colonies in the apiary
 - Number of colonies inspected prior to the move.
 - Previous and current location.
 - If the apiary was under restriction
- All signatory businesses to this plan must keep records of any sale of nucs and any medicinal treatment given to their colonies for a minimum of 5 years.
- All participating businesses must adhere to strict bio-security standards.
- All participating businesses must adhere to excellent health and management standards of their colonies with special emphasis on swarm control.
- Bee inspectors will carry out quality assurance checks as:
- Action taken on positive colonies within 3 days.
 - Quality of inspections of apiaries prior to movements.
 - Bio-security.
 - Records checks of movements, notifications and self-inspection.
- The Lead Bee Inspector has the right to cancel the membership of any participating business if there is evidence that the business repeatedly and knowingly fails to adhere to the conditions of the plan.

Figure 2 Inspection and Notification Flowchart

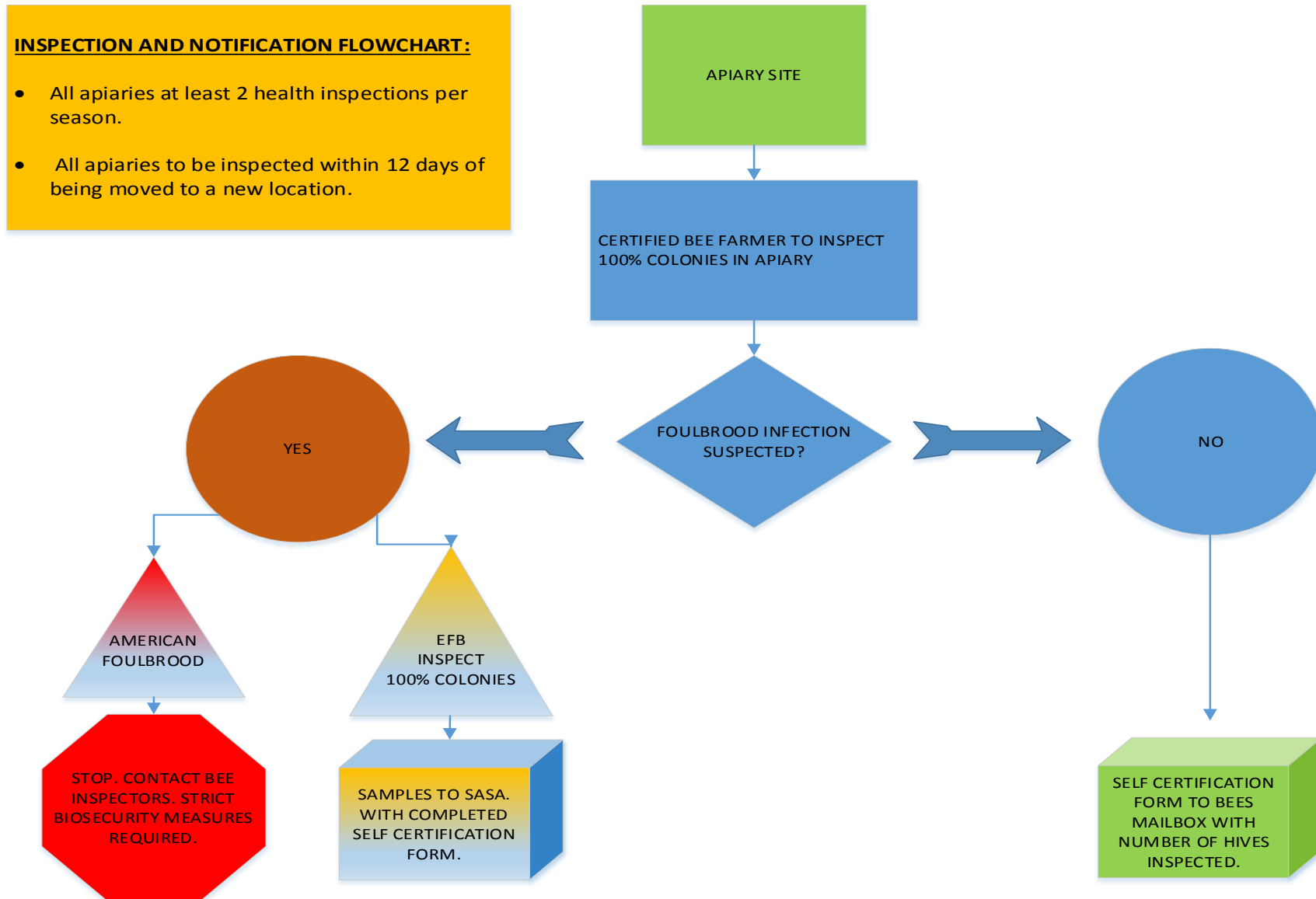
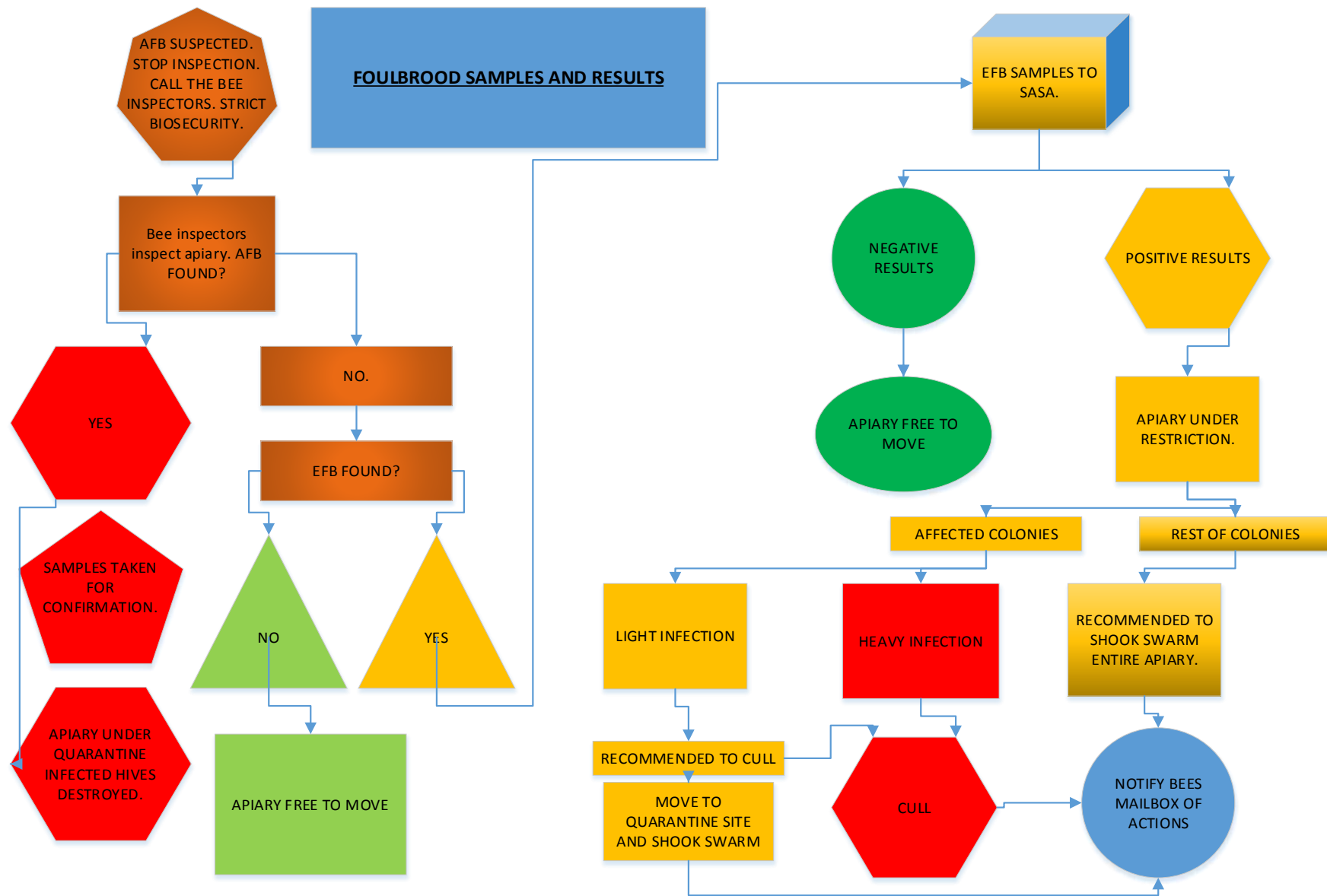


Figure 3 Foul Brood Samples and Results



Extended EFB Control Plan 2020.

Requirements and control measures:

Certification:

Businesses wishing to benefit from the Plan will be required to have at least 1 individual who attends and achieves satisfactory competence at an official accreditation event. This event will be organised yearly by the Bee Health Improvement Team (BHIT) in consultation with the BFA and the BHIP.

- In order to achieve certification candidates will be required to demonstrate:
- Sufficient knowledge on various aspects of EFB including biology, identification and treatment.
- Understanding of the scheme requirements: reporting and bio-security.

Certification will be valid for a period of 3 years after which revalidation is required.

Businesses must ensure that they have a sufficient number of accredited beekeepers proportional to the size of their operations at all times. The Lead Bee Inspector (LBI) may require large businesses to have a proportional number of accredited staff prior to being accepted into the plan.

SG will hold a list of accredited beekeepers and their renewal date. This information will solely be held for as long as businesses wish to be part of the scheme.

Required actions and notifications:

Participating businesses wishing to sign to the plan must notify the SG of movement of hives or apiaries within their businesses, health inspections and actions taken on positive colonies.

Notifications must be made to the Bees Mailbox and not to individuals within the Bee Health Team. Bees_mailbox@gov.scot

Signing the plan, agreement of operation within traditional areas within the infected zone and agreement on location of quarantine apiaries.

Signing the plan immediately signifies agreement to restrict operations within the traditional areas used by each business.

Quarantine apiaries must be agreed with LBI to ensure sufficient distance from any other known beekeepers or external apiaries.

Notifications in January of each year all businesses must notify Scottish Government of:

- Number and location of apiaries (winter sites) and the number of hives at each apiary.
- If any of these apiaries are still under restriction from the previous season as a clear inspection was not possible. (A positive EFB was diagnosed and a 6 weeks clear follow up was not achieved.)

- Any quarantine apiaries, location and number of hives at each of these locations.
- Notifications after each move all businesses must notify the bees_mailbox@gov.scot detailing:
- Clean Apiaries: Self-inspected within 12 days prior to the move. Notification to bees_mailbox@gov.scot of self-inspection, initial location and final destination of apiary.
 - Apiaries under standstill: Legally, apiaries under EFB restrictions cannot be moved without a movement licence. The purpose of this plan is to allow these moves under strict conditions.
 - Businesses signed to the plan operating solely within their traditional areas within the defined notional infected zone.
 - All infected colonies to have been either destroyed or moved to a quarantine apiary prior to the move.
 - Notification of movements to bees_mailbox@gov.scot facilitating SG to manage restrictions.
 - Strict program of re-inspection of infected apiaries by certified farmers carrying out self-inspections no sooner than 6 weeks after the removal of infected colonies.
 - No movements of apiaries under restriction is allowed unless there has been a health inspection of all colonies at least 6 weeks prior to the move. (or what is the same, the re-inspection is not overdue)
- Notifications after a positive diagnosis of EFB in one or more colonies:
- Samples will be sent to SASA by certified beekeepers completing self-inspections or SG bee inspectors carrying out statutory inspections.
 - SASA will notify the bees_mailbox@gov.scot of the test results.
 - The bee inspectorate will notify in turn, the business or beekeeper upon SASA's positive diagnosis of EFB on samples sent. Upon receipt of a positive diagnosis for a hive, businesses are required to:
 - take action on positive colonies **within 3 days of receipt of results (see below possible options for positive colonies)** and
 - To notify SG of their actions and control method chosen for the infected hives and any honey supers, **within 10 days of receipt of the positive diagnosis.**
- The following options are available to businesses depending on the time of the year, colony strength and level of infection*:
- Heavily* infected colonies must be humanely destroyed within 3 days of notification of results and all hive parts cleansed and disinfected avoiding robbing. Please see NBU guidance on Hive cleansing and disinfection guidance: <http://www.nationalbeeunit.com/downloadDocument.cfm?id=423>

- Colonies with light* infection levels can be:
 - Humanely destroyed. Destruction of hives should also be considered when the level of infection or colony strength is considered unviable to successfully complete a shook swarm.
 - **Moved to a quarantine apiary**, where they can be shook swarmed or kept until the following season when shook swarming is possible. (shook swarm on the quarantine apiary should be performed at least after 3 days of good flying weather to allow the bees to orientate and avoid drifting)
 - **Hives from quarantine apiaries are not allowed to be moved unless they have undergone a satisfactory inspection from a bee inspector 6 weeks after the last infected colony entered the apiary. IMPORTANT.** (Bee farmers will need to liaise with the LBI for the inspection of these apiaries and good records will be necessary. All hives should be marked and traceable to their apiaries of origin and the date they moved into the quarantine apiary)
 - Good records for quarantine apiaries are strictly necessary detailing the provenance of each colony, the entry date and the date that the shook swarm took place.
 - Movement of colonies to quarantine apiaries must be notified to bees_mailbox@gov.scot .
 - Shook swarmed in the apiary: Only after discussion and in agreement with the LBI.

Honey frames from EFB infected colonies can be used for human consumption, but extreme care must be used on the extraction method to avoid cross contamination of equipment, other frames or hives. If extraction is required, crushing should be considered.

Frames with nectar or unripe honey must not be given to other hives due to the risk of spreading disease.

“Level of infection” in the colony: In the light of our experience in recent years of dealing with EFB, clearly an infection over more than 10% of brood is considered to be heavily infected and the recommended action is to cull. Any hope of recovery from a situation as heavily infected as this, whilst possible, will be long term and with no guarantee of eventual success.

Consideration must be given to neighbouring beekeepers and the strenuous efforts which have been taken to reduce infections to the current low levels. We now consider 2 or 3 cells in more than one frame to be questionable as to full long term recovery potential. Therefore we are strongly recommending culling as the best control method.

Notification of Health Inspections:

- No movement of apiaries is allowed unless they have received a health inspection with special emphasis on the detection of EFB within 12 days prior to the movement taking place.
- For non-infected apiaries, not under restriction, businesses must inspect 100% of colonies. If no signs of disease are observed the apiary can be moved. Notification of clear self-inspection must be made to bees_mailbox@scot.gov using the self-certification form.

If disease is suspected, samples must be taken of suspect larva from each infected colony and sent to SASA.

If samples are taken and sent to SASA for diagnosis, no further notification is required to SG as SASA will report all test results directly to the SG for actioning.

- Apiaries under restrictions can only be moved if:
 - a) All infected colonies have been destroyed or removed to a quarantine apiary.
 - b) The 6 weeks inspection follow up is not overdue.
- The results of these inspections must be notified to SG through the bees_mailbox@gov.scot using the self-inspection form.
- Each business must notify a minimum of two health inspections per apiary* per year.

* Apiary refers to the group of colonies, not the site or location. All efforts must be made to keep apiaries as a single epidemiological group.

Notification of sale of any nucleus stock:

Participating businesses can only sell nucleus stocks if adhering to the conditions set out in Appendix II: Production of nucleus stock.

SG must be notified of any nucleus (nucs) being sold by the participating businesses. This will be done by:

- a) Notification of intention of selling nucs as a business at the beginning of the year.
- b) Keeping records of sales and final destination of the sold nucs for a period of 2 years. Sales records to SG to be sent once a year at the end of the season, or upon request.

Any buyer must be made aware of the conditions of the nucleus scheme, including that the data will be shared with SG, and that they must comply with the requirements, for example, not moving the purchased nucleus for a period of 1 year.

Health inspections:

Accredited beekeepers are authorised to carry out their own health inspections, including sampling if disease is suspected during inspection.

A minimum of two health inspections a year, per apiary, are required; and in all cases prior to any movement colonies must be inspected within 12 days prior to the move. **(All colonies within the apiary must be inspected. This is a change from previous EFB plans where for non-infected apiaries only 20% were required to be infected)**

Samples from any colony suspected as having EFB must be sent to SASA for confirmation. Official confirmation of foul brood disease can only be carried out by authorised personnel at SASA. Samples should be submitted, using the materials supplied (Eppendorf sample tubes, jiffy bags and self-certification forms), for testing to:

***SASA (Bee Diseases)
FREEPOST EH39
Roddinglaw Road
Edinburgh
EH12 9FJ***

If AFB is suspected, samples from the affected colony should be taken and sent to SASA, but further inspection of any other colonies should be avoided. The LBI must be contacted as soon as practical.

Ensure high levels of bio-security: leave the apiary, change suits, gloves and disinfect all equipment before attending to any other apiary. AFB is caused by a spore forming bacteria and is highly contagious. It can be easily spread by the beekeeper, materials and equipment.

Bio security conditions:

Each participating business must comply with the conditions set out in this plan and employ good husbandry practices to prevent the possible spread of infection within their business and to other beekeepers in the surrounding area.

Special emphasis must be put on good management practices to avoid swarming. Swarms represent a clear risk of disease and pest spread as well as a possible public nuisance. Swarms from potential infected apiaries represent a risk of EFB spread to adjacent beekeepers and to those providing swarm collection as a public service.

As this plan concerns the management of a serious notifiable bee disease, beekeepers signed to the plan must adhere to the strictest bio-security measures. The minimum bio-security measures required as a condition of this plan are set out in Appendix I.

Bio-security must be adhered to or businesses will be removed from the plan.

Adequate feed supplies must be made available at all times in keeping with good standards of husbandry to ensure that any stress to bees is minimised.

Failure to adhere to the conditions of the plan. Penalties.

- Certification status will be removed from any beekeeper failing to comply with the conditions of the Plan.
- Consideration of imposing financial penalties where legal framework has been breached in accordance with the Bees Diseases and Pests Control (Scotland) Order 2007.

- Flexibility of the EFB Control Plan will be withdrawn and therefore businesses will be subject to non-negotiable standstills on infected apiaries until a clear inspection has been completed by the bee inspectors a minimum of 6 weeks after the infected colonies were removed, culled or shook swarmed.
- Notwithstanding the above, serious breaches of legislation posing a threat to bee health in Scotland or public health will be referred for prosecution to the Procurator Fiscal Services. Equally misuse of medicinal products or illegal substances will be reported to the Veterinary Medicines Directorate for their attention. Food Standards Scotland will be contacted in any cases where public health might be a risk through bee hive products.

Role of SG Bee Inspectorate:

- SG Inspectors will supervise the EFB Control Plan and complete risk based spot-checks to ensure that beekeepers are adhering to the Plan conditions and will also offer relevant support. These checks can include:
- Inspection of moved apiaries certified as inspected and free of disease.
- Inspection of infected apiaries to monitor corrective action taken on infected colonies within 3 days of diagnosis.
- Document checks on self-certification forms, sampling protocols, notification of movements and actions taken on infected colonies.
- Checks on medicine records.
- If selling nucleus of bees: adherence to the protocol and inspection of records of sales.



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