

East of Scotland Beekeepers Association
6/11/2023

Beekeeping for disease prevention

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Knowledge transfer

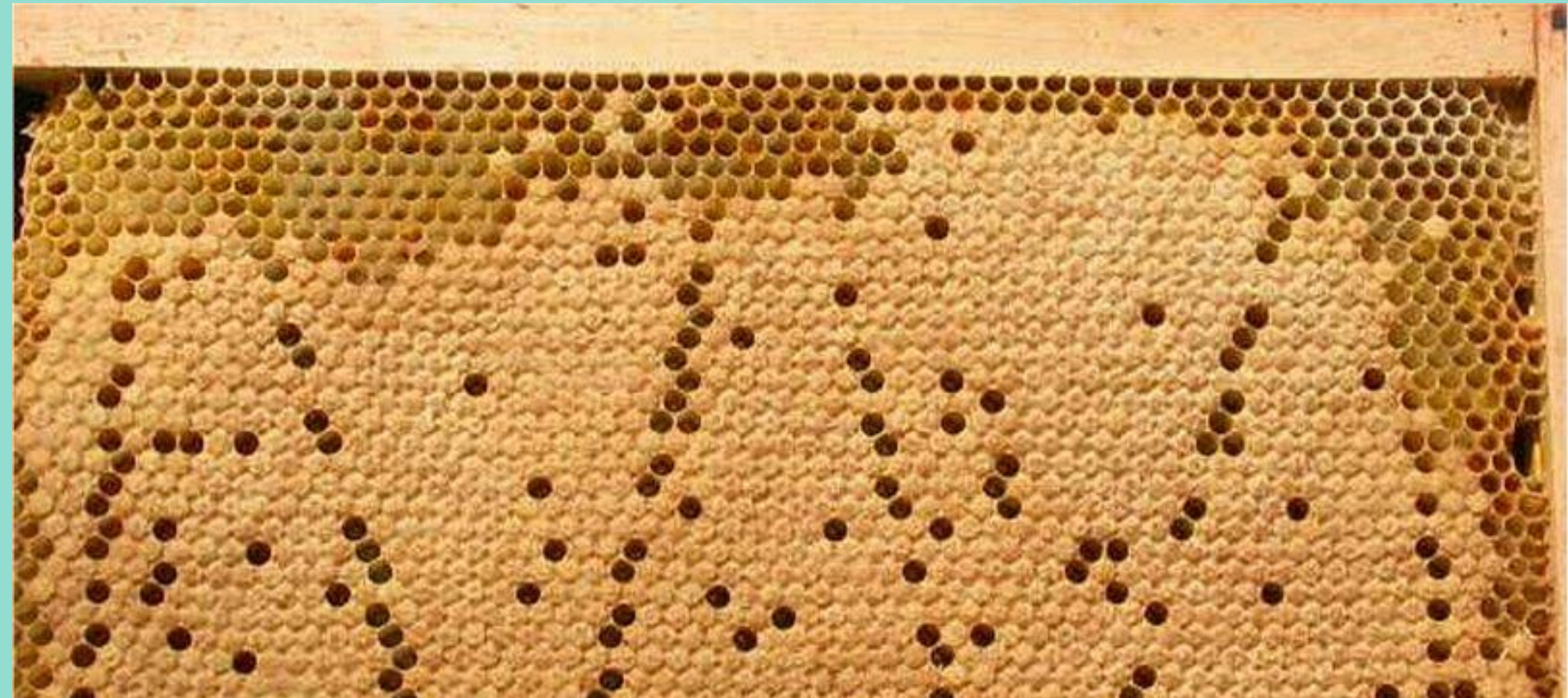


Bee Health Team 2023

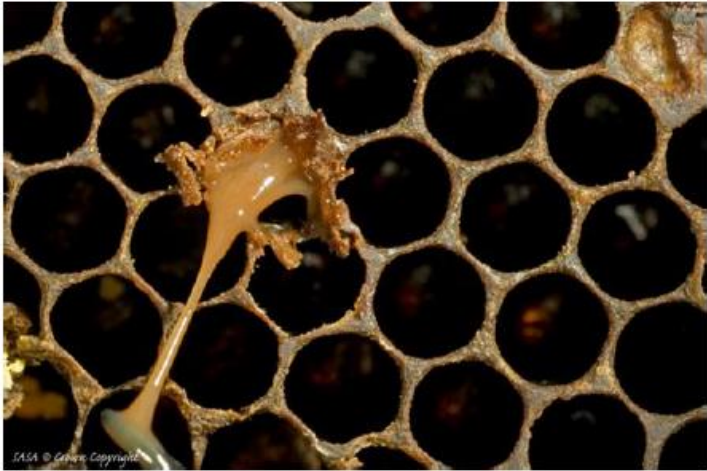
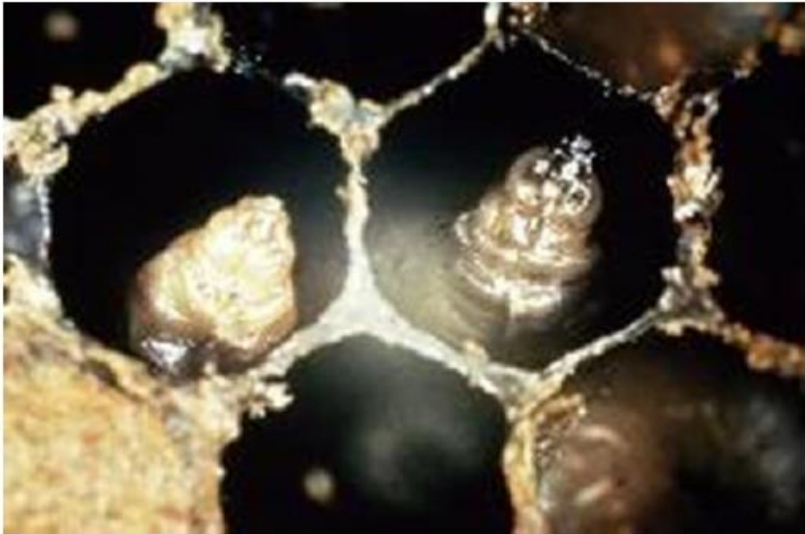




Healthy brood



Disease recognition



Diseases to watch out for



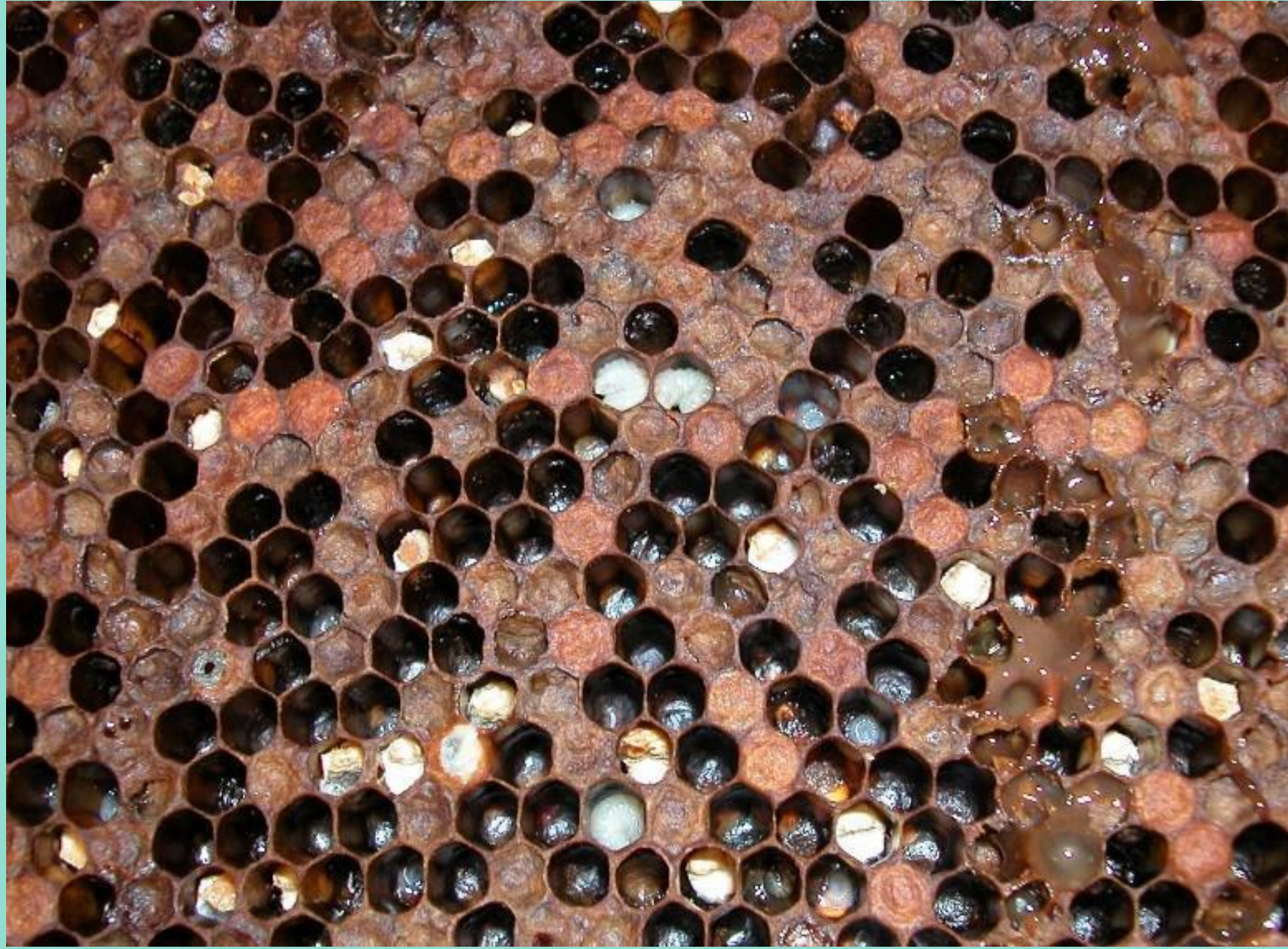
Notifiable disease

Foulbroods

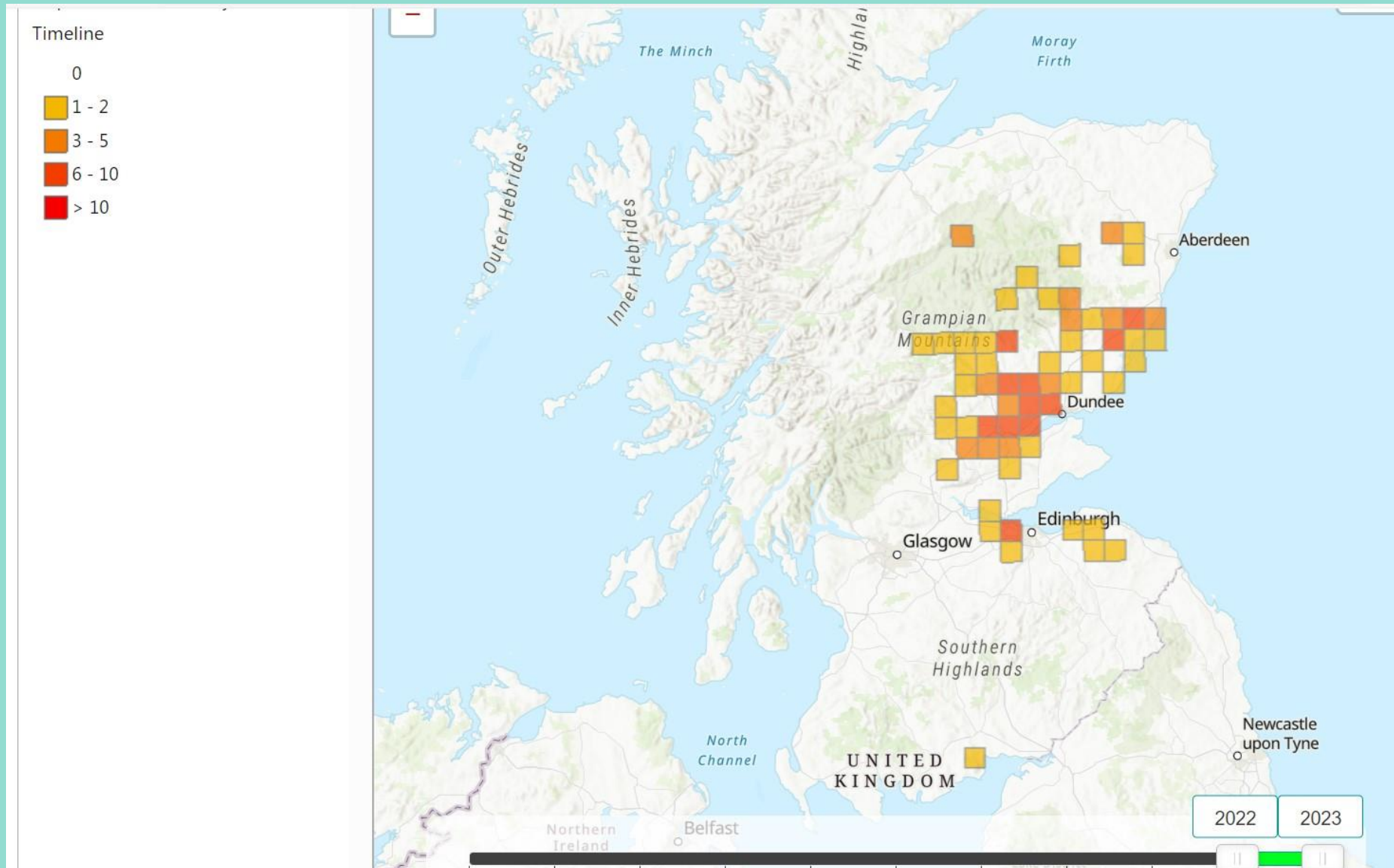
- EFB
- AFB

Others

- Nosema
- Chronic bee paralysis
- Sac brood
- Chalkbrood

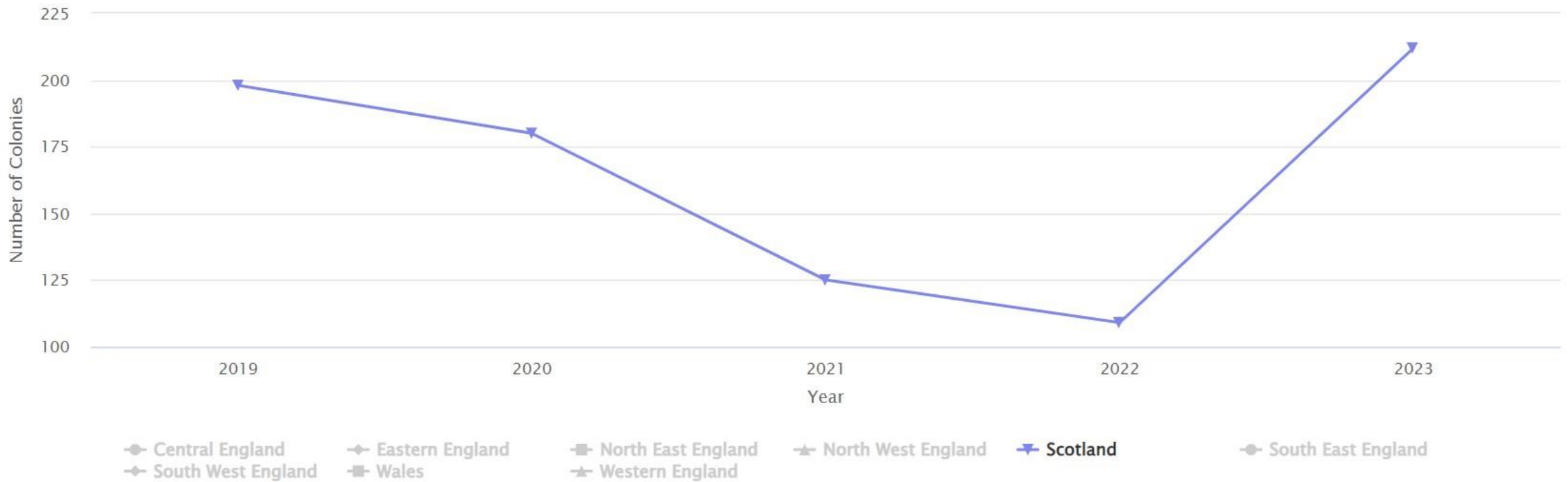


European Foulbrood in Scotland

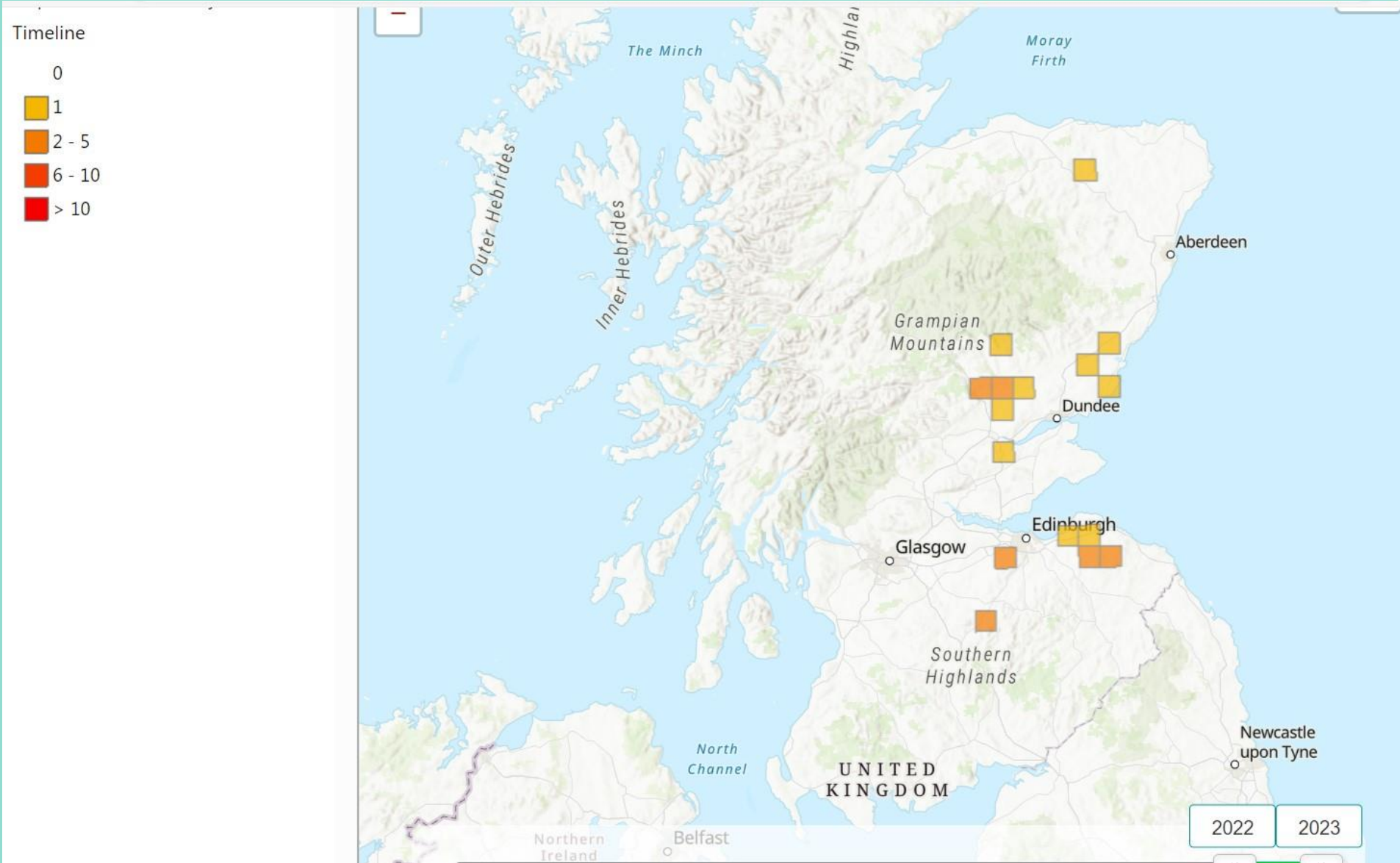


2019–2023 Beebase

Regional Trends of EFB



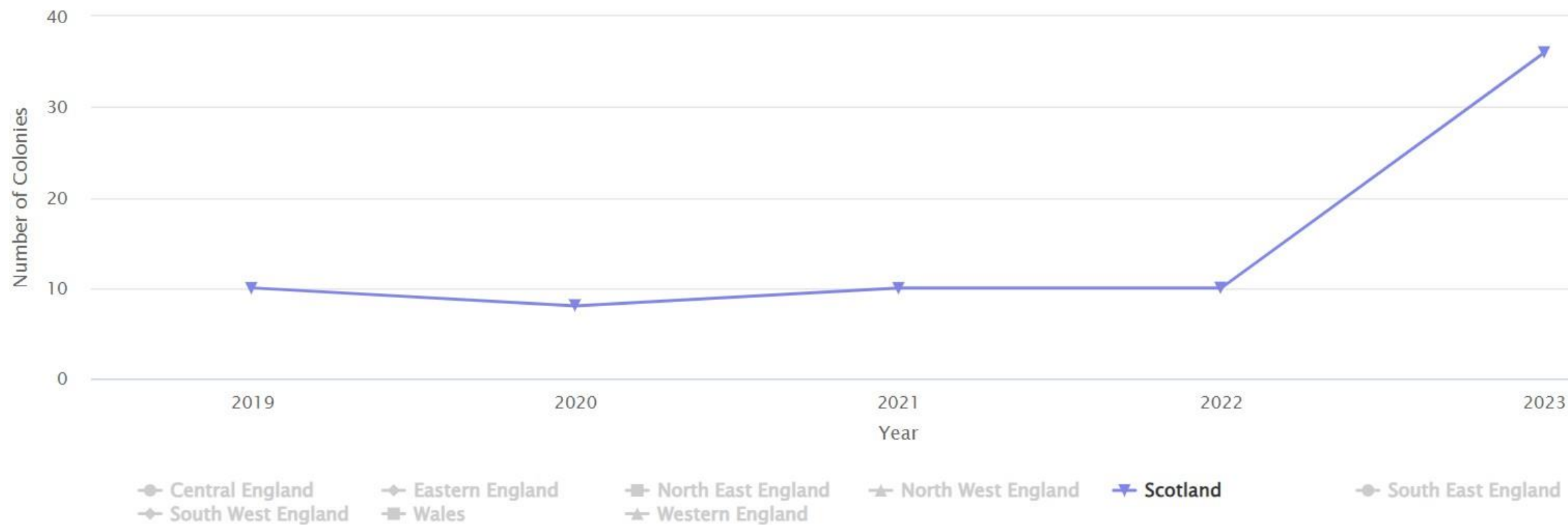
American Foulbrood in Scotland



This presentation was funded by the Scottish Government as part of its Honeybee Health Strategy

2019–2023 Beebase

Regional Trends of AFB



EFB symptoms



- Caused by *Melissococcus plutonius* bacteria
- Discoloured, yellow/creamy larvae
- Twisted in cell
- Melted, lost segmentation
- Uncapped larvae
- Foul smell in later stages

EFB characteristics



- Doesn't always kill colony
- Stress disease:
 - Lack of stores
 - Splits
 - Swarming
- Easily spread by bees:
 - Swarming
 - Robbing
 - Drifting
 - NOT by foraging in same area
- Easily spread by beekeepers:
 - Poor biosecurity
 - Moving frames
 - Extraction equipment



AFB symptoms



- Sunken, greasy cappings
- Roping
- Scale
- Perforations often at side of cell
- After cell is capped





AFB characteristics

- Always kills colonies eventually
- Not so easily spread by the bees
 - Robbing
 - Drifting
 - NOT swarming
- Most often spread by beekeeper:
 - Poor biosecurity
 - Reusing old equipment
 - Moving frames
- Only option is destruction



Inspections and notifiable diseases

Bees_mailbox@gov.scot



- **You** are our best surveillance!
- Learn how to do a full brood inspection
- Learn how to identify brood diseases
- Differentiate between common and notifiable
- At least one full brood inspection a year
- Report suspicion of disease
- Learn which ones are the notifiable pests and how to identify them

Notifiable diseases of honey bees are:

American foulbrood (AFB)



European foulbrood (EFB)



Bee disease recognition/ Apiary guides

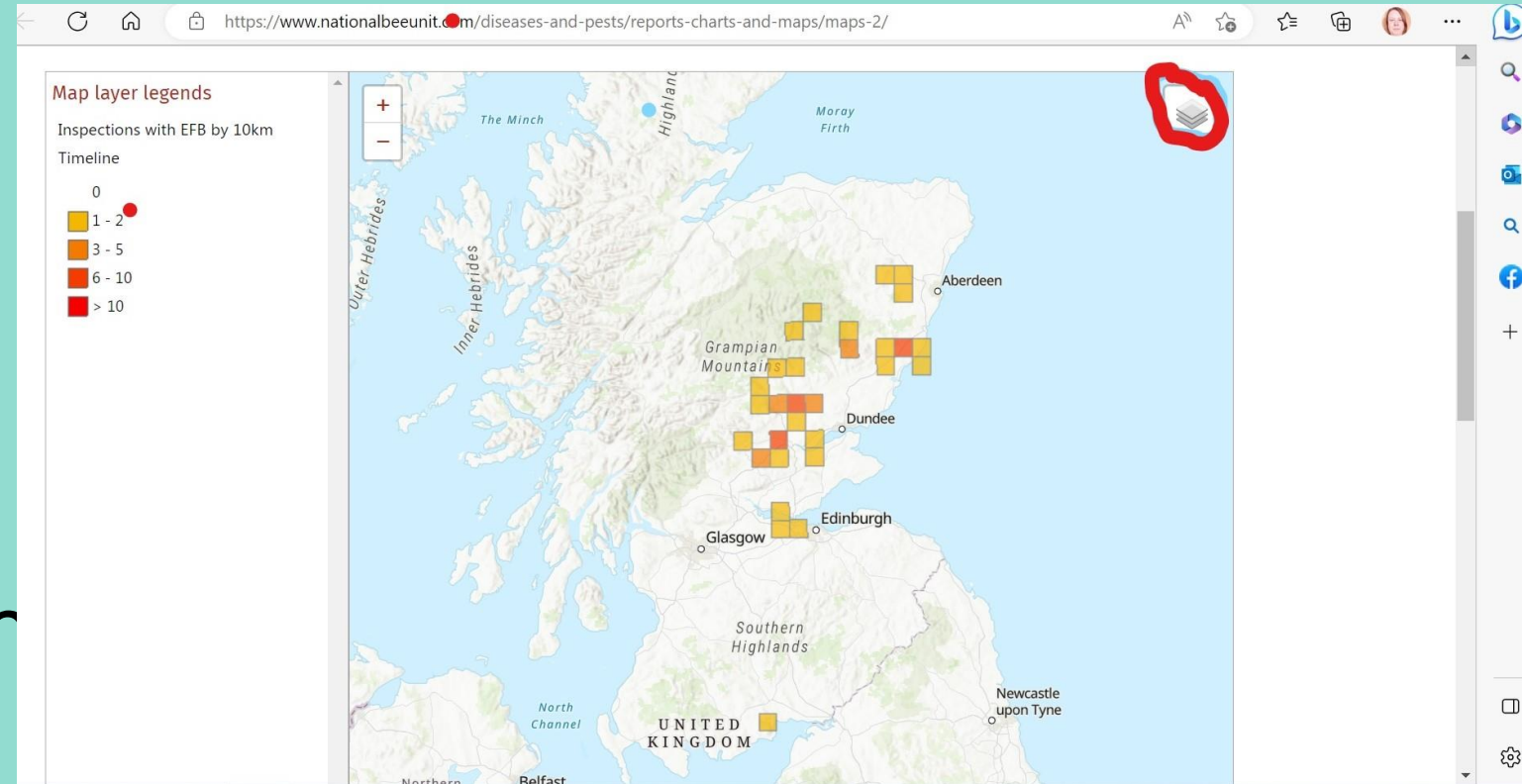


What to watch out for

Remember

- varroa
- wasps
- lack of food

Can weaken a colony
enough to make them
more susceptible to
disease



WHO DOES WHAT – AND WHEN – FOR NON-NOTIFIABLES?



BEEKEEPER

KNOW YOUR BEES
SPECIFIC HEALTH CHECKS



ASSOCIATION

EXPERTISE - ASK FOR ADVICE



SRUC ADVISOR

EXPERTISE - ADVISE ON APIARY SYMPTOMS



SASA DIAGNOSTICS

CONFIRM ROUTINE DISEASES



INSPECTORS

CHECK FOR NOTIFIABLE DISEASES

Prevention Hygiene

Disease is caused by pathogens and stress!!

- Clean bee suits and other clothing
- Clean gloves
- Clean hive tools etc.
- Clean Hive equipment
- Replace brood comb regularly



Greatest risks of introduction of Pathogens



- Transferring combs of brood
- Transferring combs of honey
- Leaving combs out to be cleaned
- Feeding honey
- Second Hand Equipment
- Buying Bees!
- Swarms of unknown origin
- ***Do it at your peril!***



Beetight equipment?



Drifting problems?



Good apiary practice

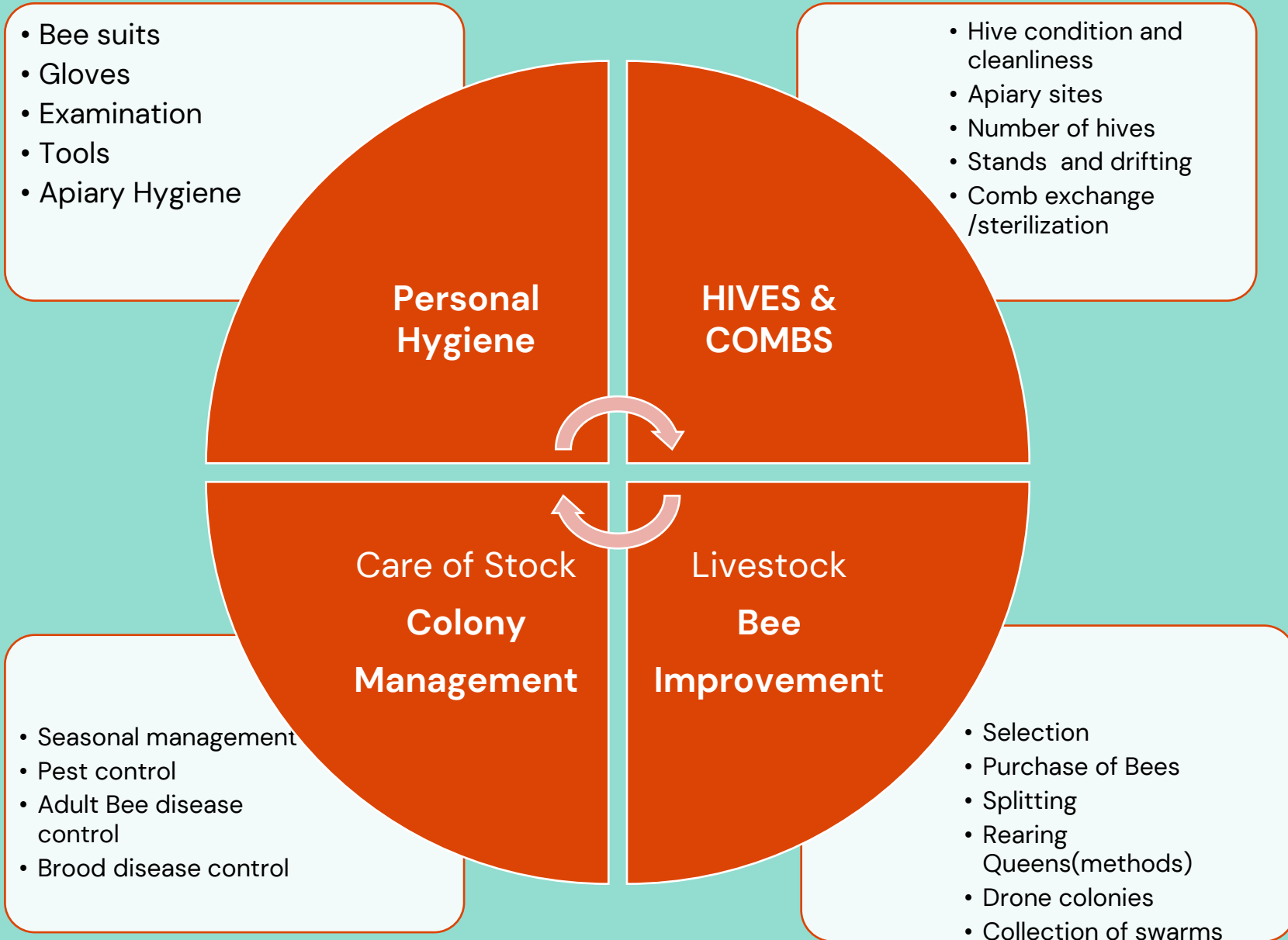
- Keep apiary clean
- Regularly clean equipment
- Hive open for minimal time
- Don't squash bees
- Quarantine swarms and bought colonies
- Sterilise drawn comb



Particularly if you use shared extraction equipment

Double clean the extractor using a soda crystal solution first, then with washing liquid, then rinsing thoroughly

Good Husbandry = Healthy Bees



Chemical sterilisation with disinfectants

- Brood boxes, supers and other beekeeping equipment can be effectively sterilised using disinfectants containing hypochlorite
- Sodium hypochlorite is present at a concentration of about 3% in household bleach
- Research has shown that immersion for twenty minutes in a solution of 0.5% sodium hypochlorite kills AFB spores and other bacteria.



Swarms

SWARM CONTROL:

Disease spread

- Feral colonies
- Responsible to collect
- Public Nuisance
- Isolate for 6 weeks
- Fresh foundation
- Inspect & treat



Legal Responsibilities of a Beekeeper



- 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
- You also have a legal obligation to follow import and export requirements and only use **authorised treatments**
- As a beekeeper, you have a **legal obligation** to:
Report any suspicion of a notifiable or reportable disease or pest within your colonies to a Honey Bee Health Inspector. Failure to do so is an **offence**
- You can report any suspicion of a notifiable disease or pest by emailing Bees_mailbox@gov.scot
- Information on how to spot these diseases and pests can be found on 'BeeBase' at www.nationalbeeunit.com/

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Legal Responsibilities of a Beekeeper



- IMPORTANT – Honey bees are a **food producing** livestock
- You must only use **VMD** approved medications to treat pests or diseases
- **Read** and follow medicine instructions exactly
- It is **illegal** to use non-approved products to treat a pest or disease, and you may **be prosecuted** if you do so.

Non-approved products include:

- Antibiotics
- Essential oils
- Rhubarb leaves
- Banana skins
- It is a legal requirement to keep medicine records for 5 years following treatment



What to do if you suspect notifiable disease

Bees_mailbox@gov.scot
No weekend cover.

Triage questions:

- Inspection arranged
- Request to take samples for us
- Monitor and keep in touch

Visit

Actions Following Visit



Key points

- Keep it clean!
- Learn swarm control
- Work together



AFB – destruction of combs



Further information can be obtained from



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BeeBase www.nationalbeeunit.com

You tube playlists

<https://www.youtube.com/channel/UCRaE5UJlcBEXPZFpYACjErg/playlists>

Podcast <https://player.captivate.fm/episode/b031e430-eb19-45d5-a439-57bb9a04792d>

<https://player.captivate.fm/episode/31f89a0a-7262-46dd-bff3-3a572d9dc843>

Feedback

https://forms.office.com/Pages/ResponsePage.aspx?id=mC1UyEzmbkS41QyY_-VIJp1l9LJf5atBjEazVFFwtU9UNkhQUEIENO1MRDJBTUQ5OTg5VE83RUpXSCQIQCNOPWCU

Reporting notifiable disease Bees_mailbox@gov.scot

HOW DO I ASSIST BEEKEEPING IN SCOTLAND?

I hope to help by:-

- Identify & deliver training needs,
- Use different learning activities and platforms
- Give targeted, relevant advice for Scottish beekeepers
- Maximise impact
- Improving beekeeping practices in Scotland
- Better bee health
- Sustainable and healthy population



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HOW CAN YOU HELP ME?



Inform
me



Education
needs &
suggested
ideas



Pest &
disease,
issues or
problems



Issues
regarding
bee health



Feedback
from Talks &
events



Views on
engagement &
interactions



Questions &
suggestions to pass
onto policy