National Bee Unit

Animal & Plant Health Agency

Eastern Region Annual Review

The 2022 Season

This season was the first since the removal of all the remaining COVID-19 restrictions and, consequently, a certain degree of 'normal service' was resumed. It was wonderful to be able to hold a range of Bee Health Days and Safaris across our region – these are at the core of the NBU's work where beekeepers (and other interested stakeholders) can come together to share best practice and gain valuable knowledge and experience with matters concerning bee health and disease recognition. These sessions are valuable for new beekeepers who may just be beginning their journey into apiculture, but also for the more seasoned beekeeper who may not (luckily) have encountered notifiable disease before but, nonetheless, should remain vigilant and up to date in their knowledge of varroa management to maintain healthy hives.

The lack of restrictions also meant the full return of face-to-face hive inspections with beekeepers. Not only does this alleviate many of the problems of the last few years in terms of access and communication but, again, provides a valuable chance for dialogue between the inspectors and the beekeeper. A thank you to all of those who were inspected this year – your ongoing support is essential to the important work that we do.

Weather and Honey Yields

Spring was generally mild this year with a singularly wet February (142% of average rainfall) during an otherwise dry period. February also saw storms Dudley, Eunice and Frederick sweep through the region which caused some hives to be toppled – really highlighting the need to ensure that your hives are securely strapped down especially if they're in exposed areas (also take care of siting your hives under trees that are liable to fall). The mild spring meant that colonies were able to build up quickly and consequently there were many cases of colonies starving – this was particularly evident where bees did not have access to the large swathes of oil seed rape (*Brassica napus sp. napus*) that covers areas of the region during the Spring. Many beekeepers reported an excellent Spring crop from both the Rape and other sources e.g. Hawthorn (*Crataegus monogyna*).

The summer months saw climate records tumble across the country. The previous highest temperature (recorded in our area at the Botanic Gardens in Cambridge in 2019) was broken in areas from Kent to North Yorkshire with 40.3 Celsius measured. There is evidence to suggest that this sort of meteorological occurrence will become more frequent in the UK. Overall, the summer was the fourth driest on record in East

Anglia (despite some downpours in June) and, as a region, we saw the highest anomalies compared to average and recorded our third sunniest summer. This meant that bees made the most of these favourable conditions and honey yields have been consistently high.[1]

At time of writing, we are experiencing an unusually mild autumn which means colonies may not have shut down for the winter and the potential presence of brood will mean it's important to ensure colonies have ample stores to get them through until Spring. The changing patterns of weather and climatic features also means that beekeepers need to be especially vigilant with their chosen varroa treatments. Products come with detailed instructions in terms of dose, timings, and ambient temperatures and these should be followed to obtain optimum results. The timing of oxalic acid use (trickling or sublimation) during a brood less period may need to be reconsidered with the continuance of mild winters (the 'traditional' period between Christmas and New Year may be too late!).

The NBU, BeeBase and the Team in the Eastern Region

The National Bee Inspector Cristina Ruiz was on maternity leave from January and returned to the National Bee Unit in October. Her maternity leave was covered by Dhonn Atkinson the Regional Bee Inspector for the Northeast region. The National Bee Unit office welcomed Samantha O'Toole in June to provide programme support alongside Diane Gillibrand.

We were pleased to welcome Chris Milton to the regional team this year covering the Western sections of Norfolk and Suffolk (as well as a small portion of East Cambridgeshire and North Essex). He's fitted in very well and has had a busy first season with many cases of disease in his area. We still have a vacancy for the North of Norfolk and hope this can be filled in due course.

Personally, I have enjoyed being back in my 'home region' having been Regional Bee Inspector (RBI) in the South for the last three years. You can use the postcode search on the contacts page of BeeBase to check for your local Seasonal Bee Inspector (SBI), who can be contacted on the numbers below from April to October. During the winter period of please direct all enquiries to the RBI.

Regional Bee Inspector	**Area**	**Contact**
Peter Davies	Eastern	peter.davies@apha.gov.uk 07900 292160
Seasonal Bee Inspectors	**Area**	**Contact**
David Burns	East Suffolk/ East Norfolk	david.burns@apha.gov.uk 07900 365721
Peter Folge	Hertfordshire/ Bedfordshire	peter.folge@apha.gov.uk 07775 119433
Chris Milton	West Suffolk/ West Norfolk	christopher.milton@apha.gov.uk 07823 425133

[1] Source: UK Met Office, 2022.

Ian Nichols	Essex	ian.nichols@apha.gov.uk 07557 178416
Jack Silberrad	Cambridgeshire	jack.silberrad@apha.gov.uk 07776 165869
VACANT	North Norfolk	

Beekeeper and Hive Numbers

2022 saw **301 new beekeepers** in Eastern Region register on BeeBase which is a slight decline on the previous year which and continues a general decrease in new beekeepers since the highpoint of the COVID-19 pandemic in 2020 – this is a trend elsewhere across the England. In the Eastern Region there is an **average of 4.8 hives** per beekeeper.

Beekeepers should remember that being a member of a local association, attending a beginner's course or being a member of the BBKA, doesn't mean automatic registration on BeeBase – the National Bee Unit's website and database. However, if you have been inspected then an SBI will have added your details. Registration is free and all data is kept confidential under the relevant legislation. Ensuring your colonies are registered and that your details kept up to date (new/discontinued apiaries etc) means that you can receive notifications of disease in your area (including Asian Hornet incursions) and help the NBU to see patterns and trends and ensure outbreaks are dealt with swiftly and with maximum effect.

Register at: www.nationalbeeunit.com or directly with the NBU office on 0300 3030094 or nbu@apha.gov.uk. Alternatively contact your Seasonal Bee Inspector (March-October).

Those with lost passwords/usernames can follow a link to retrieve them on BeeBase.

Registered beekeepers in the region[2]

County	**Current beekeepers**	**Apiaries**	**Colonies**
Bedfordshire	424	553	1971
Cambridgeshire	941	1179	3484
Essex	1226	1735	6134
Hertfordshire	1033	1240	4456
Norfolk	1194	1772	6911
Suffolk	1033	1479	4965
TOTAL	**5851**	**7958**	**27921**

[2] Source: BeeBase (registration as of 30 November 2022)

Inspections

This year the regional team inspected **3908 colonies** across **799 apiaries** – that represents **14%** of registered hives in our area.

We also carried out **10 honey samples** on behalf of the Veterinary Medicines Directorate this year which screen for illegal substances and residues in honey.

Bee Health Days

This year the team undertook Bee Health Days in Hertfordshire, Essex, and Suffolk (three different branches). These days are one of our most important functions and always a great occasion. We usually run hive-side sessions where some of the inspectors demonstrate disease inspection and talk though what they're seeing on the comb. There's also a detailed talk on varroa and its management – this is a constantly evolving subject and there is always something new to learn as we come to understand more about this insidious pest. We usually also have samples of diseased comb and attendees can perform tests and see both notifiable diseases (AFB and EFB) 'for real' (and hopefully not in their own hives!).

Numerous safaris and other talks were undertaken by various members of the Eastern Region team throughout 2022. We always enjoy meeting beekeepers (remember, we're all beekeepers too!) and sharing advice and disease best practice. We hope to see more of you at these important events in 2023.

SBI Chris Milton shows AFB

SBI David Burns leads an Apiary Session

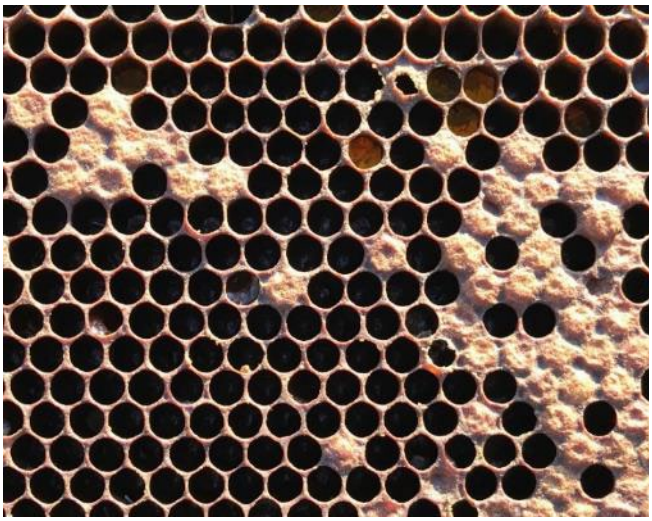
Disease and Pests

American Foulbrood (AFB) - *Paenibacillus larvae*

One case of AFB was detected in the Eastern region during the 2022 season – in Essex - from a total of 23 cases in England and Wales (4.3%). This continues a general trend of declining prevalence of this highly infectious disease. However, whilst this is reason to celebrate, do keep in mind that we can only inspect a proportion of colonies within a year and therefore the disease may exist in areas that have not received a visit this year. This is especially of concern with our current SBI vacancy in North Norfolk as this area has had historic cases of AFB.

It remains vitally important that beekeepers know the signs of this disease, maintain high levels of apiary hygiene, and report any suspicions quickly to us. Attendance at your local Bee Health Day is a good way of refreshing your disease skills and we often have real-life samples of AFB for you to examine (it's better than looking at a book!).

AFB: sealed cells - sunken often dark and greasy looking. Chewed holes in capping. Patchy brood pattern ('pepper pot'). Hard dark scale at base of cell.



American Foulbrood in 2022

Ropiness Test

European Foulbrood (EFB) - *Melissococcus plutonius*

EFB was detected in 51 apiaries (110 colonies) across the region. There were cases in 278 apiaries throughout England and Wales, so our cases represent 18% overall.

As can be observed from the graphs (below), EFB continues to be an issue in our area. Cases in Hertford and Bedford continue to be low (zero in the latter in 2022) whilst those in Suffolk and Norfolk remain roughly at similar levels to the last three years. Essex cases have dropped significantly sinch a significant outbreak in 2019/20 which demonstrates the efficacy of timely action by the inspectors (Ian Nichols) and continued vigilance. However, there has been a significant and worrying increase in EFB in Cambridgeshire (65% of all regional cases) – this county had the most confirmed disease across England and Wales. A special mention should be made of

the heroic work undertaken by Jack Silberrad who has worked extremely hard to deal with these occurrences.

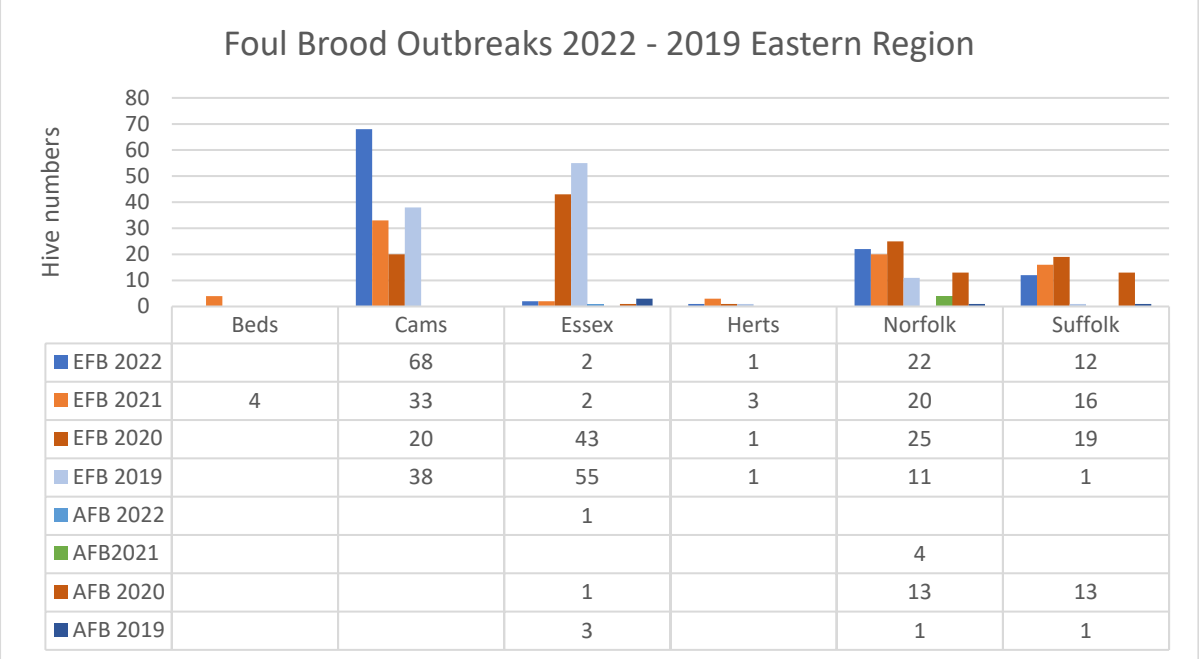
Beekeepers are reminded to take proper precautions when collecting swarms from unknown sources**. Always hive swarms on undrawn foundation and do not feed for 48 hours** so that the bees can empty their foreguts (honey stomachs) of any nectar that may contain bacteria. If possible, quarantine the new colony and observe its brood development and contact the NBU if anything suspicious or unusual is spotted.

Further details on the distribution of disease can be found on the Disease Incidence pages of BeeBase at www.nationalbeeunit.com.

EFB: unsealed larvae lying in unnatural position – twisted, discoloured, lack of segmentation and waxy melted appearance. Rubbery scale base of cell.

European Foulbrood in 2022

Closeup of Infected Larvae



	Beds	Cams	Essex	Herts	Norfolk	Suffolk
EFB 2022		68	2	1	22	12
EFB 2021	4	33	2	3	20	16
EFB 2020		20	43	1	25	19
EFB 2019		38	55	1	11	1
AFB 2022			1			
AFB2021					4	
AFB 2020			1		13	13
AFB 2019			3		1	1

Varroa

***Varroa destructor* and its' effects remain the single biggest threat to the health of honeybee colonies in the UK at present.** Over 2022, inspectors have been called out to numerous colonies with suspected disease to discover hives with high and extensive damage caused by this invasive parasite. To maintain strong, productive, and healthy colonies, the NBU advice is to appropriately monitor and control Varroa levels – either using biotechnical or authorised chemical products. If these products are utilised then it is important to adhere to the manufacturer's instructions in terms of dosage, length of application and other factors (e.g., temperature).

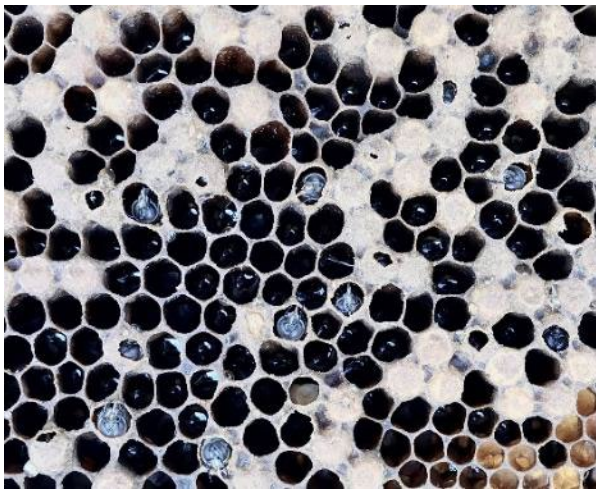
As well as directly parasitising bees, Varroa acts a vector for a host of harmful viruses which reduce the longevity of the bees and thus act detrimentally on the colony size, strength, and capacity to forage effectively. Varroa also causes stress and weakness in the colony leading to a susceptibility to other disease. Mortality is commonly found in winter or early spring often as a result of late/lack of treatment as winter bees are produced in the autumn.

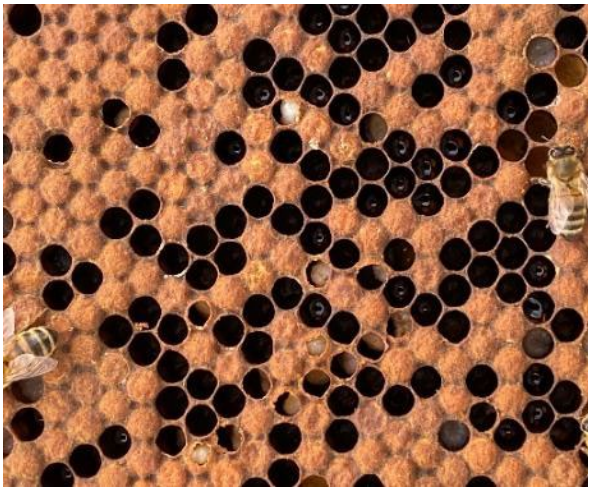
In 2022 the license for treatment with **Bayvarol and PolyVar Yellow has expired,** and it is no longer permitted to use these products in the UK. **Formic Pro is no longer authorised for use with supers present** and any honey on the hive during treatment may not be used for human consumption.

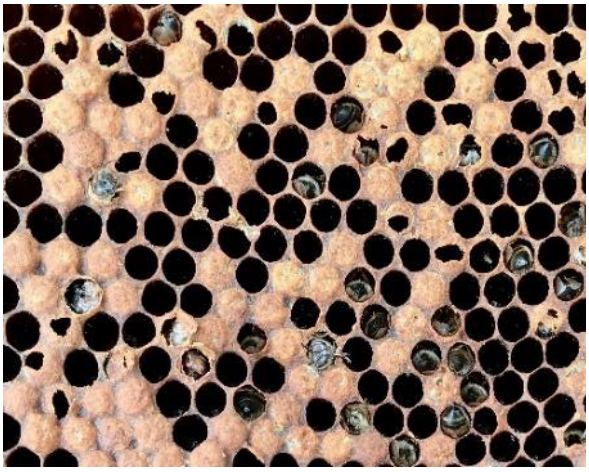
The full list of products registered for use by the Veterinary Medicines Directorate (VMD) can be found below. To avoid developing potential resistance in Varroa it is best practice to rotate treatments on a regular basis.

It is a legal requirement to record any treatments and to keep this for five years. Full details on Varroa management and the statutory information can be found on BeeBase. www.nationalbeeunit.com.

Signs of heavy Varroa Load








Exotic Pest Surveillance

In addition to the NBU's inspections conducted to look for Foodbrood we also run a programme monitoring the presence of two notifiable exotic pests: small hive beetle and *tropilaelaps*. In the Eastern region there has been **153 exotic pest surveillance inspections** conducted in 2022. There are **five Enhanced Sentinel Apiaries (ESA)** across the region at significant import sites (e.g. Felixstowe Docks) and they are examined (hive floor debris is collected and sent for stringent analysis) three times a year to look for exotic pest incursion.

In addition, we have **15 Volunteer Sentinel Apiaries (VSA)** across the area and located near identified risk points and we remain very grateful to the beekeepers who send in debris samples twice in a season – a vital front-line in our defence against dangerous pest incursion. If anyone is interested in joining this scheme (full equipment and training is provided) then speak to your local SBI during the season.

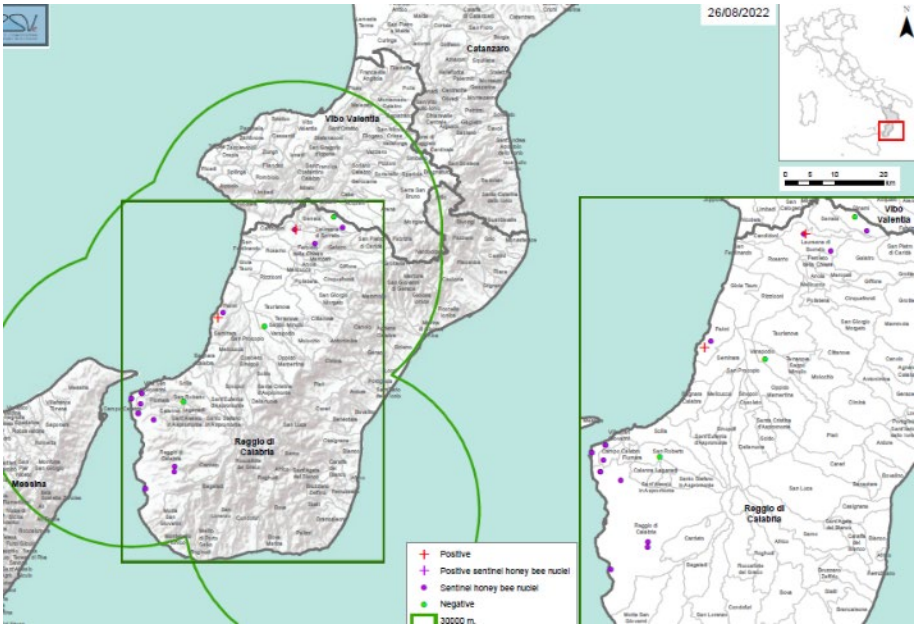
Small Hive Beetle – *Aethina tumida*

Monitoring by the Italian National Reference Laboratory for Apiculture has found **zero beetles in Sicily** (since the last case in 2019) and adult beetles discovered in the Calabrian region of the mainland was restricted to **four** across two sentinel apiaries.[3]

This is excellent news and illustrates the success of the protection zones and rigorous surveillance put in place by the Italian authorities. Let us hope that continued work by Italian inspectors and the maintenance of stringent vigilance in the UK keeps this devastating pest at bay .

Adult Small Hive Beetles in a Hive

Small Hive Beetle Larvae



Occurrence of Small Hive Beetle in Italy in 2022

[3] Source: https://www.izsvenezie.com/aethina-tumida-in-italy/

Tropilaelaps spp.

Currently**, *Tropilaelaps* spp. is not present in the UK,** but if introduced, could potentially cause major damage if they became established. The mites are dependent on a continuous supply of food i.e., immature bee larvae to survive and, consequently, a brood break in our cooler climate would starve *Tropilaelaps*. However, there are many parts of the UK where the temperature in winter remains mild and there is brood present in hive year-round. The continued effects of climate change make the pest a continued real and emerging threat.

Varroa destructor (left) compared to a *Tropilaelaps* mite

Tropilaelaps on brood

Asian hornet – Vespa veluntina nigrithorax

The Eastern Team have been involved in dealing with Asian hornet incursions this year. As a whole sighting remains low and, since 2016 (the first confirmed incursion), the NBU has developed effective contingency strategies for dealing with these pests.

In April a single hornet was found by a beekeeper in **Felixstowe** which was confirmed as *v. veluntina.* Despite monitoring by inspectors and local beekeepers no further hornets were found. This was followed by a credible sighting **near Chelmsford** in August where, again, extensive investigation didn't yield any trapped hornets or additional sightings.

The entire Team was involved in **Rayleigh** in September, when a beekeeper trapped Asian hornets in their greenhouse whilst rendering wax. A large-scale deployment was instigated, and, after monitoring and tracking, a large nest was discovered in a sycamore tree three days later. I'd like to thank the team for their flexibility and professionalism in dealing with this so effectively as well as other colleagues from additional regions (especially the Southeast). The nest was large, c.40cm in diameter, and was sent to the lab at Fera Science Ltd. for analysis and evaluation. Local beekeepers were made aware, and monitoring has continued in the area by both inspector and local Asian Hornet Teams (AHTs).

Marked Asian Hornet on bait station

Nest found in Rayleigh 2022

It is worth bearing in mind that the hornets in Essex in 2022 were only spotted after many months and there is a strong need to remain vigilant.

- Download the free Asian Hornet Watch iPhone or Android app
- Familiarise yourself with what the hornets and similar insects look like
- Keep a look out on late summer flowering plants such as ivy where the hornets (and other insects) forage on the flowers.
- Report suspect sightings using the 'Asian Hornet Watch' app, or by filling out an online report form, or by emailing alertnonnative@ceh.ac.uk

Imports and exports of Honey Bees

Third Country rules now apply to import and export trade between the UK and EU member states. Movements of honey bees from Great Britain to Northern Ireland are treated as exports and so are also subject to these rules. Import rules do not apply to movements of honey bees from Northern Ireland to GB.

Imports

Honey bees imported from a Third Country must have an appropriate Export Health Certificate (EHC). The health certificate must be issued by the Third Country's Competent Authority or their Official Certifier. Currently only the import of queens (in cages with attendant workers) is permitted under Third Country rules, except from New Zealand where the import of packages of bees is also permitted.

Importers must notify all imports in advance via the IPAFFS system. From 1 November 2022, the health certificate for imports from EU countries must be uploaded onto IPAFFS (Import of Products, Animals, Food and Feed System) so that it can be viewed online. There is no longer a requirement for the original paper EHC document to accompany the consignment. Original documents will remain valid but, by providing an original document, this does not remove the requirement to upload an electronic version.

Imports from countries other than EU member states must enter via a Border Control Point (BCP). For now, imports from EU member states will continue to be checked at destination by a Bee Inspector on a risk basis; this approach is expected to change in 2023, with the exact date to be confirmed.

Exports

If you intend to export bees, you must ensure that the destination country permits imports from GB and that you can comply with their import conditions. It is the exporter's responsibility to do this.

If you export your bees to any country without the correct certification, the consignment may be rejected/destroyed by the destination country. If the consignment required an inspection prior to export, the NBU would not be able to issue a certificate retrospectively.

From January 2022, Export Health Certificates for exports to EU countries must be signed by an Official Veterinarian (OV). For countries outside the EU, whether an OV is required to sign the EHC is determined by the authorities in the country of destination, so it is important for the exporter to check the requirements with them.

Exporting to EU countries

Only queen bees can be exported to EU countries. To export queen bees, you must obtain an Export Health Certificate and arrange for it to be signed by an OV. The OV must carry out a health inspection at the apiary before the certificate can be signed,

and exporters should expect that there will be a charge for the services of an OV. The health certificate template can be found on GOV.UK, along with Notes for Guidance and information on how to contact an OV.

The OV will confirm whether a National Bee Unit inspector also needs to be present to support the OV at the health inspection. There is no separate charge for a bee inspector to be present.

The OV can find information about how to contact a Bee Inspector on BeeBase or contact the National Bee Unit at (nbu@apha.gov.uk). For exports to EU countries, a signed health certificate is valid for 10 days.

The latest guidance for Imports and Exports and relevant legislation can be found at: www.nationalbeeunit.com

Conclusion

Finally, I offer a big thank you to all my team Peter, David, Ian, Chris, and Jack, for all their hard work during this year. The extreme summer heat, numerous disease outbreaks and the incursion of Asian hornet have made for a challenging season and I'm grateful for their professionalism and continued good humour. A huge thank you too to all those in the beekeeping community in the region who help facilitate the work we do to keep bees healthy and thriving. My very best wishes for a good over-wintering and a successful start to the 2023 season.

Best wishes,

Pete

Peter Davies

Regional Bee Inspector – Eastern Region

National Bee Unit
Animal and Plant Health Agency (APHA)

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APHA is an Executive Agency of the Department for Environment, Food and Rural Affairs and also works on behalf of the Scottish Government, Welsh Government and Food Standards Agency to safeguard animal and plant health for the benefit of people, the environment and the economy.