



Animal &  
Plant Health  
Agency

## **National Bee Unit Northern Region Annual Report 2018**

Cheshire, Greater Manchester, Merseyside and the Wirral, Lancashire, Cumbria, Tyne and Wear, County Durham and Northumberland.

I write this report in January 2019 as the newly appointed Regional Bee Inspector (RBI) for the Northern Region. I'm very much looking forward to the challenges the coming year will bring.

Last year both Ian Molyneux and Graham Royle retired, Ian in May and Graham in November. Ian and Graham had served as seasonal and finally regional bee inspectors for the Northern Region. Ian and Graham made a substantial contribution to the National Bee Unit (NBU) and I would like to record our appreciation for their service.

The year 2018 will also be remembered with great sadness. Our colleague Chris Appleby, the Seasonal Bee Inspector (SBI) for the North East, passed away unexpectedly and suddenly in October. Chris was immensely popular across the Agency and will be missed by all who knew him.

As we approach to the start of the 2019 inspection season in April we will be welcoming two newly appointed SBIs, Caroline Coughlin in the North West, and Brian Murphy in the North East. They will join Julia Hoggard (SBI Cumbria), John Zamorski (SBI Lancashire) and myself to make up the Northern Team. Due to a temporary recruitment freeze and redeployment of some resources the Northern Team lost an SBI post in April 2018. This situation remains the same at the time of writing this report.

A list of National Bee Unit (NBU) contacts are available online via the below link. It should be noted that the 'gsi' part of Animal & Plant Health Agency (including the NBU) email addresses is being phased out, and after March emails with 'gsi' will not work. I would ask that you update any contacts lists you have by removing 'gsi', i.e. they will now be @apha.gov.uk.

<http://www.nationalbeeunit.com/public/Contacts/contacts.cfm>

## 2018 Inspection Season

The spring of 2018 is probably most widely associated with the cold spell known as the 'Beast from the East' which brought with it snow and bitterly cold winds. I recall not taking up an invitation to attend Bee Tradex in March due to reports of snow drifts, although those more determined than I did make it there and back without too much trouble. Following the cold spring the summer of 2018 brought hot and dry conditions. Some colonies took advantage, built up quickly and filled supers. However, there were reports in some areas that nectar was 'drying up' due to lack of moisture in the soil. Feedback to inspectors was mixed, with some beekeepers reporting excellent honey yields whilst other stocks performed poorly. Starvation alerts were issued in both August and later in November.

The Northern Team visited 616 apiaries and inspected a total of 2,542 colonies for statutory disease and pests during 2018. All brood cells in those colonies were examined, and where a higher pest risk was present the whole colony was subject to even greater scrutiny. Records show that 45 dead colonies were inspected to diagnose probable cause, and to ensure that no trace of statutory disease or pest was evident.

Colony Inspections and Foulbrood Disease in England, Scotland and Wales for 2018											Year
											2018
Region	County	Colonies Inspected		No. of colonies destroyed after diagnosis of AFB	No. of colonies diagnosed positive for EFB †	No. of colonies destroyed after diagnosis of EFB ‡	No. of colonies treated with antibiotic after diagnosis of EFB ‡	No. of colonies treated with shookswarm after diagnosis of EFB ‡	No. of colonies sampled but laboratory diagnosis negative	Percent of inspected colonies which had AFB	Percent of inspected colonies which had EFB
		Total	Dead								
Northern-England	Cheshire	584	6	0	9	9	0	0	0	0.00	1.54
	County Durham	319	10	0	0	0	0	0	0	0.00	0.00
	Cumbria	480	3	0	0	0	0	0	0	0.00	0.00
	Greater Manchester	132	1	0	0	0	0	0	0	0.00	0.00
	Lancashire	418	8	0	0	0	0	0	0	0.00	0.00
	Merseyside	236	13	0	0	0	0	0	0	0.00	0.00
	Northumberland	183	3	0	0	0	0	0	0	0.00	0.00
	Tyne & Wear	190	1	0	0	0	0	0	0	0.00	0.00

Additionally, some members of the Northern Team spent time in Hull and Winchester/Beaulieu in response to the Asian hornet incidents.

The Northern Region currently has a total of 3,921 beekeepers registered as 'current' on Beebase, with 16,425 colonies in 4,935 apiaries. Additionally there are 2,883 non current beekeepers who have indicated they do not keep bees and will not be resuming their

beekeeping activity in the future. These figures do not take into account of beekeepers, apiaries or colonies (including feral) not registered, so it's reasonable to assume the true numbers are much higher.

### **Statutory Disease – Northern Region 2018**

There are currently two brood diseases and two pests named in bee legislation which are deemed 'notifiable'.

The Bees Act 1980 and The Bee Diseases and Pests Control Order 2006 for England and Wales (as amended) are the legislation concerned. Details can be found by following this link:

<http://www.nationalbeeunit.com/index.cfm?sectionid=79>

The statutory brood diseases are American Foulbrood (AFB) and European Foulbrood (EFB). The statutory pests are all life stages of small hive beetle (SHB) and tropilaelaps mites. Only EFB has been found in the Northern Region during 2018, all 9 cases were in the County of Cheshire and all colonies involved were destroyed.

The exact locations of outbreaks are not disclosed as they would identify beekeepers and apiary locations, but the 10km Ordinance Survey Map grid references are published to provide information about the wider area affected.

EFB occurrence by 10KM squares 2018			2018 <input type="button" value="v"/>
			Year
County	10 km Squares EFB Found	Number of Positive EFB Diagnoses	Month EFB Found
Cheshire	SJ58	1	May
Cheshire	SJ67	5	September
Cheshire	SJ68	2	October
Cheshire	SJ87	1	July

When a statutory disease is found all beekeepers registered on Beebase and within a 3km radius of the outbreak are notified. Bee inspectors then inspect colonies within a 10km radius to prevent the infection becoming established in the area. Those beekeepers who are not registered on Beebase, or have not updated their email contact details, will not receive these alerts.

Beebase is a free and confidential service. There are substantial benefits in registering, including: the above mentioned automatic alerts in the event of foulbrood or exotic pests; emails with timely advice on the basis of the inspectorate's findings during the season, e.g. to feed if we are finding starving colonies mid-season; and a facility to maintain your own beekeeping and apiary records.

Another interesting facility is that the 'my apiary' section of Beebase gives the number (not location) of known apiaries within a 10Km radius of those you have registered.

Beekeepers, regardless of registration status, must contact the National Bee Unit or an authorised bee inspector if they suspect or know the whereabouts of a statutory disease or pest.

## **Varroa**

Recently new varroa treatments have been authorised for use in the UK. The list of those currently registered and approved for use by the Veterinary Medicines Directorate (VMD) is available on their website, together with the 'Summary of Product Characteristics' giving full details of use. For the full list select 'Bees' on the drop down list of species in the product search link.

<https://www.vmd.defra.gov.uk/ProductInformationDatabase/Search.aspx>

There's a legal requirement that the use of any treatments are recorded, and these records must be kept for a minimum of 5 years. Full details can be found on the below link.

<http://www.nationalbeeunit.com/index.cfm?sectionid=110>

NBU advice is to 'monitor and control varroa using biotechnical methods and authorised products to keep them below the level where they cause significant harm'.

Varroa treatments should be targeted before colonies start to produce their 'winter bees', but monitoring of varroa levels during the season will help determine whether an earlier treatment is required. Viral damage, which is associated with varroa, will seriously reduce the longevity of the adult bees and impact on the capability of colonies in their peak foraging periods. Having high mite loads late in the season, so that the winter bees are affected by viruses and weakened by the mites feeding on them, is frequently the cause of colony mortality in the late winter and early spring.

The Beebase website has pdf links to numerous free fact sheets including the 'Managing Varroa' booklet.

<http://www.nationalbeeunit.com/index.cfm?pageid=167>

## **Exotic Pest Surveillance (EPS)**

The Northern Team carried out 1,628 inspections specific to exotic pests in 2018, targeting a combination of identified risk points and random sites. EPS inspections check for small

hive beetle (SHB), tropilaelaps mites and Asian hornets (AH) as well as being a normal brood inspection looking for foulbrood. The identified risk points are ports, airports, crude hive product importers, fruit and vegetable wholesale markets, larger queen importers and landfill sites associated with imported products. Given the continued presence of SHB in Italy in 2018, and the incursion of the Asian hornet from across the channel in France, the importance of exotic pest surveillance work cannot be overstated.



*Tropilaelaps Mite on Pupa*

It is natural, after recent high profile incidents, for the beekeeping community to focus on the threat from Asian hornet, but we must not drop our guard in relation to the other pests listed above. SHB can be transported into the United Kingdom unintentionally through international trade via bee imports, food products and even in soil when they are in the pupation stage. Although bee imports are prevented from areas where SHB are known to be present, other trade and movement continues.

We have 17 Sentinel Apiaries and 6 Enhanced Sentinel Apiaries (ESA) in the Northern Region.

Sentinel apiaries are situated within areas considered 'at risk'. A volunteer beekeeper at that location agrees to monitor their colonies specifically for exotic pests. As well as a visual inspection, floor debris from the designated hives are sampled twice a year and tested for any trace of SHB and tropilaelaps mites. All postage costs, equipment and paperwork is supplied free of charge to the beekeeper who then collects and sends samples for analysis at the NBU laboratory in York.

ESA apiaries are located near to high risk points i.e. freight ports. They are visited by their appointed SBI in April, June and September. The colonies are inspected in detail, and samples sent for analysis.

SHB traps are also provided for placement in colonies at both sentinel and enhanced sentinel apiaries.

I would like to thank those beekeepers who currently carry out this work, but also please contact me or your SBI if you would like to be involved in the future.



*SBI collecting hive debris for analysis during an ESA visit*

### **Asian Hornet (*Vespa Velutina*)**

There have been nine confirmed Asian hornet sightings in England in 2018.

In April an individual Asian hornet found in a cauliflower by a householder in their kitchen in Bury, Lancashire. The cauliflower had been grown in Lincolnshire but it is thought that it may have been stored with vegetables from France. No further confirmed sightings have been recorded in the area despite extensive surveillance and trap setting. Whether this particular queen survived to establish a nest and produce future generations is unknown, as is whether other queens were imported via the same movement of produce. This incident confirms a viable produce transit route for Asian hornet into our area, so please remain vigilant.



*The Bury 'cauliflower' Asian hornet queen*

After no confirmed sightings during summer, a beekeeper in Fowey on the coast of Cornwall found a dead Asian hornet in a trap situated in his garden apiary. He contacted his local SBI and a positive ID was confirmed on 3rd September, by which time the South-Western inspection team had already been mobilised. Following a NBU surveillance operation a nest was found in dense brambles within a kilometre of the initial find. The nest was then destroyed.

Nearby in Liskeard, Cornwall a single drone was caught in a trap. Identification was confirmed on the 7th September 2018, but after prolonged surveillance no other hornets were seen in the area.

A single dead hornet was found in Hull, Yorkshire. It was confirmed as an Asian hornet on 9th September, but after an extensive search in the area it was presumed to have been a single insect inadvertently brought over from France.

Meanwhile back in Fowey, all was quiet following destruction of the nest on September 6th until a week later when a few additional hornets were caught in traps in the same area. Suspicions were aroused that these were more than stragglers from the first nest. Within two days a second nest was located in woodland adjacent to the first, and on 20th September 2018 it was also destroyed. It should be emphasised that although close to the first nest, the terrain was extremely difficult to carry out surveillance and the second nest could only be seen in the tree from one viewing position at the bottom. Analysis shows that the two nests in Fowey were primary and secondary nests from the same queen.



*Asian hornet Vespa velutina - Fowey*

Later that month, a householder in New Alresford, Hampshire, reported seeing Asian hornets foraging in his garden. The local SBI was mobilised and a positive identification was made. By careful observation the SBI was able to get lines of sight and located the nest within a few hours of arriving. It was low down in a bush adjacent to a house a short distance away. The nest was destroyed on 24th September 2018.

Shortly afterwards, on the coast below Beaulieu in Hampshire, a householder noticed Asian hornets feeding on fallen apples in her garden and alerted a beekeeper friend. The NBU was notified and on the 26th September 2018 the nest was found and destroyed in woodland half a kilometre away.

In Guildford, Surrey, a dead Asian hornet was discovered in a new Mini at a car dealership, but the source of the insect is unknown.

Finally in Dungeness, Kent, two Asian hornets were found foraging on ivy, one in a garden and the other at the RSPB reserve nearby. After several days of extensive surveillance no further hornets were seen and the operation was wound down. It is thought that these individuals may have been blown over from France. Both were identified as drones.

The Beaulieu incident highlights a further method of seeing Asian hornets in addition to trapping, monitoring apiaries and visiting forage sites such as ivy. Consideration can also be given to leaving windfall fruit in situ to be monitored. Even if no Asian hornets are seen I'm sure the birds would appreciate the gesture!

After a positive identification is confirmed the process of finding Asian hornet nests conforms to a Standard Operating Procedure (SOP) whereby a Forward Operating Base (FOB) is established. This is at a suitable location in the area e.g. an APHA office or a fire station. The operation is closely monitored by the NBU and Defra policy, with daily reports reaching the Cabinet Office and Lord Gardiner, Parliamentary Under-Secretary, Department for Environment, Food and Rural Affairs. Inspectors are deployed to establish traps and bait stations around the area, with the aim of establishing lines of sight of hornets returning to their nest. This requires good observation, patience and tracking skills, and is rewarded when they can be plotted on a map with the lines converging on the nest location. Even when the nest location has been narrowed down, if the area is densely wooded it can still be very difficult to locate it in a thick tree canopy. This year we have trialled infrared photography, drones and radio tracking to enhance our capabilities, but success has prevailed with human lines of sight above all else.

All nests destroyed in 2018 have been sent to FERA for analysis, the results of this work will be released in due course. We are again reminded that the Asian hornet (and other exotic pests) could arrive almost anywhere in the UK. Colonies of Asian hornets have also been confirmed as present in the Channel Islands during 2018.

Since the destruction and removal of the nests in Cornwall and Hampshire, no further Asian hornets have been seen foraging, or caught in traps. However, it is possible Asian hornets could reappear in the UK early this year and members of the public and beekeepers are urged to report any suspect sightings through the following routes:-

- The 'Asian Hornet Watch' app is available to download free from the Apple and Android app stores
- Members of the public can also report sightings by email to [alernonnative@ceh.ac.uk](mailto:alernonnative@ceh.ac.uk) . Please provide a photo along with where you found it and a contact number to reply to.
- Reports can be sent via the online submission form on the Non-Native Species Secretariat website, again with a photo.
- Details on the appearance of an Asian hornet can be found on the Bee Base guide or the NNSS Asian hornet ID sheet.

A dead insect is much better than a photograph, try and catch the hornet if possible, then freeze it or knock it down with anything to hand. Do not put yourself at risk of being stung.

If you have a smart phone consider videoing hornet activity if you cannot obtain a sample, as capturing a clear and focussed photograph of a moving insect can be difficult. Clearly a close-up photograph is fine if the hornet is motionless!

Our best defence against the Asian hornet is to quickly detect arrivals to prevent them from establishing nests and producing queens and drones. Monitoring traps are the best way to help aid detection. The traps can be home-made and there are links to a leaflet (and a YouTube video) describing how to make one on BeeBase via the below link.

<http://www.nationalbeeunit.com/index.cfm?pageid=371>

These are advised in areas away from a confirmed outbreak, as regular inspection will allow other beneficial insects to be released unharmed.

## **Small Hive Beetle (SHB)**

### *Aethina Tumida Adult and larval stages*



### Surveillance of Aethina tumida in Italy in 2018

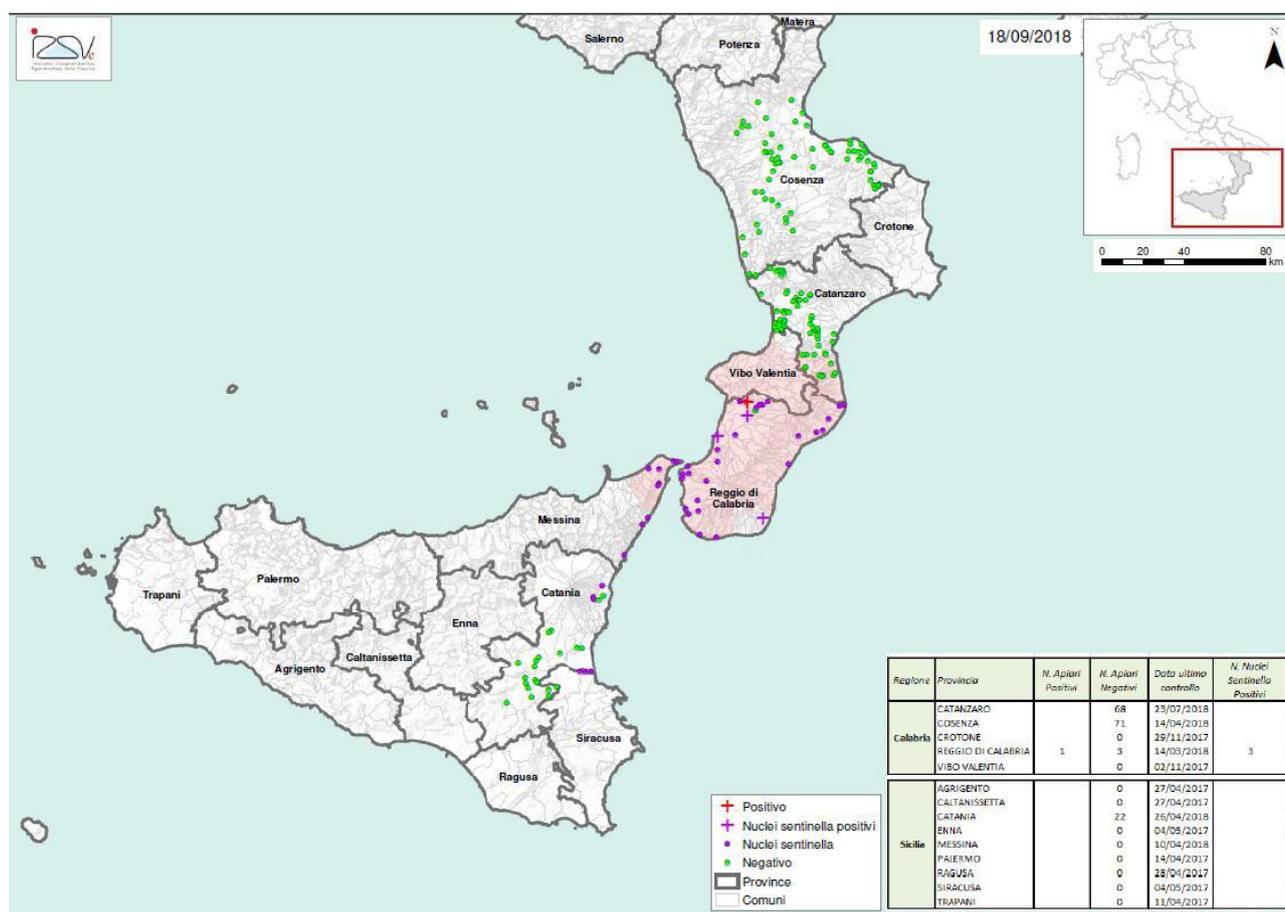
Up to the 26th October, four cases of infestation by *Aethina tumida* have been identified in 2018 in the province of Reggio Calabria in the South of Italy, the province where it was originally found in 2014. Three sentinel apiaries were confirmed positive (purple crosses on maps below) two of which were situated in the protection zone of 30 km. The first one was confirmed on August 1st in the municipality of Palmi where adults and a larva were detected. The second sentinel apiary was confirmed positive on August 7th in the municipality of Brancaleone situated approximately 15 km away from the protection zone on the south-east coast of the province of Reggio Calabria. Adults of SHB were detected. A sentinel apiary was confirmed positive in Rosarno on September 4<sup>th</sup>. This sentinel apiary was infested with adults and larvae. It was situated approximately 12 km away from the outbreak confirmed in Laureana Di Borello – see next paragraph.

A new outbreak, not in a sentinel apiary, was confirmed on August 2nd in the municipality of Laureana Di Borello (red cross on maps) in the protection zone of 30 km. SHB were in a swarm which was infested. It has to be noted that not all the inspections scheduled in the rest of the Calabria region and in Sicily had been reported when this news was published.

The clear status of Sicily remains unchanged, where no new cases have been discovered since 2014. No new outbreaks have been discovered in the province of Cosenza, situated in the North of Calabria since September 2016. The regular reappearance of cases in the infested zones since 2014 show that SHB populations remain in those locations.

The surveillance plan implemented in 2018 follows the monitoring scheme put in place in the previous years. Surveillance is ongoing in SHB free areas such as Sicily and the rest of Italy to guarantee the clear status of these areas. Changes were brought in to the monitoring scheme, notably a reduced number of apiaries to be inspected in the protection zone was implemented, (corresponding to an expected prevalence of 10% with a confidence interval of 95% instead of an expected prevalence of 5% applied the previous years). This reduction, along with the establishment of sentinel apiaries situated in strategic locations (i.e. on the coast in front of Sicily, along the Ionian Coast, along the frontiers with Vibo Valentia and Catanzaro, in Vibo Valentia), suggest a gradual achievement of the objectives of the control of SHB spread, and a containment of the infestation in the protection zone.

Note: the Commission Implementing decision (EU) 2017/370 of March 1st 2017 removed Sicily from the list of areas subject to protective measures in relation to SHB in Italy and extended the period of application of certain protective measures until 31st March 2019.



## Imports 2018

Import or export of bees, (including queens, packages and colonies), is permitted only if accompanied by an Official European Union (EU) or Third Country Health Certificate. This

is issued by the competent authority where the bees originated. It is a legal requirement that the NBU is notified in advance of imports of bees from outside the UK. You can do this by completing the 'Importer Notification Form' and posting, faxing or emailing it to the NBU office. Alternatively, if self-registered, you can log in to the Beekeeper pages of BeeBase and click the 'Import Notifications' link from the left hand index. It is of course illegal to import bees, queens or any bee-related products from within the SHB exclusion zone around the affected areas in southern Italy. Further details can be found on the Imports/Exports pages of BeeBase via the following link.

<http://www.nationalbeeunit.com/index.cfm?sectionid=47>

Advice regarding imports after 29<sup>th</sup> March 2019 can be found via the following link.

<https://www.gov.uk/government/publications/importing-animals-and-animal-products-if-theres-no-brexit-deal>

A number of import inspections were carried out in the Northern Region throughout the 2018 season, of these many were consignments of queens, but there were also packages, 'nucs' and colonies. The chart below outlines the number of 2018 imports into mainland Britain from the EU. The only imports from outside the EU were consignments of queens from Argentina.

Queen Bees or nucleus colonies imported from the EU into England, Scotland and Wales in 2018						Report for year 2018 ▼
Country of origin	Number of consignments imported	Batched number of queens	Batched number of nucleus	Batched number of packages	Batched number of Colonies	Number of consignments inspected
Croatia	2	0	0	100	25	2
Cyprus	6	66	0	0	0	4
Czech Republic	9	142	0	345	0	4
Denmark	38	2014	0	0	0	16
France	2	0	0	360	0	1
Germany	20	302	0	0	1	6
Greece	107	5340	0	0	0	44
Ireland	1	2	0	0	0	0
Italy	53	2436	915	61	0	31
Malta	12	1055	0	0	0	11
Netherlands	3	9	0	0	0	0
Poland	5	0	59	130	0	5
Portugal	1	0	0	0	4	1
Romania	19	1568	0	0	0	5
Slovenia	75	3010	0	0	18	36
Sweden	1	0	0	0	4	1
<b>TOTALS:</b>	<b>354</b>	<b>15944</b>	<b>974</b>	<b>996</b>	<b>52</b>	<b>167</b>

## **Bee Health Days**

Bee health days are events which are arranged by beekeeping clubs or associations which are supported, free of charge, by their local bee inspectors in terms of lectures and subject materials.

A suitable venue is required which must satisfy certain criteria, for example an insect-proof room for showing live foulbrood combs and enough space for attendees and their parking needs. A suitable outside space is also required for colony inspection demonstrations focussed on pest and disease detection.

The arrangements to hold a bee health day event requires a high level of organisational commitment by the club or association concerned and should not be underestimated. Nevertheless, a successful event provides an opportunity for attendees to learn more about pest and disease threats, and it also helps to raise the profile of the club or association hosting it.

No official NBU bee health day training events were conducted during 2018. At the time of writing there have been no arrangements made to hold any in 2019.

If your association or club is interested in holding such an event in the future, please contact me or your local SBI for further information.

## **Finally**

I would like to thank Julia and John, our current SBIs for their dedication, commitment and hard work during the 2018 season.

Also thanks to all the beekeepers we visited during 2018 for their time and co-operation when arranging appointments.

Finally, I'd like to finish this report by wishing you all a successful and trouble free 2019 beekeeping season.

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