National Bee Unit

2015 Wales Regional Review

Animal & Plant Health Agency

The Season

Overwintering 2014/15

After an excellent honey year in 2014 the bees had fared very well in the warm early autumn sun shine and took the opportunity to augment their winter stores of honey and pollen, principally from the Himalayan Balsam in September, so not all of them required additional feeding of syrup. The autumn weather continued variable but mild allowing colonies to work the abundant ivy flowers in October. Apart from a couple of frosts, there was not a prolonged cold spell until the first week in February 2015. This was short lived and bees were regularly flying on mild days in the early spring, brood rearing being triggered as fresh pollen was gathered, leading to a steady increase in food consumption. Reports of overwintering were generally favourable and once we got to look inside hives it was a pleasant surprise to see how strong they were.

Winter losses: *We surveyed 201 beekeepers during the course of our inspections this year and found that 19% of colonies were lost between 1st October 2014 and 1st April 2015.*

Spring into summer

After a variable March, the weather warmed up in April to give a generally warm, dry month and supers had to go on sooner than expected. Brood rearing was now in full swing, plentiful forage meant the demands for pollen and nectar were easily met as the weather stayed sunny. In some areas beekeepers were already achieving a honey surplus from the spring flow. But this was followed by variable conditions throughout May, which left bees in strong hives with nothing better to do than build queen cells and think about swarming.

The main summer forage was later flowering than 2014, no doubt because overall it was a cool June, albeit not too wet. This trend continued through July with chances for the main honey flow slipping away in variable weather and cool nights. By August there was some honey to take off, which had largely been accumulated in the spring, but this was rapidly being consumed and had disappeared for those who waited too long. As forage dried up starvation was a real possibility for the unwary who had taken a crop of honey but not replenished stores. This situation was also exacerbated by an onslaught of wasps overrunning weak colonies and finishing them off.

Honey yield: *The average honey crop per hive recorded by the seasonal bee inspectors in Wales from their own areas in 2015 was 9kg (19lb).*

Drier weather took hold in the last week of September and the hives seemed to gain a bit of additional weight on top of the feed taken down, the ivy flowering nicely in a dry spell through mid-October. However they required a lot more feeding this autumn than in many previous ones, which is a reflection of the cool season in general. The year-end descended into mild and very wet Atlantic weather prolonging hive activity with little purpose but to consume stores and cause expectations for supplementary feeding before the end of the winter. Overall it was a disappointing season with cool nights and no prolonged warm dry spells since April. Reports of poor queen mating, particularly in the second half of the season, were widespread, with queens failing or becoming drone layers.

The NBU in Wales

The team

At the end of the season we sadly said goodbye to three of our established Seasonal Bee Inspectors (SBIs) who have retired, David Hards, David Coles and Mike Davies. Two of the vacant posts will be taken by existing SBIs previously working in England – we welcome Jenny Whitham who has been working in Cheshire and Dan Etheridge moving from Berkshire. We will shortly be recruiting to fill the vacancies in Ceredigion and N Pembrokeshire.

At the start of next season there will be eight SBIs in place, working from the beginning of April until the end of September. A full time Regional Bee Inspector (RBI) works throughout the year. The team covers the whole of Wales and individuals can be contacted on the numbers below (during the season for the SBIs whilst the RBI is contactable year-round):

Regional Bee Inspector	**Area**	**Contact**
Frank Gellatly	Mid Carmarthenshire (Ceredigion)	07775 119480
Seasonal Bee Inspectors	**Area**	**Contact**
Jonathan Garratt	N Gwynedd, Anglesey, Lleyn	07775 119479
Jenny Whitham	Flintshire, Denbighshire, Wrexham	07775 119488
Paul Aslin	South Gwynedd, North Powys	07867 351605
Dan Etheridge	Mid & South Powys	07979 119376
Vacant	Ceredigion	
Maggie Gill	Pembrokeshire, W Carmarthenshire	07979 119373
Ade Bowen	S Carmarthenshire, W Glamorgan	07775 119489
Dinah Sweet	Mid & South Glamorgan	07775 119450
Edmund Thomas	Monmouthshire	07901 517813

Beekeeper numbers

There are currently 3,184 beekeepers in Wales registered on the NBU's online database Beebase. Between them, they have 17,506 colonies in 4,256 apiaries – an average of 5.5 colonies per beekeeper and 4 colonies per apiary. Over the past 8 years, the number of new beekeepers registering on Beebase has risen overall: from 102 in 2007 to 406 in 2011. In 2012 and 2013, they fell to 242 and 208 respectively but 2014 saw a return to the upward trend with 332 new beekeeper registrations, followed by 349 in 2015.

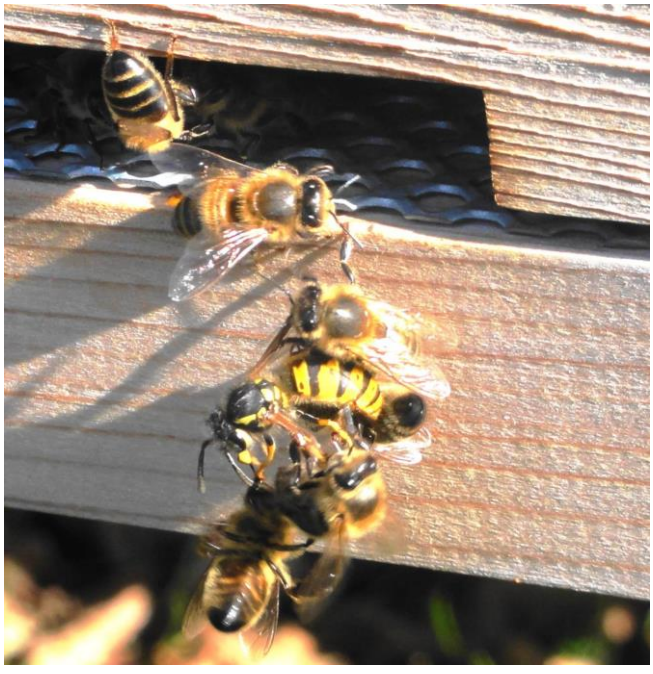
Wales' beekeeper, apiary and colony numbers on Beebase (December 2015)

County*	No. Beekeepers – *and as a % of the total*		No. Apiaries – *and as a % of the total*		No. Colonies *and as a % of the total*	
Gwynedd	458	14 %	624	15 %	2,231	13 %
Clwyd	397	12 %	544	13 %	1,790	10 %
Powys	450	14 %	571	13 %	2,374	14 %
Dyfed	937	29 %	1301	31 %	6,601	38 %
Mid Glamorgan	228	7 %	312	7 %	1,196	7 %
West Glamorgan	228	7 %	290	7 %	1,056	6 %
South Glamorgan	167	5 %	221	5 %	735	4 %
Gwent	319	10 %	393	9 %	1,523	9 %
WALES totals	**3,184**		**4,256**		**17,506**	

** Funding restraints mean that Beebase is still configured in the preserved counties of Wales.*

Inspections

This year, Welsh Inspectorate visits totalled 791 beekeepers, 1175 apiaries and 5224 colonies. This represents 146 less beekeepers, 164 less apiaries and 329 fewer colonies than the previous year. The reasons for the reduction in numbers are more challenging weather conditions and being one staff member down, as we did not have any applications to fill the vacant post in N Pembrokeshire. We also carried out 3 import inspections following up the importation of queens from other EU countries.



Wasp attack – Photo by Edmund Thomas

Pests and diseases

Varroa

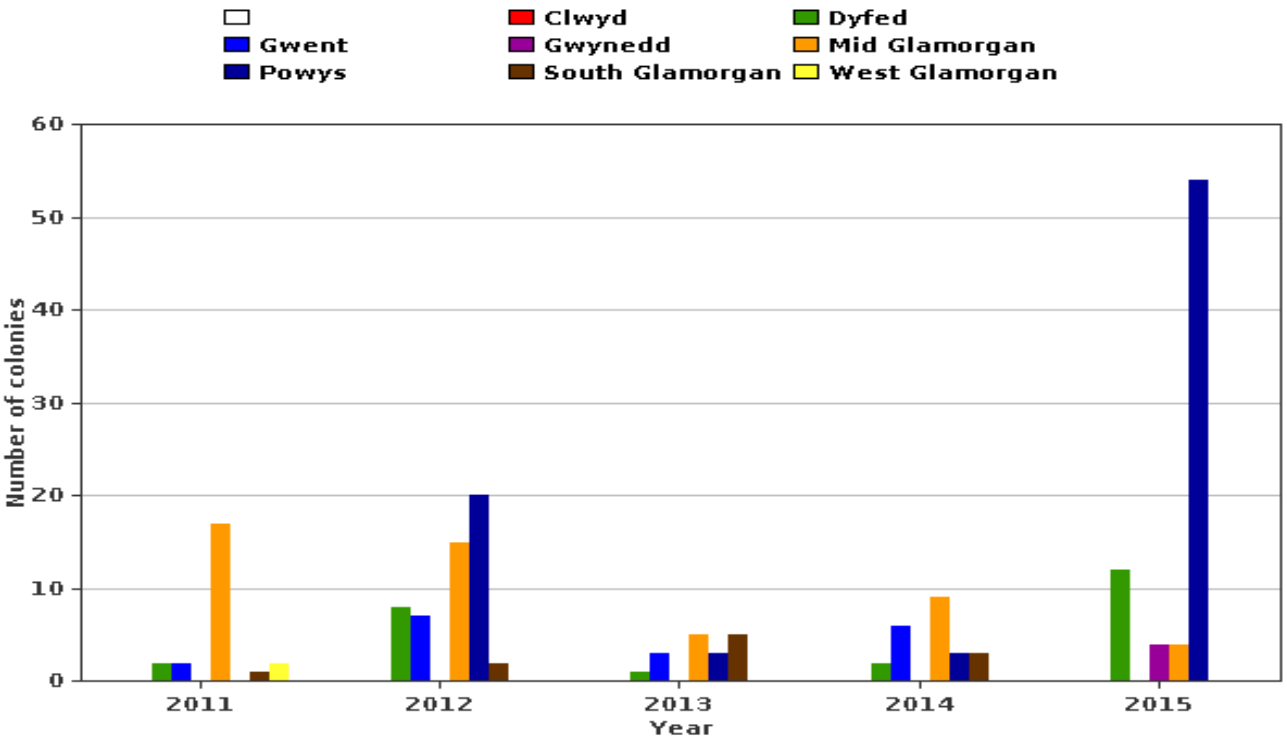
During the course of our inspections we are still finding insufficient monitoring and control of varroa by many beekeepers, despite more treatment products being available and it becoming widely accepted that an increased presence of varroa and hence Deformed Wing Virus in drones will adversely affect the queen's mating success. This year saw the licencing by the Veterinary Medicine Directorate of the first oxalic acid varroa treatment, Apibioxal. Although oxalic acid has been used unofficially for many years, now it can be prepared and used in an authorised form. This, along with MAQS and the forthcoming Hopguard increases the arsenal of treatments containing naturally occurring chemicals available to beekeepers.

Notifiable diseases: European Foulbrood (EFB) and American Foulbrood (AFB)

This season, we found foulbrood in 30 apiaries, affecting 79 colonies. This is an increase on 2014 levels when 17 apiaries were found with 28 diseased colonies. It represents a 76% rise in infected apiaries and a 182% rise in infected colonies.

The rise in cases of disease is primarily attributable to an EFB outbreak on the Shropshire border and the supply of some infected nucs to an association and beekeepers in the same area, the level of AFB infection remains low. Beekeepers should not drop their guard, but can take some comfort from the fact that the likelihood of their bees being affected by foulbrood remains low: 0.4% (3 in number) of beekeepers inspected were found to have AFB and 2.3% (18 in number) EFB.

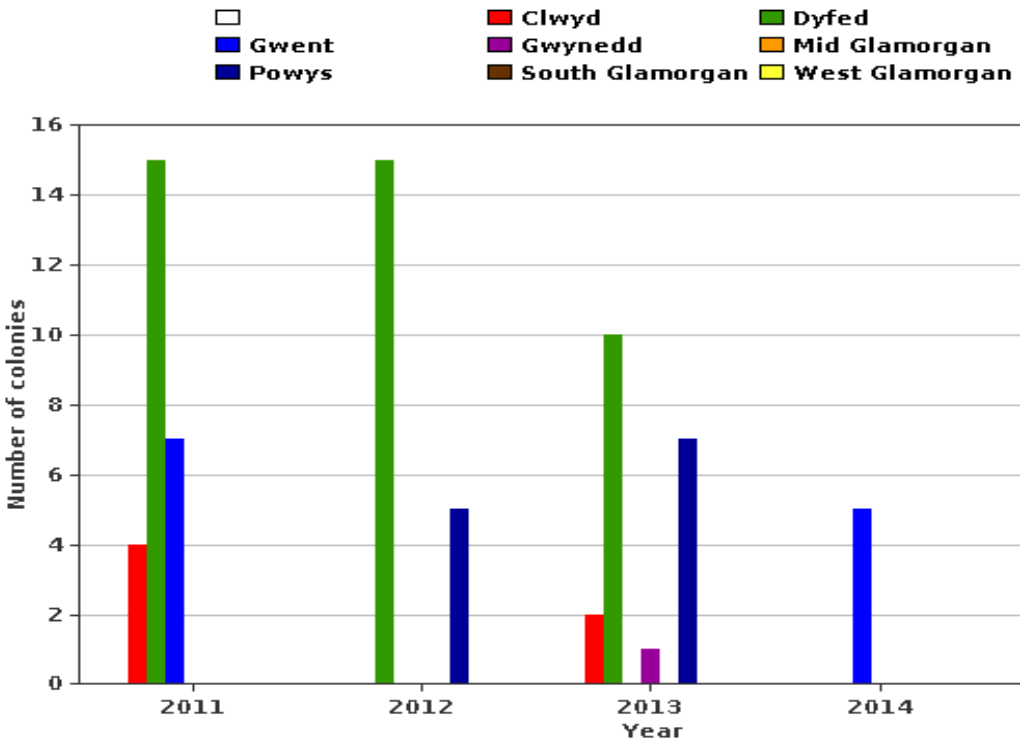
Incidence of EFB in Wales 2011 – 2015 (per preserved county)



Location and incidence of EFB affected hives per unitary authority (colour referenced to preserved counties data above)

Unitary Authority	Grid square	Area	Colonies infected	Month found
Bridgend	SS88	Pyle	3	April, May, August
RhonddaCynonT	ST09	Abercynon	1	May
Carmarthenshire	SN23	Tegryn	3	June, July
Ceredigion	SN56	Nebo	3	July, August
Ceredigion	SN67	Llanilar	1	June
Ceredigion	SN68	Bow Street	1	May
Ceredigion	SN79	Glandyfi	4	May, June, July
Powys	SJ21	Geufordd	6	May, June
Powys	SJ31	Wollaston	29	May, June, July, Aug
Powys	SN98	Llanidloes	6	May
Powys	SO08	Llandinam	2	June
Powys	SO09	Caersws	4	June, September
Powys	SO18	Anchor	1	July
Powys	SO19	Newtown	5	July, September
Powys	SO24	Hay on Wye	1	April
Gwynedd	SH70	Machynlleth	1	June
Gwynedd	SH80	Cenmaes Rd	3	May

Incidence of AFB in Wales 2011 – 2015 (per preserved county)



Location and incidence of AFB affected hives per unitary authority (colour referenced to preserved counties data above)

Unitary Authority	Grid square	Area	Colonies infected	Month found
West Glamorgan	SN60	Pontaddulais	3	April
Monmouthshire	ST59	Chepstow	1	June
Powys	SO03	Garthbrengy	1	June

Suspect Asian Hornet sighting

On the evening of 10th June 2015, SBI Maggie Gill received a call from a beekeeper in Pembrokeshire advising that he had possibly discovered an Asian hornet founder nest in his trailer. He had brought the trailer back from his home in South West France in October 2014 where the hornet is present, and it had been under cover since his return to Wales. The beekeeper was well aware of the threat of the hornet and so notifying the inspectorate in these circumstances was the right thing to do. Maggie arranged to attend the site at Amroth on the 11th June to investigate further.

Once on site Maggie emailed images of the nest to the NBU office. Initial analysis of these photos led NBU lab manager and NBU colleagues Mike Brown and Julian Parker, RBI Southern England, to believe it belonged to a wasp species. It could not however be definitively ruled out that it was not an Asian hornet founder nest because of the small size. To put this into perspective, the nest was about the size of a ping-pong ball, and the vast majority of wasp or hornet nests start out this way. Maggie collected the nest and sent it to the NBU next day delivery for further analysis. Mike Brown contacted colleagues in France who have worked on the Asian hornet and wasps for many years (ANSES, Natural History Museum Paris, University of Tours) for further opinion. All three confirmed that the nest was from a wasp species, the Natural History Museum contact, suggesting the nest had characteristics of the genus Dilochovespula spp.

Closer examination in the NBU laboratory on 12th June by Mike Brown, Head of the National Bee Unit at APHA, Ben Jones NBU Laboratory Manager for Fera Science Ltd and Joe Ostoja-Starzewski Entomology Team Manager at Fera Science Ltd deemed the nest, through morphological examination, (cell size, texture and structure) to be negative for Asian hornet. It belonged to a wasp species, Dolichovespula saxonica - the Saxon wasp, which arrived in the UK in the 1990s.

In Pembrokeshire inspections of surrounding apiaries were completed rapidly on 12th June in parallel by Maggie and me, to look for evidence of hawking hornets, which would be a sure sign of the presence of an established nest in the area. Traps, which each NBU region have ready for such a contingency, were deployed in these apiaries to be checked on a weekly basis as a further precaution. Local beekeepers were

supplied with advisory information to help them identify Asian hornets in the event that this was an actual incursion.

This incident turned out to be negative for Asian hornet, but was a really good opportunity to properly test the initial phases of the Contingency plan in a real case scenario, not a desk exercise. It involved of a wide range of people both inside APHA and wider who can bring their expertise to the fore.

Suspect embryonic Asian Hornet nest – Photo by Maggie Gill

Strategic work

Exotic pest surveillance

We carried out 346 inspections specific to exotic pests this year, targeting a combination of identified risk points and random sites. The identified risk points are ports, airports, crude hive product importers, fruit and vegetable wholesale markets and landfill sites associated with imported products.

We have also established 15 Sentinel Apiaries in order to improve our capacity to combat the arrival of pests from abroad. Sentinel apiaries are set up in areas considered ‘at risk’ where a volunteer beekeeper agrees to designate and monitor one of their colonies specifically for exotic pests. As well as visual inspection, floor debris from the designated hives is sampled twice a year and tested for Small Hive Beetle and Tropilaelaps. All equipment and paperwork is supplied to the beekeeper who collects samples as directed and sends them to the NBU laboratory for screening. SHB traps are provided and checked at normal colony inspections and noted on a log sheet.

Given the continued presence of Small Hive Beetle in Italy this year and the proximity of the Asian Hornet across the channel in Northern France, the importance of exotic pest surveillance work cannot be overstated.

Wales' Contingency Exercise 2nd – 3rd September 2015

Operation Estron was a two day contingency exercise delivered by the National Bee Unit in Wales based on a simulated incursion of Small Hive Beetle (SHB). The simulated beetle was discovered at the National Botanic Garden of Wales (NBGW) sentinel apiary, when floor debris samples were sent in to the NBU lab for routine analysis and found to be positive. Incident command was established in a Local Disease Control Centre (LDCC) in the APHA offices in Carmarthen. On this occasion a National Disease Control Centre (NDCC) was not established, however two members of staff from the NBU office were participating together with observers from OCVO Welsh Government and APHA.

On day one, a radial 5km sweep of apiaries was carried out by the Welsh Bee Inspectorate around NBGW, when four teams of two inspectors visited 11 apiary sites and found 4 positive for SHB with larvae on 3 sites. Suspect samples on 2 further sites were taken but later found to be negative. On day two, the centre of the sweep shifted 5km to the North East, in response to the findings on day one. Five teams of two inspectors visited 13 apiary sites and found 3 positive for SHB with larvae on 1 site. Suspect samples on 1 further site were taken but later found to be negative.

A total of 24 apiary sites were inspected over the two days and a core of 7 positives were identified, in the centre of the inspected area allowing a supposition that eradication may be attempted in this limited instance. However it was stressed that, in a live situation more extensive inspections would be undertaken before the Strategic Command Group (SCG) came to any decision over attempts at eradication or containment.

Contingency Exercise Dummies – Photo by Edmund Thomas

Many thanks to all those beekeepers who took part in the exercise, we gained some valuable experience in running an operation like this, the exercise went very well and we benefited from the resources available now we are part of the Animal and Plant Health Agency. I hope that we will not be in a position to have to do it for real at any time soon, but we will be better prepared if ever those circumstances arise. The next exercise will take place in a region of England in 2016 where we will build on the valuable experience gained here in Wales.

Pollinator Action Plan

I continue to represent the NBU on Welsh Government's Pollinator Action Plan Taskforce, and, alongside representatives from the Welsh Beekeeper's Association (WBKA), work to ensure that honeybee health remains an important part of the agenda. The Taskforce aims to raise awareness and bring a new emphasis to the work of government departments, other public sector bodies and voluntary groups in order to improve habitats and opportunities for all pollinators.

Education and events

The Inspectors in Wales are involved in local association beginners and improvers classes, as well as giving talks and demonstrations on topics ranging from good husbandry, exotic pest threats to varroa control, nosema and biosecurity. In total, the team has participated in 46 events.

Bridgend BKA Comb Workshop – Photo by Ade Bowen

Following the success of last year's programme, we ran another seven Disease Recognition, Comb and Varroa Workshops in May, June and July. They were hosted and publicised by local beekeeper associations, open to members and non-members alike, and were attended by a wide range of beekeepers. A special licence from the Animal and Plant Health Agency (APHA) allowed us to show real examples of diseased combs collected during our inspections. The practical and visual elements of the events, especially the chance to see and handle diseased comb 'in the flesh', was an opportunity much appreciated by participants. As well as beekeepers going away with a better understanding of biosecurity, hygiene, good husbandry and the importance of inspecting for disease, we enjoyed being able to demonstrate the work that we do to a wider audience in an informative and accessible way. More will be on offer next year.

APHA

This is the first full year that Bee Inspectors have operated as part of the Animal and Plant Health Agency Inspectorate. This new body brings all animal and plant health inspectors - the Animal Health and Veterinary Laboratories Agency, the Plant Health and Seeds Inspectorate, the Bee Inspectorate, and the Genetic Modification Inspectorate – into a single agency.

The Welsh Bee Inspectorate still operates from within the National Bee Unit whose head office remains at its former site in York, now re-named National Agri-Food Innovation Campus in York. The telephone number for the NBU Office has changed to 0300 303 0094 (local rate) and the email address is nbu@apha.gsi.gov.uk

Beebase

The graphs and figures in this report are available on the public pages of Beebase, on the NBU website (www.nationalbeeunit.com) in 'Bee Pests, Diseases and Maps'. The site also offers several pages of tips, advice and downloadable leaflets on disease control and bee husbandry.

If you have been inspected, you will be registered on Beebase (it is **not** an automatic consequence of joining a local beekeeping association). There are substantial benefits in registering, including: automatic alerts in the event of foulbrood or exotic pests being found in the vicinity of your apiary; emails with timely advice on the basis of the inspectorate's findings during the season; and a facility to maintain your own beekeeping and apiary records. In addition, we can come and check your bees and give advice in person if foulbrood or exotic pests are found nearby.

I urge everyone to check that they are on Beebase and, if registered, to update any changes to their personal details and apiary information. If not, registration is free, quick and confidential, using a link on the home page. You can also request a reminder of your username and password from there (or phone the NBU office).

A final note

I would like to thank the team of Seasonal Bee Inspectors for all their hard work, and the local association secretaries who helped us to manage the programme of workshops across Wales. I anticipate recruiting another SBI in 2016 and would be happy to receive any expressions of interest or answer any questions from anyone suitably experienced.

Frank Gellatly
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