European Union Pilot Surveillance Programme for Honey Bee Health: Part 2

Gay Marris and Mike Brown (National Bee Unit)

Details of what can be expected during the PSP apiary visits

[Part 1 (September, page ??) gave the background to the establishment of the European Pilot Surveillance Programme, designed to collect and collate data on colony losses and bee health across the European Union. This is being organised by the EU Reference Laboratory (EURL) for Bee Health which is the Sophia-Antipolis Laboratory of ANSES, France (French National Agency for Sanitary Safety of Food, Environment and Labour, formerly AFSSA [http://www.anses.fr/]).

The National Bee Unit (NBU) is taking part in this programme with 200 apiaries providing samples for analysis. We now consider what beekeepers involved in the programme can expect during an apiary visit.]

THE FOCUS of the Pilot Surveillance Programme (PSP) is to ascertain levels of over-winter and within-season colony losses and to identify any risk factors (ie, particular pests or diseases) associated with these losses. An NBU Inspector will visit each selected apiary three times over a period of 10 months, collecting a continuum of information about colony health.

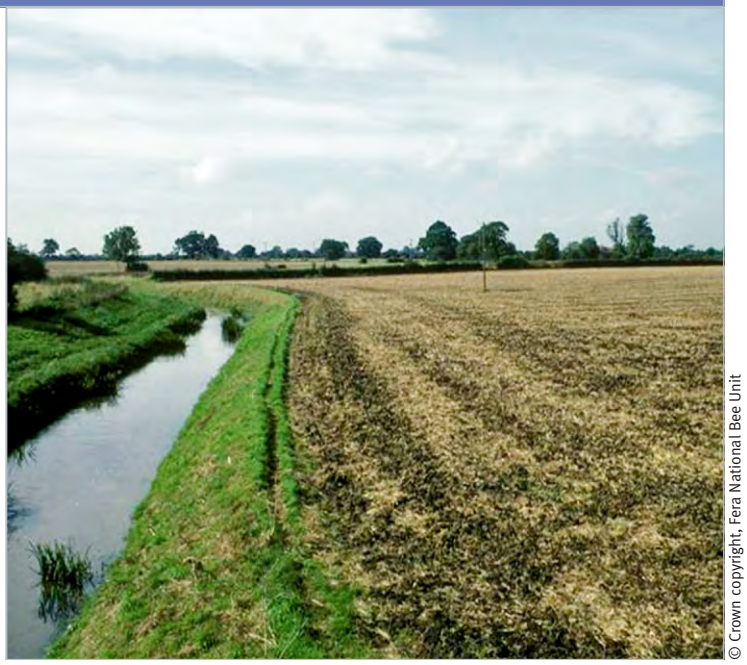
This is an important difference between the PSP and the recently completed Random Apiary Survey (see September 2012, page ??), which sampled a very large number of apiaries just once, thus providing 'spot check' data rather than sustained monitoring. The timing of each visit in the PSP will take into account the seasonality of the beekeeping year in the country in question.

Visit #1 must take place at the end of the 2012 beekeeping season, before the bees overwinter (in the UK, this will be between August and September, but in other Member States it may be earlier or later in the year).

Visit #2 must take place at the end of the over-wintering period (in UK, March–April 2013).

Visit #3 must take place during the productive beekeeping season (in UK July 2013).

All apiaries must be monitored for a given list of pests and diseases. Colony sampling procedures and subsequent laboratory diagnostics will be according to standard protocols developed by the EURL so that data collected in different Member States will be directly comparable and usable in the EU policy context.



© Crown copyright, Fera National Bee Unit

Visit #1: Takes place at the end of the 2012 beekeeping season before the bees overwinter – August–September 2012

What the Beekeeper can Expect at Each Apiary Visit

Visit #1 (Autumn 2012)

This will be the busiest of the three. First of all the Inspector will go through a questionnaire with the beekeeper. He/she will ask a series of questions about the history of the apiary, its location (eg, rural farmland, forested, urban) and the type(s) of hive products harvested (honey, pollen, queens, etc). The beekeeper will also need to describe any colony diseases, disorders or losses which they observed during the beekeeping season of 2012.

Once the questionnaire is completed, colony inspections will begin. It is likely that all colonies will be opened and inspected (unless the apiary comprises more than 19 hives) and up to four types of sample will be taken:

(a) 300 adult honey bees will be collected from each colony in the apiary, irrespective of whether the colony shows any signs of disease;

(b) If, upon inspection, any colony does show signs of disease, a smaller sample of 20–30 symptomatic adult bees will also be collected, but only from affected hives;

anses
French agency for food, environmental and occupational health safety

(c) If symptoms of disease are seen in the brood, symptomatic bee larvae will be harvested from affected hives;

(d) Any unusual beetles or mites observed inside the colony will be sampled individually.

Visit #2 (Spring 2013)

This should be comparatively less intense. The Inspector will note any lost or ailing colonies and will record obvious symptoms of disease. Although all colonies will be opened and inspected, only three types of sample are required:

(a) If, upon inspection, any colony shows signs of disease, a sample of 20–30 symptomatic adult bees will be collected, but only from affected hives;

(b) If symptoms of disease are seen in the brood, symptomatic bee larvae will be harvested from affected hives;

(c) Any unusual beetles or mites observed inside the colony will be sampled individually.

Visit #3 (Summer 2013) will follow the same pattern as visit number two.

Diagnostic Tests

The asymptomatic adult bee samples from visit number one will be screened for varroa mites (absence/presence and level of infestation) and for viruses. Any other 'diseased' adult bee samples collected on visits one, two or three, will be tested for Nosema and viruses and examined for varroa.

BeeBase

Visit #2: Takes place at the end of the overwintering perios – March–April 2013

Any 'diseased' brood samples collected on visits one, two or three will be tested for foul brood (both European foul brood [EFB] and American foul brood [AFB]) and examined for varroa. Note. Initial diagnosis of EFB and AFB will be achieved in the field and any confirmed cases of these statutory notifiable infections will be managed according to our usual protocols.

If necessary, additional screening of unusual beetles or mites will be carried out if the Small hive beetle (Aethina tumida) or Tropilaelaps mites are suspected. Note. Both these exotic pest species are believed absent from the UK.

Reporting the Results

The PSP will run from June 2012 until the end of September 2013. As soon as data analysis is complete (anticipated date December 2013), all diagnostic results relating to individual apiary will be made available to participating beekeepers on the BeeBase database via their personal secure logins.

Throughout the project, data will be entered onto a shared online database provided by the EURL. This will allow them to collate information from all participating Member States and calculate the following 'Epidemiological indicators' (measures of losses):

- winter colony mortality rate (per apiary)
- rate of overwintering dead colonies per member state
- winter colony mortality rate (as estimated by the beekeeper)
- mid-season colony mortality rate (per apiary)
- rate of mid-season dead colonies per member state
- mid-season colony mortality rate (as estimated by the beekeeper)
- rate of varroa-infested apiaries
- rate of varroa-infested colonies per apiary

Visit #3: Is similar to visit #2 and takes place in the summer – July 2013

- varroa infestation level per colony
- rate of apiaries suffering from deformed wing virus (DWV)
- rate of DWV-positive colonies
- rate of apiaries suffering from Nosema
- rate of apiaries suffering from acute bee paralysis virus (ABPV)
- rate of ABPV-positive colonies
- rate of apiaries suffering from chronic paralysis (CBPV)
- rate of apiaries suffering from European foul brood (EFB)
- rate of apiaries suffering from American foul brood (AFB).

The EC envisages that the PSP will continue on an annual basis and evolve as time goes by. The EC Directorate has wished all participants the best of luck with this very important project.

The NBU is fully committed to the delivery of the UK contribution and the realisation of the EC's aims. We welcome the opportunities the PSP affords us to enhance existing partnerships with our EU colleagues and to forge new ones. ✱

Contact Details

Gay Marris
The National Bee Unit
The Food and Environment Research Agency (Fera)
Sand Hutton
York YO41 1LZ

gay.marris@fera.gsi.gov.uk

HP ad