



Collecting and
Sharing Data on
bee health
Towards a
European Bee
Partnership

BRUSSELS, 26 JUNE '17



Animal &
Plant Health
Agency

Mike Brown

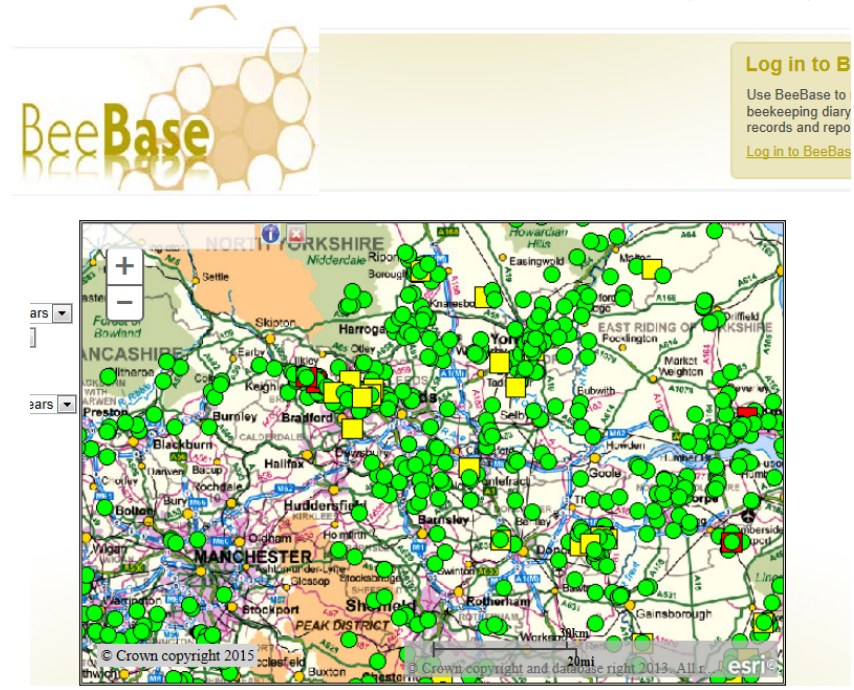




NBU BACKGROUND

- The National Bee Unit (NBU) Delivers the Bee Health Programmes on behalf of Department for Environment Food and Rural Affairs (Defra) and Welsh Government (WG) in England & Wales.
- Scotland
- Backbone of work through Beebase: It is first and foremost a veterinary surveillance tool: not a research tool
- Foundations built in 1991 – Varroa 1992 – Management 20,000 samples
- Evolved since then
- Web based since 2006

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VARIED DATA COLLECTED EACH YEAR



- Numbers of apiaries, plus risk designation, numbers of beekeepers, inspection history, diagnostic history year on year
- Diagnostics results, inc. Strain type/genetics (AH)
- GIS/maps
- Colony losses
- Imports and exports trends year on year
- Husbandry survey on beekeeper practices
- Food safety samples: National food surveillance scheme
- Suspect poisons: Wildlife Incident Scheme
- Annual inspections programme is approx. 7000 apiaries. Pest and disease incidence (but only Statutory of significance)
- There is no systematic sampling of colonies/bees
- Exceptional investigations: apiary surveys for unusual things/abnormal losses/Commissioned work: baseline surveys RAS
- Research projects





SOME EXAMPLES OF HOW THESE DATA ARE USED

- So translating these data into use for the end users
- Public: Information hub for beekeepers and Government
- Secure: Risk based Inspection programme which targets disease areas/risk points/categories temporal and spatial data, tracings and sales, disease controls
- Modelling, APHA in house, plus collaborators e.g. University of Warwick, Newcastle (IPI to begin with but has continued since)
- Research flows: various collaborators – complimentary skills – bee health focus
- PhDs: examples, Universities York, Liverpool, Surrey, Exeter: information flows back into the programme
- Beekeeping Associations, Bee Health Advisory Panel, beekeepers help and interest
- Email of disease alerts, which provide real-time warnings to locally at risk Beekeepers as disease outbreaks are discovered.
- Email advisory alerts: management/husbandry advice
- Dissemination: outreach, training & publications

Bee Craft

Imports and Exports: February 2017. [Leamer, J. \(2017\)](#)

A Passion for Insects, January 2017. [Stanton, K. \(2017\)](#)

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A Follow Up to the Hive Count, A Big Thank You, January, 1 May 2015. [Budge, G. \(2015\)](#)

SmartEyes Update: Season One, Roberts, K., Leamer, J., December 2015. [Budge, G. \(2015\)](#)

Nematodes versus Small Hive Beetle, Cuthbertson, A.G.S., et al. September 2013. [Budge, G. \(2013\)](#)

Sustainable Management of Resilient Bee Foundations, SmartEyes, Roberts, K., Leamer, J., May 2015. [Budge, G. \(2015\)](#)

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The Small Hive Beetle, Leamer, J., Brown, M., November 2014. [Budge, G. \(2014\)](#)

The Legality of Veterinary Medicines and Racism, Leamer, J., September 2014. [Budge, G. \(2014\)](#)

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Control of Small Hive Beetle Using Nematodes, Cuthbertson, A., Marks, W., et al., February 2014. [Budge, G. \(2014\)](#)

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Tracking Infections and Differences between Countries, Distinguishing between EFD Outbreaks, Haynes, E., June 2013. [Budge, G. \(2013\)](#)

A Simple Home Monitoring Trap, Pittman, J., June 2013. [Budge, G. \(2013\)](#)

Cases of Mislabelled Honey, The Asian Hornet, Marks, G. Roy, H., June 2013. [Budge, G. \(2013\)](#)

1.6 Cycle of the Small Hive Beetle, Ashworth, Cuthbertson, A., Marks, W., January 2013. [Budge, G. \(2013\)](#)

Reflections From The National Bee Unit, The 2012 Field Season, Marks, G., Watson, A., January 2013. [Budge, G. \(2013\)](#)

EU First Surveillance Programme: Part 1, Marks, G., Brown, E., October 2012. [Budge, G. \(2012\)](#)

EU First Surveillance Programme: Part 2, Marks, G., Brown, E., October 2012. [Budge, G. \(2012\)](#)

Honey Bee Dispersals at First Part 1, Jones, B., Marks, G., 8th August 2012. [Budge, G. \(2012\)](#)

Honey Bee Dispersals at First Part 1, Jones, B., Marks, G., 7th July 2012. [Budge, G. \(2012\)](#)

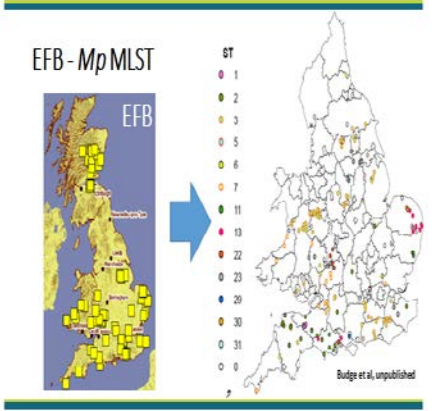
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Budge et al., unpublished



FROM THE NATIONAL BEE UNIT

Hive Count and BeeBase

Jason Leamer, Technical Adviser, Animal and Plant Health Agency

Part of the purpose of this project is to ensure that your records are up to date so you can be sure that you are up to date in providing something which is a vital requirement given the absence of these records in the eyes of anyone on September.

One thing highlighted by the arrival of the Asian Hornet was the need for accurate and up-to-date data on the numbers and locations of beekeepers, hives and colonies in the UK. The information needed to do this is the National Bee Unit planning and preparation for regional and local beekeepers and to report on their status when an outbreak occurs.

Animal & Plant Health Agency

The bee base will be used to inform the planning and preparation for regional and local beekeepers and to report on their status when an outbreak occurs.

Don't put your bees at risk Register on BeeBase

BeeBase is a FREE online service provided by the National Bee Unit to help protect you and your fellow beekeepers from colony threatening pests and diseases.

Register online today www.nationalbeeuunit.com



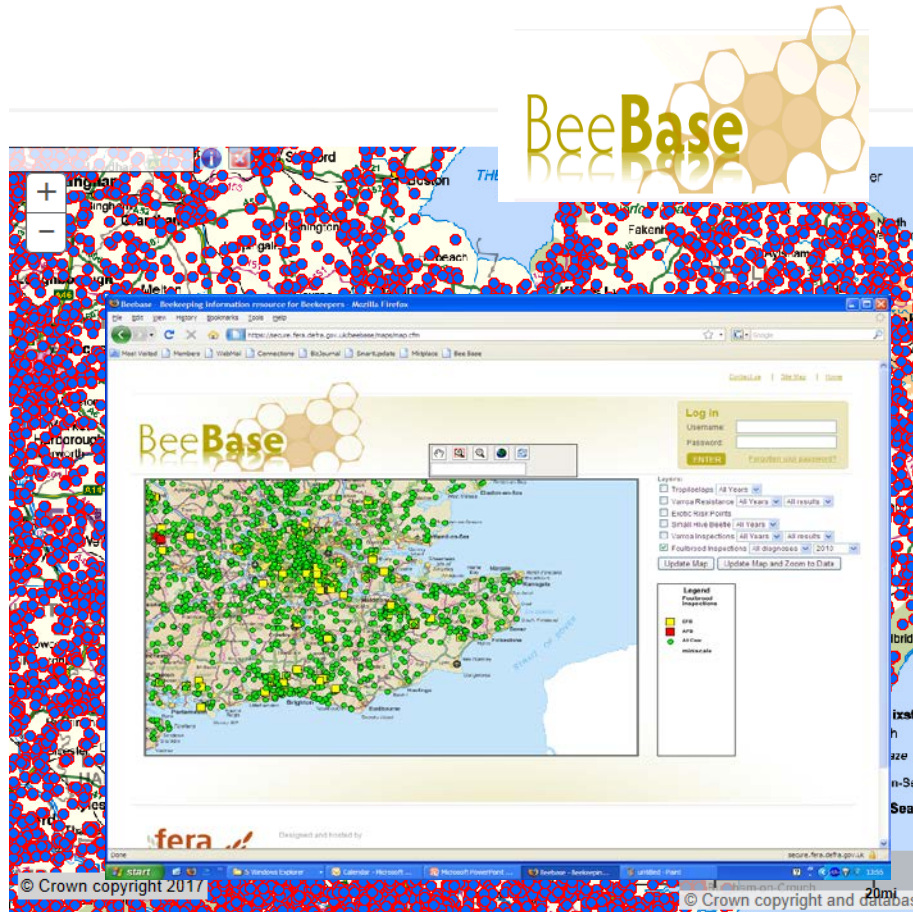
INTERFACE

Research

Can bees protect themselves? 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DATA AVAILABLE TO SHARE

- Information already available on BeeBase
(www.nationalbeeunit.com)
- Or: Government Open Data
<https://data.gov.uk/>
- Live data on apiary inspections
- Imports exports
- Disease incidence, Annual incidence, year on year trends, current & historical, maps
- Publications: both advisory, science





DATA AVAILABLE TO SHARE FROM THE RESEARCH/VETERINARY COMMUNITY

- What might institutes or research consortia have available?
- Data from experiments, mapping information anonymised, geospatial, landscapes/landcover
- Diagnostics results from surveys/samples
- Research results:
Experiments/PhDs/diagnostics/surveys/control treatments/ecotox./env. health studies/colony conditions
- Dissemination/lectures/conference
- Publications



SOME POTENTIAL LIMITATIONS

- Aims: what setting out to do, design, protocols, training might be different
- Are direct comparisons possible/different climates
- Is the data collected applicable everywhere
- Results relevant, can be extrapolated?
- Confidence in the robustness/robust nature of these data: Accuracy/Gaps
- Harmonised diagnostic methods
- Harmonised field collection and assessment protocols
- Trained personnel to carry out the work/ SOPs



DATA NEEDS/POSSIBILITIES

- Similar Data from inspections/surveillance programmes similar to our own
- Experimental or apiary survey data
- Data on Imports and exports across Europe and their origin – may assist with risk management
- Trade data
- Always open to potential collaborations
- Find the idea, and decide on a way to work together

