

# A study of Beekeeping Practices in England and Wales 2010 - Summary

## Background

The Department for Environment, Food and Rural Affairs (Defra) commissioned People Science & Policy Ltd and East Malling Research to undertake a study focussed on building a better understanding of how beekeepers access and respond to advice and information about beekeeping husbandry. Data obtained throws light on which information sources beekeepers prefer to access and therefore the means by which information can be most effectively disseminated. The study comprised the following elements: 20 semi-structured qualitative telephone interviews with bee farmers; 30 semi-structured qualitative telephone interviews with amateur beekeepers who had two or more years' experience; an internet survey of 906 beekeepers and 31 bee farmers; 20 in-depth follow-up telephone interviews with respondents to the internet survey who had been keeping bees for less than two years.

Even though the study worked with a large number of respondents, it is not possible to state that the participants were truly representative of the UK's beekeeping community. However, the study's findings are indicative of the community's views and experiences.

## Profile of Beekeepers

47% of respondents had kept bees for less than two years. There were at least 50 respondents from each of the seven NBU English regions, and 11% of respondents were living in Wales. 68% of the respondents were male; 32% were female. The overall age profile of respondents indicates a relatively mature population. Most bee farmers in the survey had kept bees for 20 years or more and between them had 2082 colonies.

## Motivations for taking up beekeeping

The key motivation for people taking up beekeeping was general interest, although harvesting honey for personal use, environmental benefits and concern about the declining number of bees were all important motivators. Beekeepers with less than two years experience were twice as likely to be motivated by environmental factors as those with two or more years' experience. Whilst a majority of beekeepers endorsed the need for modern beekeeping methods, this belief is more prevalent among those with more experience and a larger number of colonies.

## Attitudes to husbandry

Nearly half of respondents aspire to chemical free beekeeping; this is particularly true for beekeepers with less than two years' experience. A large majority of beekeepers accept the need for vigilance and keeping up to date with the latest husbandry advice. Preferences for sources of information tended to reflect a beekeepers' level of experience.

## Practices

97% of respondents regularly monitor for pests and diseases; 96% control for *Varroa*. The few who do not, cite low levels of infestation and allowing bees to build up their own immunity as explanations. By far the most common control for *Varroa* is Apiguard, but use of open mesh floor and oxalic acid are also popular. Those with six or more colonies use the largest combination of *Varroa* controls (4.7 controls on average), whilst those who had one or two colonies used 2.7 controls on average. 35% of respondents use Integrated Pest Management (IPM) to control *Varroa*. Indicators of good integration into the beekeeping world, such as awareness of BeeBase and a wide range of contacts among other beekeepers are the most important factors associated with use of IPM. Follow-up interviews reveal that new beekeepers often considered recommendations from other beekeepers when deciding which monitoring methods and treatments to use. However, advice they obtain is often conflicting, making it hard to determine best practice. 86% of respondents' bees had experienced *Varroa*; 44% had experienced chalkbrood; 22% *Nosema*; 6% acarine; 6% sacbrood, 5% European foulbrood (EFB); 2%

American foulbrood (AFB). Telephone interviews confirmed that *Varroa* is often diagnosed by beekeepers themselves, but Inspectors are called in where notifiable pests and diseases (AFB; EFB) are suspected. 21% of respondents to the internet survey had lost all or most of their colonies in one season. Beekeepers with more than two years experience report that beekeeping has become more labour intensive, it is no longer possible to be a “*leave alone beekeeper*” because of the increase in pests and diseases, particularly *Varroa*. This group was also pessimistic about the future with respect to the prevalence of pests and diseases. 97% of respondents are aware that, by law, some diseases and pests must be reported to the Bee Inspectorate. More experienced beekeepers are much more likely to identify AFB and EFB as notifiable pests and diseases than small hive beetle or Asian mites. Very few beekeepers interviewed over the telephone are aware of the legal requirement to keep a list of treatments applied to the hive. However, they are aware of regulations relating to food labelling and sales.

## Influences

**Beekeeping associations:** 98% of survey respondents are members of a beekeeping association. More experienced beekeepers find membership of an association is “*invaluable*” mainly because of access to informal networks. Less experienced beekeepers value support received from local associations, and turn to them as their most important source of information.

**Training before obtaining bees:** 66% of survey respondents had some sort of training before owning bees; those who have kept bees the longest are least likely to have had training before owning their own hives. The two principal providers of training are local beekeeping associations (72%) and other beekeepers (30%). Some respondents with less experience report difficulty getting onto training courses because of high demand. 99% of those who had training before owning their own hives found it ‘beneficial’ and 90% found it ‘very beneficial’. A few who had no or limited training before owning their own hives admit that, on reflection, having more knowledge before they started would have been helpful.

**Courses/talks since obtaining bees:** Survey respondents regarded it as very important to keep up-to-date with bee husbandry advice. Some more experienced beekeepers feel they won’t learn anything new from attending courses, but others go to as many talks as possible. Local beekeeping associations, National Bee Unit (NBU) Inspectors and other beekeepers are all important providers of on-going training. The most popular courses/talks are those on general husbandry techniques, and 91% of respondents attend this sort of event. Experienced beekeepers are more likely to attend talks on a range of more specialised subjects. However, less experienced respondents attend courses on subjects such as control of pests and diseases, and preventing colony loss. Respondents overwhelmingly find courses and talks to be beneficial, but the skills of the trainers are sometimes variable.

**Future training needs:** 94% of respondents would like to attend training, talks or courses in the future, with control of pests and diseases, general husbandry techniques, diagnosis of pest and disease problems and preventing colony loss all cited as topics that would be of interest.

**Sources of information:** 57% of survey respondents obtained information from a beekeeping association **before** getting bees; 43% use written materials (books & journals); 33% get information from a friend or acquaintance; 24% use the internet. Many beekeepers use multiple sources of information; 81% use four or more of the sources listed.

**Magazines and newsletters:** 78% of survey respondents seek general information and advice about beekeeping from ‘magazines/newsletters’, with BBKA News (82%), local newsletters (74%), and BeeCraft (64%) the dominant publications.

**Websites:** 78% of survey respondents seek information and advice from websites, with a search engine, the BBKA website, local beekeeping associations, BeeBase and the Defra website the most commonly cited.

**Pests and diseases and colony loss:** Respondents to the internet survey are most likely to use contacts at a beekeeping association, leaflets from organisations (e.g. the NBU), and websites for information about treatments for pests and diseases and colony loss. Newer beekeepers rely more on local contacts; those who have been keeping bees for longer place greater emphasis on leaflets from organisations such as the NBU.

## The National Bee Unit

**Awareness of the NBU:** Only 8% of respondents have not heard of the NBU.

**Awareness of and registration on BeeBase:** BeeBase has an important role to play in the beekeeping community, both as a source of information about husbandry practices and as a database for the Inspectorate from which beekeepers can access their records. It is therefore surprising that nearly one in four (23%) survey respondents are unaware of BeeBase. Factors associated with high awareness of BeeBase are: the number of other beekeepers known; and beekeepers' preferences for written sources of information. The main reason given for registering on BeeBase was to gain 'access to information and advice'; the most frequent reasons given for not registering are that the beekeeper had not yet 'got round to it' or did 'not see the benefit'. Some beekeepers are unsure of whether their association or the local Bee Inspector had registered them on BeeBase. It was also reported that people did not get anything back from registering on BeeBase.

**NBU as a source of information:** 47% of respondents to the internet survey seek information or advice from the NBU. Beekeepers with longer experience of beekeeping are more likely to have heard of the NBU. 97% of beekeepers who have contacted the NBU obtained the information or advice they wanted at least 'to a certain extent'; 52% got **all** the information they wanted. Less experienced beekeepers generally see the NBU as useful, but many state that it is just one of a number of sources used.

**What beekeepers want of the NBU:** Many more experienced interviewees cannot think of anything extra that the NBU could offer. Those that can, express a variety of views, including compulsory registration of beekeepers (some are also against this), sponsorship of research into pests and diseases, and greater provision of, or support for, training and training materials. The importance of the NBU's communication role is also emphasised, in particular the need for more active dissemination and advice.

**The Bee Inspectorate:** 55% of respondents have been visited by a Bee Inspector. Almost all find such visits helpful, with the "*reassuring*" aspect of visits being highlighted by less experienced beekeepers. However, a number of these newer beekeepers are not actively planning to seek a visit from a Bee Inspector.

**Information needs:** Interviewees highlight the information needs for 'potential' beekeepers, and clearer guidance on the level of knowledge needed to use different publications. Beekeepers are very interested in learning more about the scientific research being conducted in the UK, and any possible implications research will have in the future.

## Bee farmers

**Husbandry practices:** All bee farmers regularly monitor for pests and diseases and control for *Varroa*. Importantly, bee farmers with more than 20 hives tend to treat all their hives if they see pests and diseases in just one, because they believe that any pests and diseases will spread. Bee farmers feel that beekeeping has got harder, mainly because of the increase in disease and the need for a more scientific approach. Some feel that a new breed of better-educated amateur is coming into the craft, and that this may raise the level of practices. Bee farmers are very concerned about some older beekeepers who, in their opinion, have not yet adopted modern practices. Bee farmers are split between those who feel that pests and diseases are now under control, and those who fear that the situation will get worse in the future. All 31 bee farmers who responded to the internet survey are aware that some pests and diseases have to be reported to the Bee Inspectorate. All of the 20 interviewed by telephone know that AFB is notifiable and all but one know that EFB should be notified. Other legal requirements mentioned related to insurance and food standards for honey. Some also mentioned logging products applied to the hives.

**Information sources:** Only one bee farmer from the internet survey is not a member of some kind of association. Meeting other beekeepers and the provision of information are the main reasons why bee farmers join associations. The majority of bee farmers are interested in attending more courses, and are particularly interested in research into pests and diseases and the husbandry implications of the findings. Bee farmers are keen to know about development outside the UK and the implications for bees in the UK, either in respect of pests and diseases coming into the UK, treatments or the development of husbandry methods.

**The NBU:** All bee farmers are aware that the Bee Inspectorate is part of the NBU, and nearly two thirds are registered on BeeBase. Bee farmers register to gain access to information, or to track their inspection history; a few are concerned that registering the location of their hives will lead to theft. However, several are in favour of registration being compulsory. Most bee farmers have been visited by an Inspector in the previous 12 months, and most found Inspectors' visits helpful. However, some feel that Inspectors lack sufficient experience. Some of the telephone

respondents are concerned about the independence of Inspectors and feel that they should not, for example, be members of local associations. Some also regret that the system of county inspectors, which they feel helped to maintain standards and provided training for beekeepers in general, had been discontinued. Bee farmers would like feedback after any tests on their bees or colonies has been completed.

**Note on status of bee farmers:** Some bee farmers assert that bee farming is a commercial undertaking and is part of the farming sector, but they feel that they are treated differently from those farming other livestock.

## Conclusions and Recommendations

**How do beekeepers decide which husbandry methods to employ, and what are their experiences of, and attitudes to, those methods?** Nearly all of the beekeepers who took part in this study are conscious of the benefits of keeping up to date with the latest husbandry advice. This openness to new ideas is striking and is driven by a widespread awareness of the threat from *Varroa* in particular, and other pests and diseases in general. Those who are new to beekeeping look to more experienced beekeepers for advice about which husbandry methods to use. More experienced beekeepers tend to use written sources of information such as journals, newsletters and websites for advice about issues such as dealing with pests and diseases.

**How are beekeepers' behaviours and practices influenced by the advice available to them?** Beekeepers are hungry for information and draw on a wide range of sources. Most are keen to keep their knowledge up-to-date, and attend courses, talks and training events since owning colonies. One of the main factors influencing behaviour is the degree of integration into the beekeeping world as measured by: the number of contacts with other beekeepers; knowledge of BeeBase; and the use of written information. The other important factor influencing behaviour is the level of experience of the beekeeper, in terms of both the length of time they have kept bees and the number of colonies they manage. Those who are more experienced and more integrated into the beekeeping world tend to use a wider variety of control and monitoring methods, including more complex bio-technical control methods. They are also more likely to use IPM. This seems to be due to a higher level of technical ability and greater confidence in applying information from a variety of sources.

**What are the drivers for, and barriers to, new beekeepers adopting good husbandry methods?** The beekeeping community in England and Wales has increased substantially over recent years as a new cohort of people have been attracted to the craft, possibly spurred on by media publicity about the declining bee population. The new recruits to beekeeping are very aware of the threats posed by pests and diseases, and they are consequently hungry for information. Awareness of *Varroa* and other threats is the main driver for new beekeepers to adopt good husbandry methods. The new cohort of beekeepers recognises the need for training. However, difficulty getting a place on courses is a barrier to new beekeepers adopting good husbandry methods. BeeBase has an important role to play in the beekeeping community both as a source of information about husbandry practices and as a database for the Bee Inspectorate from which beekeepers can access their records. Given this important role, and that most respondents are members of local associations, it is surprising that many beekeepers (especially those with less experience) are unaware of BeeBase. Being unaware of, and unregistered on, BeeBase may be a barrier to beekeepers receiving information about and therefore adopting good husbandry methods. The beekeepers interviewed for this study do not have a strong sense that there is such a thing as 'good practice' in beekeeping. This poses a barrier to beekeepers' understanding of which husbandry methods they should adopt. Beekeepers tend to be well educated and informed, both those new to beekeeping and those more experienced, as judged by the media consumption of the respondents and interviewees.

**What are the most effective ways of influencing beekeepers to adopt better husbandry of their bees?** Taking into account the conclusions presented in the preceding sections, the study recommends that Defra promotes four key courses of action to influence beekeepers in their choice of husbandry practices:

# Key Courses of Action

## 1. Tailor the message

- Defra should promote the dissemination of information about good husbandry practice.
- To do this effectively, it should recognise that the messages need to be tailored to different types of beekeeper.
- Newer beekeepers are less likely to be comfortable using written information without support from a more experienced beekeeper, especially if it contains a high level of scientific and technical detail.
- More experienced and integrated beekeepers often welcome information with a high level of scientific and technical detail, and are influential in training and mentoring newer beekeepers.
- Defra should therefore disseminate good husbandry practice by producing information that meets the different needs of these two audiences.

## 2. Clarify what constitutes 'good practice'

- Some beekeepers expressed confusion over what might constitute 'good husbandry practice'.
- Defra should promote headline messages about good practice, such as the use of IPM to control *Varroa*.

## 3. Support introductory training

- The large cohort of new beekeepers and their substantial demand for introductory training has led to a shortfall in the supply of training places.
- Some experienced beekeepers express concern that the quality of training may suffer if inexperienced trainers attempt to meet this demand.
- Defra should support introductory training by making good quality training materials publicly available.
- Other potential measures may include encouraging seasonal bee inspectors to provide training courses 'out of season'.

## 4. Promote registration on BeeBase

- BeeBase should be a valuable tool for disseminating information. The study has found that Defra needs to improve both:
  - BeeBase's profile among the beekeeping community; and
  - use of BeeBase amongst the beekeeping community.
- A surprisingly large number of beekeepers are not aware of BeeBase, even though many are members of local associations and have attended talks and training. This suggests that beekeepers do not talk to one another about BeeBase.
- BeeBase should take advantage of the demand for information among beekeepers by actively promoting itself as a useful information resource for the beekeeping community. This will encourage registration by giving those who are aware of BeeBase a reason to register, and a reason to talk about it to those who may not know of it, thus increasing awareness through 'word of mouth'.
- Defra could promote awareness of BeeBase through measures such as search engine optimisation and google 'AdWords'.