

Record Keeping

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In recent years I have become increasingly aware that the record keeping suggested by mainstream beekeeping practices pushes new beekeepers towards a highly interventional style of management. I have kept my records in a free text manner and allowed the key information I need to emerge. In this article I set out some guidelines and design suggestions for an approach to record keeping that is both sympathetic to natural beekeeping and encourages mainstream beekeepers towards less intervention.

It would be unusual for a conversation about natural bee husbandry to start with an enthusiastic description of record keeping. The bees don't care whether or not we record their comings and goings. The bees have no use for our records; all the information they need is written into their environment. As well as understanding the locations of resources on which the bees depend, foragers know the impending weather well before it reaches the hive. The outside temperatures and changing day lengths allow the planning of brood expansion, while pheromones from the queen let the house bees know her productivity potential. The combs of the hive are always available to assess the status of stores, where every cell holds information about its use in the preceding years.

In contrast, we humans can maintain knowledge over many generations of different colonies. We have information over much greater distances, for example on the prevalence of diseases, and we have access to longer range weather forecasts. Most importantly, we can anticipate our own actions and ambitions in the stewardship of a colony.

The study of bees for science and research relies on the collection of data. This can be over many years, for example in the assessment of evolving varroa tolerance, or across different populations in different conditions at the same time, such as when assessing the potential impact of commercial insecticides.

In legal jurisdictions around the world beekeepers also have responsibilities for the reporting of disease and the movement of bees. All three (management, research and regulatory compliance) require us to observe our bees closely and keep records. Our challenge is to collect the information that we can use to assist the bees



Fig. 2



Fig. 3

Fig 1. Making records at the hive.

Fig 2. Notice must be taken of conditions outside the hive.

Fig 3. A fully constructed comb from within the top bar hive.

and meet our responsibilities without disadvantaging them overall.

When I started with bees I quickly realised that common approaches to record keeping did not represent the style of beekeeping that I wanted to follow and so decided to keep my notes in free text format. With a growing number of hives and sites, this approach eventually become cumbersome and I recently reviewed

my records, comparing them with mainstream record templates that can easily be found online. My early notebooks contained all sorts of information but slowly reduced to just the points that, from experience, I had found useful later. Looking back there are clear patterns of useful information that do different jobs at different times of year. These patterns reflect the types of record commonly found in mainstream beekeeping – inspection, movement and hive records.

The most commonly available template is the inspection record and this fact alone demonstrates the reliance on intervention that infuses conventional beekeeping. In addition, the immediate assumption of most templates is that the hive must be opened for any information to be gathered on the state of the bees inside. These templates are also dominated by a rush to find the queen. Now, I enjoy spotting a queen, but it is more valuable to me and less intrusive for the bees if treated as a rare and privileged event. There is very little value in seeing the queen herself, the evidence of her recent actions and those of the colony provide a much better idea of her status.

Table 1 shows a suggested inspection template for a natural beekeeper. The top line pinpoints the inspection in time and space. The next section prompts the beekeeper to consider the information around the outside of the hive and at its entrance (Figure 1). This template does not explicitly include what is, arguably, the most important matter when we consider interfering with a colony, the question ‘why?’. The purpose of an inspection is something that I work-over in my mind every time I approach a hive, almost as if I were rehearsing for an interview. This ‘outside the hive’ section gives the beekeeper time to reflect on whether they already have enough information to complete the objectives of an inspection without disturbing the colony. If, in early season, the bees are flying well with over half bringing in pollen there is unlikely to be justification for further meddling.

DATE		TIME		LOCATION		HIVE	
OUTSIDE THE HIVE							
WEATHER		BEES		DISEASE / PESTS			
INSIDE THE HIVE							
TEMPERAMENT		COLONY STATUS		DISEASE / PESTS			
EGGS	BROOD	HONEY	POLLEN	DRONE	COMB	SPACE	
ACTIONS							

The bottom sections of the template prompt key observations from a closer look at the hive. I keep top bar hives in three apiaries and with several smaller, tree-housed bait hives. For the bait hives, it is normally enough just to record whether they are occupied. In the apiary, top bar hives offer access to a significant amount of information with removal of just the follower boards. I routinely record the number of bars of new comb and remaining space to track colony build-up (Figure 2). Even just the total number of occupied bars provides useful year-to-year summary.

The focus of mainstream beekeeping inspections is often the attempt to control swarming. In common with most natural beekeepers, swarm prevention is not something to which I aspire, other than ensuring a colony has the space to expand. Nevertheless, knowledge about the reproductive status of a colony can be useful, and records permit a beekeeper to identify both the immediate trends and general nature of a colony. Understanding the likely behaviour of a colony assists with planning and, in turn, prevents unnecessary inspections.

The downloadable version of this template (see below), also contains a notes section for infrequent events and those specific to a location, interest or management style – examples include the purpose of inspection, plants the bees are working, feeding, honey extraction or treatments.

Movement records are relatively simple other than where they are governed by regional legislation. Finally, the hive (or colony) record gives the opportunity to summarise essential information about a colony and its home. Updating hive records once a year from my inspection records helps me to plan my goals at the beginning of each new year. An example of a hive record is shown in Table 2.

An important aspect of record keeping is to decide the most appropriate format of your records – a practical and personal choice. Some beekeepers will prefer smart-phone-based applications which have the advantage of instant digital storage but are difficult to configure for a particular style of management. I find that paper provides an affordance that I cannot forgo. I use a pocket-sized notebook which is large enough to use in the apiary (Figure 3) but small enough to be handy when checking more remote bait hives. Those with many tens of colonies will probably look for a column version of an inspection template where multiple hives can be listed in a single table. The ideal option might be for a paper-based approach that can easily be digitally scanned with text recognition, but we have yet to find a workable system.

In summary, beekeepers need to maintain records for management, research and legal compliance. Keeping the right records should allow us to manage with less intervention. As in all human systems, the observations we request of a management approach will drive the management itself. We need to design record-keeping practices carefully to encourage the lowest required levels of intervention.

Natural beekeeping templates for inspections records and hive records available for free download from Blackdown Bees (www.blackdownbees.co.uk).

DATE
HIVE / COLONY REF.
HIVE TYPE
ENTRANCE POSITION & DIRECTION
COLONY SIZE & STATUS
BEE SUBSPECIES & DESCRIPTION
ORIGIN OF QUEEN & COLONY
YEAR QUEEN MATED & SUPERCEDURES
FEEDING & HONEY REMOVAL
DISEASE & TREATMENT HISTORY
TEMPERAMENT
SWARMING HISTORY
COMB CONDITION
HIVE CONDITION
LOCATION (DESCRIPTION, ALTITUDE, HEIGHT, ENVIRONMENT, REF.)