

# **FREE RANGE BEEKEEPING**

John Haverson

2009

## **FREE RANGE BEEKEEPING**

Modern beekeeping methods can be defined as 'intensive' with the goal of consistent honey production (1). Indeed, beekeepers continue to invent new methods of 'wringing' more honey out of honeybee colonies.

We have learned to loath intensive methods of animal husbandry used on the likes of battery chickens, penned pigs and European veal calves. The consequences of this intensive farming have been foot and mouth disease, BSE and Avian flu to name a few.

Is it time to change the emphasis on beekeeping and keep 'free range' bees?

Should we accept a lower honey yield for the sake of bee health and ultimately our survival, or should we continue to drive bees to provide the banquet for millions of people?

By free range, I mean supporting and enabling bees to enjoy a natural, largely unforced, environment which provides mutual benefit. Let us examine the natural environment and key husbandry principles which result:

### **Retention of Nest Smell and Warmth.**

The natural honeybee colony will occupy a hollow space, seal up gaps with brace comb and propolis and start building comb. Within this structure the colony will raise brood, convert nectar to honey and store honey and pollen above the brood nest. The temperature of brood comb will be maintained at 35degC by bees adjusting ventilation gaps, collecting water, fanning and heating the nest.

This environment will have antifungal, antibacterial and antiviral properties built up from the beneficial chemicals in propolis and the enzymes and trace elements contained in nectars and honey. Bee pheromones will contribute to the unique smell and harmony of each colony. This warm, antiseptic environment will help to keep bees healthy.

Every time a hive is opened, this environment is destroyed, requiring extra work to rebuild structures and reheat the nest. Brood is cooled and the bees weakened by extra work and stress. Weakened bees will be susceptible to disease.

**The principle of retention of nest smell and warmth is fundamental to my definition of free range beekeeping and dictates all husbandry and manipulation.** The concept is not new; the importance of the retention of nest scent and heat (*Nestduftwärmebindung*) for bee health and productivity was discussed by Johann Thür (2) who also discusses Abbé Christ's (1739-1813) hive that is almost identical in concept to Warré's.

We will support the bees by not opening the hive and not using frames which facilitate nest dismantling and which themselves require heating, placing an unnecessary energy burden on the hive.

We will provide a hive with a structure to support natural comb building and with a breathable top material which the bees can seal or open with ease as they manage their microclimate. There will be a breathable quilt which will insulate but allow moisture to diffuse through it. The roof will be waterproof but with good air flow through it.

### Colony Expansion

As the colony grows, bees naturally build new comb under the existing comb. They hang in chains and clusters exuding wax platelets from which they construct comb with cell sizes to suit the colony's requirements. Eggs will be laid in new comb and honey and pollen deposited in vacated cells above the brood area. A dome of honey will be formed above the brood and will increase in depth as stores are deposited and the brood expands downwards.

**We will allow the colony to build natural comb**, free from the pollution of chemicals in recycled wax foundation.

**To ensure space is available we will insert hive boxes underneath existing boxes**, usually in spring but also during strong honey flows.

Giving space underneath and keeping wax builders busy will help to prevent swarming.

### Preparation for Winter and Sympathetic Harvesting

During spring and summer bees will have been making honey and creating a dome of honey above the colony as a reserve for use in poor weather, periods of scarce forage and over winter. As autumn approaches the colony prepares for winter, the number of bees diminishes and bees store fat on their bodies.

A colony will starve without stores. Removal of the honey dome will cause anxiety and stress to bees and force them to replace their stores as soon as possible. Consistently creating a cold void over the brood nest will overwork and weaken bees making them susceptible to disease. Doing it during winter preparations will cause extra stress.

Harvesting will require 'opening' the nest and will be done once a year at the end of the main flow. It is achieved by removing one or more top boxes.

**The honey dome must not be removed;** if any brood is seen at the bottom of a box it must be replaced. To ensure the dome is thick enough and bees have sufficient honey, boxes will be weighed; if they are too light bees will be fed honey.

The plan is to over winter colonies in hives which place sufficient stores above the colony cluster, with the 'head' of the cluster embedded in the honey dome.

If there is a late autumn flow of honey the bees will add it the underside of the dome, where it will be the first to be consumed.

### Developing the Methodology

I started to adopt natural beekeeping practices 2 years ago. At first I was feeling my way, then I discovered the Warré Beekeeping web site. This offered a hive which would really enable my free range beekeeping ideas. Besides hive plans, there is Warré's book 'Beekeeping for All' (3) explaining his husbandry under the 'Nestduftwärmehindung' régime. There

is also an international e-forum where ideas are discussed candidly by beginners and experienced beekeepers.

When I first voiced some of my ideas at my local beekeeping association, I was scoffed at and treated with derision by most beekeepers. But some people have considered the concepts and subsequently asked questions about swarming, Varroa, inspection, etc. Indeed, I now know a few people trying the concept on their own hives and even planning to build a Warré hive of their own.

### Some Observations and Developments

I keep local 'Hampshire mongrel' bees and their temper has improved significantly; my wife tolerates hives in the garden and I can sit and study entrance activity, often without protection.

My inspection husbandry has changed. I am more analytical when studying the bees' behaviour; at the hive entrance; through windows on some boxes; listening to the hive buzz and even smelling the entrance out-draught. In a similar way, a doctor will consider our symptoms and leave invasive surgery to the last resort.

The bees did not swarm as much as I thought they would; one colony did because I was slow to react to very rapid spring build up. The post swarm colony seemed happy and worked vigorously soon afterwards. I now run 3 bait hives to capture swarms which seem to build up fast and offer a harvest if conditions are favourable. I do move hive positions to 'bleed' bees from strong colonies to weaker ones during the swarming period.

I have had no queen failures so far.

Varroa count seems lower than previous years, but it is early days and I will see how colonies fare without treatment.

Much brood is raised on new comb and with box rotation I expect to change comb every 2 years (3 at most)

Colony vitality and growth has been remarkable; by early July 2009 most colonies, bar recently hived swarms, were occupying 4 or more Warré

boxes (equivalent to 2 Commercial brood boxes). I am expecting some honey to harvest this autumn, and I also have high hopes of strong, well stocked colonies surviving the winter.

### Save the Bees

Many people have recently joined the beekeeping fraternity to 'Save the Bees' and some established beekeepers feel the same way. If that truly is their motivation, I would urge them to consider Free Range beekeeping. It is not new, it is just more natural.

John Haverson  
Over Wallop, Hampshire

### References:

1. The Guide to Bees and Honey. Ted Hooper (1997) Chapter 5
2. Beekeeping: natural, simple and ecological. Johann Thür (1946)
3. Beekeeping for All. Emile Warré (1923) Translated by Dr D Heaf 2007
4. The Buzz about Bees. Jürgen Tautz (2008)