

INTRODUCTION

Honeybees (*Apis Mellifera*) are a minor species of livestock, but one of major importance. Honeybees are essential pollinators of fruit and vegetables. Beekeeping is an absorbing hobby, which can be made into a profitable small business. The main crops of honey in Wales are from sycamore in May; lime trees, clover and blackberry in July; and ling heather in August.

MARKET

80 to 90% of honey sold in the UK is imported. Good quality Welsh honey is always in short supply, and sells well at farmers' markets and local shows and at the farm gate.

Added value products include preserves and pickles using honey, and beeswax candles, polish, and cosmetics.

BIOLOGY

A functional colony of bees consists of three types of bee: a queen bee, worker bees and, at certain times of the year, drones. The social organisation of honeybees means that they act collectively to maintain and support the colony and to lay down stores of honey and pollen to sustain it during the winter months. It is this ability which distinguishes the honeybee from other species of bee and which makes it of interest to the beekeeper.

SWARMING

Swarming is how bees increase their numbers. In May or June the bees will feed one or more worker larvae with royal jelly, to produce a young queen. The old queen will then leave the hive with about half the population of bees, to set up a new home in an empty hive, a hollow tree or in the roof of a building.

The young queen in the original hive will mate in the air with several flying drones and will then return to her hive and start to lay eggs. One colony has become two colonies. Sometimes, where more than one new queen is hatched, the colony continues to split into smaller 'casts', thus making three, four or even more new colonies.

SOURCING BEES

Try to use bees from your own locality. They will be acclimatised to the vagaries of the weather in your area. Imported queen bees may carry exotic diseases, and they may not be resistant to diseases already present in the UK.

BEEHIVES

Around 90% of British beekeepers use British Standard National beehives, consisting of: a wooden floor; a brood box holding 11 deep combs in wooden frames (Fig 1), where the queen lays eggs and the brood is reared; a queen excluder to confine the queen to the brood box; one or more supers, shallow boxes containing 10 or 11 combs where the workers store honey; a cover board and a roof. Second hand hives can be found, but they are often in poor condition. Old hives must be scorched clean with a blowlamp before housing the bees to prevent the spread of disease.

SITING THE BEES

Any location below about 200m above sea level with hedgerows, rough grazing, and a variety of trees will support an apiary of 6 to 8 hives. The hive site should be sheltered, sunny, and accessible by vehicle at any time of year and well away from passers by.



Fig 1. Frame with honeycomb

MANAGEMENT CALENDAR

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| April | Spring inspection. On a warm, windless day check for healthy worker brood, eggs and young larvae. Maybe move hives to the oil seed rape for 6 weeks. |
| May / June | Add supers for honey storage, check for swarming. Feed the bees if the weather is cold. |
| July | Add more honey supers |
| August | Remove and extract supers of honey. Maybe move the hives to the heather for 6 weeks. |
| September | Remove the honey crop. Treat the bees for varroa. Feed the bees sugar syrup for winter |
| October | Fit a mouse guard to the hive entrance to prevent mice entering the hive in winter |
| November | Check that the hives are secure. Check weight of winter stores by lifting (hefting) the hive. The bees can |
| – March | be left undisturbed during the winter. |

COSTS

Start-up costs are not high in relation to many farming ventures. Table 1 provides an indication of start-up costs and Table 2 gives an indication of annual running costs but does not take into consideration labour input. Economies of scale mean the more hives a beekeeper has, the lower the per-hive costs will be. Joining a local beekeepers association is recommended; annual subscriptions are around £20.

Table 1. Indicative costs for establishing a hive

Item	Appx.cost
Second-hand hive with bees	£100
Protective clothing (full bee suit & gloves)	£120
Stainless steel honey extractor, strainer & smoker	£150
Books	£30
Total	£400

Table 2. Indicative annual running costs

Item	Appx. Cost
Varroa treatment (per hive)	£3
Sugar for winter feed (per hive)	£8
Replacement frames and beeswax foundation (per hive)	£8
Jars and labels (@20p ea assuming 50 jars)	£10
Total	£29

INCOME

A hive of bees needs about 68kg of honey per year to survive, plus 23kg of pollen to feed the young bees. Beekeeping is very weather-dependant. A beekeeper would expect to harvest an average of 14kg to 18kg of surplus honey per hive. This could rise to 23kg in a good year, and fall to nothing in a bad year. Honey sells easily at £3.50 per 454g jars, meaning an average gross income of around £125 per hive. Other hive products sell well, particularly bees wax candles and polish. For the expert, queen rearing can be a worthwhile activity, generating a good income and a source of vigorous young queens for re-queening under-performing hives.



Fig 2. Products of beekeeping

HEALTH

Varroa mites now affect all the honeybees in the UK. The mites infest the hive and weaken the immature brood, making the hive prone to damage by viruses. *Varroa* can be kept to a manageable level by placing medicated Apistan strips in the hive for 6 weeks every autumn, and by other non-chemical means. If the hives are not treated the colony will collapse within 12 months.

Brood diseases. Beekeepers should learn to recognise American and European foul brood.

These are notifiable diseases, and they are usually found in hotspots. Ministry inspectors will inspect your bees free of charge.

LEGAL REQUIREMENTS

Beekeepers are not required to be licensed. Owners' liability insurance is highly recommended. If you are selling honey you need to comply with the Food Safety (General Food Hygiene) Regulations, 1995; Food Labelling Regulations, 1996; Weights & Measures Act, 1985; The Food Safety Act, 1990. Advice should be sought from your local Trading Standards Officer (at your local Council).

STARTING BEEKEEPING

Join your local Beekeepers' Association. They will give you every assistance and many benefits, including owners' liability insurance.

BOOKS FOR THE BEGINNER

The Complete Guide to Beekeeping, Jeremy Evans & Sheila Berrett, 192 pages (October 2005), Publisher: Bees & Things, Language: English, ISBN: 0954969200

CONTACTS

Beekeeping equipment: Thorne www.thorne.co.uk

Welsh Beekeepers' Association www.wwbka.com

Graham Law's website for new beekeepers www.beeginners.info

British Beekeepers' Association www.bbka.org.uk