

Backyard beekeeping

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Introduction

Keeping two or three hives of bees as a hobby can be an interesting and rewarding experience but NSW DPI occasionally receives complaints about bees in swimming pools, neighbours being stung or the disease risk of neglected hives.

This Primefact has been written to make some points which need to be considered in relation to backyard beekeeping:

- neighbours
- the number of hives
- water
- location in yard
- bee diseases
- when to handle your bees
- when to re-queen
- swarming
- legal requirements.

All these aspects are important, and failure to observe them will detract from the pleasure of keeping bees for yourself and result in annoyance to others.

Neighbours

Most people have been stung by a bee at some stage in their life; more often than not as children playing outside we accidentally trod on a foraging bee. This resulted in a sting which, at the time, was very painful and usually resulted in swelling in the sting area, with possibly an itchy irritation for a few days. As a result we now have an inbuilt fear of bees. So it is understandable that problems arise with bees in backyards; even the sight of a few empty bee boxes can create concern in some people.

We therefore need to approach backyard beekeeping with caution and understanding, and take measures

to reduce inconvenience to others. In doing so we will enhance our enjoyment in keeping bees.

Some measures will be expanded on shortly, but let us start with honey. This could be described as the high point in our keeping of bees – the reward for our effort. Though it may not please some to part with our hard-won produce, it is important to hand out a jar or two of honey to near neighbours. This ‘peace offering’ can make the difference in whether neighbours become upset with bees in the yard, or accept them. Often the gift will lead to questions about the hive, and give us the opportunity to demonstrate its workings, assuming you have a hive dominated by quiet bees. If this fails and neighbours are still aggressive about your hobby, it would possibly be wiser to move your apiary to a more neutral zone away from residences.

Number of hives

A colony of bees (a hive) contains many thousands of worker bees. In spring this may be as many as 50,000 per colony.

A comfortable number of colonies in an average backyard is two or three hives. This is sufficient to obtain some honey for yourself and others, and to assess the effect on the colonies of variations in management. If you wish to keep more it is important to discuss this with all neighbours to obtain their consent.

If a complaint comes to the notice of NSW DPI, the number of hives at the location will be closely examined. You may be directed to reduce or remove hives from that location.

Water

Though water is essential to all living matter, we don't associate bees with water to any large degree. We see bees collecting nectar to convert to honey and collecting pollen for the protein content of their diet. Propolis, the gum or sticky substance collected by bees to glue up all cracks and holes in the hive, is also mentioned at times.



Water is used to air-condition the hive. The hive is kept at a constant temperature and humidity to ensure that the brood nest does not suffer stress. On a hot day in the middle of summer a hive may collect half a litre of water or more to maintain the status quo.

Thus bees will often fly to the nearest source of water, favouring warmer water if it is available.

How does this affect your keeping bees in your backyard?

In urban situations swimming pools and other sources of water in the neighbourhood become the sources that bees favour. You may not see this as a problem, but when a swimming pool becomes choked with bees and people are being stung when walking on wet concrete, then your hobby will be frowned upon by the surrounding population.

It is important to arrange a water source in your own yard, and keep this replenished. Ensure bees will not drown by providing landing sites, for example rocks or sand protruding above the water, or pieces of polystyrene. Maintain and check the water source all year round. Once bees start foraging from a given area it is impossible to stop them, short of moving the hive out of the area.

Your bees may still collect water from several locations, but at least you have taken steps to reduce the problem.

Location in the yard

There are three things to consider when locating an apiary on your property: the bees, the neighbours and you.

Bees require a dry, sunny position, preferably with a north-east aspect. Windy locations are not suitable as the colony has difficulty in maintaining the temperature and humidity in the hive.

Remember that at times there will be a lot of flight associated with each hive, so flight paths are important. It is necessary to place bees away from human traffic areas, footpaths, back doors, vegetable gardens and the like. It may be necessary to build a screen on top of a fence to force the bees higher and make them fly above head height. Finding the ideal location is a compromise.

The hive entrance should not face an outside light as this will attract bees when it is on.

Disease

Many commercially oriented beekeepers would rank disease as a major obstacle to successful beekeeping. It has a direct relationship to all other hives within a few kilometres in any direction from your hive.

Like any other animal, bees are subject to various diseases. It must be emphasised that humans are not affected by bee diseases in any form.

Without going into depth on the various ailments a bee can suffer, it is worth noting the diseases and their relative importance.

Bee diseases are divided into adult and brood diseases. The adult disease of importance is nosema, which infests the gut, considerably reducing the life of the worker.

Nosema is a problem disease relating to stress and is quite common in the autumn, winter and early spring. Dead bees are often found at the hive entrance and in severe cases yellow spots of excreta are to be found on the hive body and lid.

Management strategies aimed at reducing stress will lessen this problem. Shifting the bees to a warm, sunny location and reducing the space in the hive by taking off all empty supers and ensuring that the hive is full of honey will greatly assist.

Brood diseases, on the other hand, are a mixed bag. In NSW, bees suffer mainly from four diseases: sacbrood, chalkbrood, European foulbrood (EFB) and American foulbrood (AFB).

Sacbrood is a virus, whereas EFB and AFB are bacteria, and chalkbrood is a fungus. Sacbrood is a minor problem and generally hives are not too troubled by this disease. Chalkbrood is not treatable but re-queening can assist.

EFB and AFB, on the other hand, can cause the complete demise of your hives and all the other hives within flying distance.

EFB is treatable with antibiotics and can be reduced by management strategies such as a good pollen supply, young queens and new combs in the brood nest.

AFB is controllable only by the destruction of the colony and either the burning or gamma irradiation of the equipment. This control measure may seem rather dramatic, but if left unchecked AFB will eventually kill all hives in your apiary and all other hives within flying distance.

The control of AFB costs apiarists a lot of money and time. If you don't take care and responsibility in maintaining and regularly checking the condition of your hive, you will be frowned upon by fellow beekeepers in your area. Besides this you may be breaking the law.

This is discussed later under 'Legal requirements'.

Handling your bees

Handling bees is easy to those who have kept bees for some time, but for those just starting, a few suggestions may be worthwhile.

Bees are insects, so they are cold blooded and their flight and activity will increase on warm sunny days as compared to cool, overcast days.

Moreover, the older field bees are the more aggressive individuals in the hive. Thus it makes sense to work your hives on a sunny day, during peak activity while the more aggressive bees are vigorously working and are otherwise occupied away from the hive. If you handle bees on overcast or cool days you will find most of the field bees at home and the hive will be a lot more aggressive.

A complication to working bees during warm days is that people are more likely to be busy outside during the time bees are most active. In warm weather people tend to be involved in barbecues, gardening, swimming and general outdoor pursuits just when you wish to work your bee hives. Again, it is most important to consider your neighbours.

When a bee hive is opened, the bees take several hours to settle down. So, in a backyard location, aim at opening hives in the late afternoon to allow the bees to settle down overnight.

Re-queening – when and why?

The cost of a new queen can be quite an outlay when multiplied by the number of colonies in the apiary.

Like beekeepers, not all queens are the same.

Three points need to be considered:

- the temperament of the hive
- bees' tendency to swarm
- the amount of honey the colony gathers.

For hobby beekeepers the emphasis should be placed on bee temperament more so than any other points of selection. The other two points, honey production and swarming tendency, are particularly important for commercial beekeepers.

Temperament varies between strains of bees. It is important that queens which are quiet and easy to handle should be selected for backyards. Bees tending to sting frequently are highly undesirable in a populated area. Likewise, this detracts considerably from your enjoyment of your hobby.

If your hive is not performing, or is particularly savage, it needs to be re-queened. This can be done in most areas between October and March, depending on your convenience and the availability of suitable queen bees.

Swarming

Swarming of bees is a natural occurrence. The old queen leaves the colony with half the workers, leaving behind a ripe queen cell to replace her, thus creating two colonies. It is important that you

become familiar with the stimuli that promote swarming and take measures to reduce it. Measures to reduce swarming include:

- re-queening regularly with a reduced swarming strain
- relieving the brood nest of full combs of honey and replacing them with empty combs
- removing frames of capped brood and transferring them to weaker colonies
- removing a nucleus colony (called artificial swarming).

Swarming is very alarming to the general public with thousands of bees on the loose. It is the prime cause of complaints against bees in urban areas.

It is important that you take particular care in the spring to reduce this problem and remove swarms promptly from your neighbourhood.

Legal requirements

Whether you own one hive or one thousand, all beekeepers in NSW who own bee hives must be registered with NSW DPI. Failure to register may result in a fine plus the destruction of your hives if they have disease. A registration fee is payable every second year.

On registering you will receive a registration number, which is yours alone. All your brood boxes must be branded with this number so that it is clearly readable. This is particularly important when the hives are not in your backyard. If you wish to brand or mark any other components of your hive, that is up to you.

As mentioned earlier, destruction of diseased hives is necessary at times but only by order of an apiary inspector.

Both EFB and AFB are notifiable diseases. If you suspect that you have a problem in your hive and fail to take appropriate measures, you have committed an offence under the *Apiaries Act 1985*.

You have a responsibility for your hives and to monitor for disease. This may require a number of checks each year of the brood nest. Many hobby beekeepers fail to carry out this function as they are deterred by the possibility of being stung, or they simply lose interest in their hobby and the hives slip into a neglected state.

Failure to satisfactorily notify and control disease will result in action by NSW DPI which may result in the destruction of your hives and a heavy fine.

You have a responsibility also to observe all those points already mentioned earlier. If someone has a reasonable grievance about you keeping bees, you can be directed to reduce or remove bee hives from a given location. This is also a provision under the *Apiaries Act*.

From time to time, NSW DPI conducts courses on beekeeping. Check the NSW DPI web site for details:

<http://www.dpi.nsw.gov.au/agriculture/livestock/honey-bees>

All beekeepers should consider joining a beekeeping association. The associations hold regular meetings and some lend equipment to members for honey extraction.

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ISSN 1832-6668

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Job number 9263