



primefacts

FOR PROFITABLE, ADAPTIVE AND SUSTAINABLE PRIMARY INDUSTRIES

SEPTEMBER 2009

PRIMEFACT 896

(REPLACES AGNOTE DAI-116)

Buying queen bees

Doug Somerville

Technical Specialist Honey Bees, Goulburn

The queen bee is essential for the proper functioning of a bee colony.

Re-queening hives on a regular basis, every one or two years, is a popular and positive method of maintaining a uniformly high productive level in the apiary while keeping potential problems to a minimum.

This Primefact covers the purchase of replacement queen bees from commercial suppliers.

Why queens should be replaced

Queens are able to live for several years but their commercially productive life is only one to two years. Their ability to lay large numbers of worker eggs diminishes with age and the colony will not be as productive.

If colonies are left to their own means, a large percentage will decline from the standards listed below. This will occur over a relatively short period of time, from 6 to 18 months.

A queen bee should be replaced if:

- the bees in a hive are very aggressive;
- the colony is not performing as well as other hives in the apiary, and disease has been ruled out as a cause. In this case, replacing the queen should rectify the problem.

Swarming is an inherent tendency as well as an environmental and seasonal problem. Young queens are less likely to swarm than older queens.

How to choose replacement queens

Queens vary in their genetics, and these variations are expressed through their worker progeny.

Queen bees are bred for their offspring's:

- honey-gathering potential
- docility and temperament

- disease resistance
- reduced swarming tendency
- specific colour – this last characteristic is an expression of the beekeeper's personal preferences rather than an economic consideration.

Different races of queens are often available – primarily Italian, Caucasian and Carniolan. While no single race is superior to any other, different strains within the races show a wide variation in genetic traits. Don't be afraid to buy queen bees from more than one supplier; in fact, this is a good practice.

The selection of queen bees is one of the main ways that beekeepers can achieve their stock breeding aims.

Obtaining new queens

New queens can be obtained by breeding them yourself, or from commercial suppliers.

Rearing your own queens

Rearing queen bees is a specialist job. It takes a significant level of experience and resources to produce good quality mated queens. However, rearing your own queen bees can be a lot of fun and can add an extra interest to your beekeeping. Refer to Primefact 828 *Rearing queen bees* for further information on this subject. Industry & Investment NSW (I&I NSW) also periodically conducts training on rearing queen bees – contact I&I NSW for details.

Buying from a commercial supplier

Listed below are some points on when to buy, where to find a supplier, types of queens, costs, age to buy, care and introduction of the new queen.

Buying queen bees

The demand for queen bees at certain times of the year may be high, and some queen bee producers may be heavily booked. It is necessary, if ordering any quantity, to do so a number of months before they are required.

When to buy new queens

Although queens are available from September each year it is advisable not to buy new queens until October, then any time through to early autumn.

Queen bees are not usually available during late autumn or winter, primarily due to low drone numbers, low temperatures, and poor nutrition in the form of nectar and pollen, but queen production is possible through much of the year in North Queensland.

Queen bee suppliers

Beekeepers producing queen bees for sale advertise in any one of a number of beekeeping magazines, journals or newsletters. For a current list of queen bee producers refer to the *Australasian Beekeeper* (www.theabk.com.au), or the *Australian Honey Bee News*.

A number of queen breeders have formed the Australian Queen Bee Breeders' Association. Members of this association are expected to conform to a set of standards.

Types of queens

Queen bees are occasionally advertised as 'untested queens'. This indicates a normal production queen, and these account for most of the queen bees sold. The queen will be mated and ready to begin laying in its new colony.

Breeder queens and instrumentally inseminated queens are sometimes available, but these are too expensive for production hives. They are primarily sold to those beekeepers who wish to rear their own queen bees. Offspring of these queens should exhibit a uniform type of bee.

Costs

Costs vary to some degree: prices range from \$15 to \$25 for small numbers of queen bees. The larger the quantity ordered, the cheaper per queen the price becomes.

It is important not to choose queens on price alone, and do not expect every queen bee to make you a fortune. Expect 10% to fail for one reason or

another soon after being introduced to the new colony.

Age

From the hatching date of the queen cell, mature queens are caught and caged for mailing on a variety of time scales.

Research note

Research has shown that the age of the queen when removed from the mating nucleus colony has a significant impact on the survival of that queen at 2 and 15 weeks after introduction into another colony.

14 days after introduction to the new colony:

There were low survival rates of queens caught at 14 days compared with 21 days of age.

At 21 days 82.5% of the queens survived.

This further improved to an average of 90% survival for queens caught at 28 days of age.

The benefits of older caught queens (28 days) are further illustrated after 15 weeks. Losses of queens caught at 21 days can be expected to be 30.5% compared to losses of queens caught at 28 days to be 21%.

This research clearly indicates that queens caught at 28 days for introduction into another colony are better in the long term as far as survivability is concerned.

You should expect to pay more for a 28-day old caught queen than for a 21- or 14-day caught queen due to the longer use of the mating nucleus colonies for the older queen.

Care of the mailing cage

Queen bees, if bought from a queen bee supplier, will come by post with the rest of the mail. They usually arrive in good condition, Australia Post regularly handles queen bees posted around the country and overseas.

Make sure your letterbox is cool and ant-free or, better still, wait for the postman to arrive.

If the queen is not being introduced straightaway, store the mailing cage with the queen inside in a cool area of the house away from pest strips, fly sprays, mothballs, direct sunlight, cold draughts and ants. In hot weather place one drop only of water on top of the wire gauze of the cage when the queen arrives in the mail. The queen will keep like this for some days.

Along with the queen, the mailing cage will contain a number of worker bees, known as 'attendants' or

escorts. In one end of the cage will be a plug of queen candy, composed of irradiated honey and icing sugar.

Removing the old queen

It is vital to remove the old queen from the colony which is being re-queened. Failure to find and remove the old queen will probably result in the failure of the newly introduced queen

Slow transition to the new queen

When introducing the queen into the colony from the mailing cage, do not remove the cork in the end that the bees occupy.

Remove any cork or closure in the end with the queen candy.

Place the mailing cage between frames of brood in the middle of the brood nest with the candy end slightly upwards, so that if an escort worker bee dies, this will not block the exit of the cage.

It may take a few days for bees in the hive to remove the plug of candy and release the queen. This time lapse allows the hive population to become accustomed to the new queen's presence.

It may take up to a week for the introduced queen to begin laying eggs. For this reason, once you have introduced a mailing cage to a colony, it is essential to leave the colony alone for at least a week before you inspect its progress. The presence of eggs will indicate a successful introduction.

© State of New South Wales through Department of Industry and Investment (Industry & Investment NSW) 2009. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute Industry & Investment NSW as the owner.

ISSN 1832-6668

REPLACES AGNOTE DAI-116

Check for updates of this Primefact at:

www.dpi.nsw.gov.au/primefacts

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (October 2009). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of Industry & Investment NSW or the user's independent adviser.

Job number 9265 PUB09/108