

Bees in Agriculture

Fact Sheet series for the
Small Rural Landholder

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The Issue

Bees play a significant role in agriculture and the environment.

Most notably, in food production, through the pollination of horticulture and seed crops.

The health and productivity of bees is therefore vital to these industries.

In the absence of bees, many commercial horticulture crops would need to be pollinated by hand.

This process is time consuming. First, harvesting the male flowers and extracting the pollen, and, then applying the pollen to the female flowers.

By enabling the bees to do majority of the pollination, the potential savings in labour and production costs are significant.



Keeping or hiring a number of bee hives for your property can be a significant benefit to overall environmental productivity whilst saving on inputs and labour costs. However, careful consideration and management of hives is required to encourage and maintain insect pollinators, and reduce the risks of losses from disease and chemical use.

To ensure the health of bees and hives, ANY person keeping bees must be aware of their responsibilities as a beekeeper and maintain their hives as per government regulations.

Regulations

Victorian State law requires beekeepers (even those with a single hive) to register with the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and comply with the Apiary Code of Practice (May 2011).

DEDJTR also require notification of any sale or disposal of hives. Registration allows for hives to be allocated a brand, and registration of beekeepers and branding of beehives enables proper disease control measures to be carried out.

Food sources

To encourage and keep bees well fed, try to select as diverse as possible flowering plant species for shelter belts or revegetation, and when renovating pastures or planting gardens. Having plants which flower at

different times of the year - particularly during the colder months - will ensure a more constant supply of food for bees.

Consider including some useful herb species such as hedgerows to encourage bees. For example, Sage, Thyme, Oregano and Lavender are all highly attractive to bees. Many of the of the same plant species that attract bees are also useful browse or forage plants for livestock and provide attractive shelter for animals and birds. A diverse range of flowering plants will also attract many species of native bees and other useful pollinators.

Native bees

Australia has many native bee and other pollinator insects. However these species are much more selective in the plants they will visit and pollinate, unlike the European honeybee which have little preference for forage flowers. Modern agricultural practices and 'monocrops' decrease the availability of food and habitat for these selective native species. Therefore, many commercial crops rely heavily on managed honeybee hive services for pollination during the flowering season.

Many of Australia's native bee species are solitary, meaning that they do not swarm or build hives and hence do not produce any honey. Hence, whilst significant to environmental diversity, native bees produce very little (if any) honey for commercial viability.



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Simple tips for beekeeping to enhance production

Be aware of the rules and regulations for keeping bees to ensure the health and safety of both insects and people.

There are specific requirements for placement and numbers of hives depending on your property zoning and proximity to public areas, etc.

Be sure to provide adequate fresh water for your bees, and also ensure they have a 'beach' or some refuge to climb onto so as they don't drown in the water dishes.

Consider the most suitable area on your property to house the hives to ensure:

- Bees have adequate shelter from the elements;
- Easy access to valuable crops; and
- Flight path access from public areas of densely populated/high traffic areas.



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Honey production

There is scope in the warmer climates of Australia to produce small amounts of commercial native bee honey from some social species. However, European honeybee hives can produce up to 100kg of honey – up to ten times the amount of honey than that of cultivated social native bees.

Since most native bee species are solitary they are also generally not suitable for commercial pollinating activities.

Although, some cultivated social native bee species are being used on macadamia and avocado crops in some parts of Northern NSW and Queensland.

Population diversity

It is possible to keep both European honeybees as well as encourage native bees and other useful insect pollinators to your property. However, this situation will rely on there being plenty of food available year round. European honeybees are very efficient and unselective in their foraging requirements and will have a competitive advantage over native bees to access available food.



Relevant resources and further information

- Victorian Apiary Code of Practice (2011)
http://www.dtpli.vic.gov.au/_data/assets/pdf_file/0003/231519/Apiary-Code-of-Practice.pdf
- Agriculture Victoria
<http://agriculture.vic.gov.au/agriculture/livestock/honey-bees>
- Australian Native Bee Research Centre
<http://www.aussiebee.com.au/>
- Commercial Native Bee Pollinator Service
<http://www.nativebees.com.au>



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