Biosecurity New Zealand
Ministry for Primary Industries
Manatū Ahu Matua

Guidance for Beekeepers

Responsible beekeeping

Beekeepers need to make sure every hive they manage is healthy and productive. There are many threats to honey bee health including parasites, pests, diseases, toxins and poor nutrition – that make achieving this goal a challenge. Successful beekeeping means closely monitoring bee health and taking proactive steps.

What does a healthy bee colony look like?

- *Well-maintained, with hygiene as a priority.*
- *Regularly inspected, with findings recorded.*
- *Treated according to the season, region and hive condition.*
- *Diseases, pests and parasites, like varroa, under control.*
- *Free from American foulbrood.*
- *Managed by a beekeeper who is:*
  - *Responsive and prepared*
  - *Up to date with the latest training.*
  - *Connected to the apiculture community.*

Understanding the environment around your hive site is important, it's another great reason to connect with your community. You'll develop your understanding of local flowering times, the carrying capacity of the land, hive safety considerations, the local bylaws you need to comply with, and other regional variances that will impact the productivity and welfare of your bees.

What should you consider when siting a hive?

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How do I build a resilient hive?

Keep up with maintenance

- **Maintain hiveware and equipment.** Good housing will help bees defend their hives from robbing. Equipment like beesuits, and hive tools should be kept clean.
- **Decontaminate between apiaries.** Beekeeping tools and gloves should be decontaminated between apiaries, or after handling a diseased colony. Flaming of hive tools is effective at removing pathogens. Leather gloves are difficult to decontaminate so gloves with a washable surface are better.
- **Take action on deadouts** as quickly as possible.
- **Use a quarantine system.** Hive-level or apiary-level quarantine procedures should be considered. Shifting brood from one colony to another presents a biosecurity risk. There are good production reasons why brood transfers do occur, but if disease is discovered, then measures can be put in place to limit the spread of the disease through the use of record keeping, i.e. documenting all brood transfers.
- **Purchase only new equipment, and from trusted sources.** Using known and reliable sources will avoid introducing disease or toxins into your operation. Use caution if you buy used equipment.
- **Don't use old brood comb.** Contaminants and disease residues may accumulate in old brood comb. Newer brood comb supports better reproduction and colony health. Beekeepers should aim to replace 10-20% of dark combs every year.
- **Shift debris and old equipment.** Avoid discarding frames, old comb, or hive parts in the apiary. Debris on the ground invites pests and encourages robbing.
- **Clear colony entrances.** Keep entrances and surrounding areas free from overgrown vegetation to provide good air circulation for hives and make bee flights easier.

Manage pests and disease

- **Ongoing training.** It's important to stay up to date with identifying pests and diseases, and the latest control and prevention methods. Joining a club or industry group, finding a mentor or taking a course will help your management skills.
- **Inspect.** Bees, brood and hive components must be regularly inspected for all known pests and diseases. Ensure the methods you are using to inspect is accurate and done at the right time.
- **Monitor.** Different pests and diseases have their own monitoring procedures, and beekeepers should understand what 'normal' looks like and know when and how to look for pests and diseases. Find out more about honey bee pests and diseases here: mpi.govt.nz/bee-pests-and-diseases
- **Plan ahead.** Have a plan so you know what to do if you detect a pest or disease in your apiary. Be ready to intervene. Early detection means faster control and minimal spread. Infected hives are less productive and threaten other colonies.
- **Keep good records.** Records should be kept about all biosecurity-related actions and observations. Hives or apiaries should be clearly identified, interventions documented, and accurate records of hive movements should be kept for traceability.

Report it.
If you suspect a new pest or disease, or experience large-scale hive losses – report it immediately on **0800 80 99 66**

Have a healthy Queen

- **Replace the queen every one to two years.** Queen health is important to ensure quality and productivity of the colony. A good queen is one that is kept healthy during both her development and after emergence. Being proactive in queen replacement will result in healthier colonies. With many different pressures on hives, many beekeepers will requeen annually to ensure colonies maintain queen quality.

Follow rules and regulations

All beekeepers in New Zealand need to follow relevant rules and regulations. This includes complying with the Biosecurity Act as well as the Food Act e.g. registering your beehives, reporting any suspect unwanted (exotic) organisms, complying with the National American Foulbrood Pest Management Plan Order, and ensuring that any honey produced is safe to eat.

You can find out about the rules here: https://www.mpi.govt.nz/agriculture/beekeeping-loss-survey-tutin-contamination-regulations/

Beekeepers must also comply with any specific local bylaws. Be sure to check with your local council to find out what these are.

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How do I tackle varroa?

Ongoing varroa control is one of the most effective actions a beekeeper can take in New Zealand to keep their colonies healthy. Here is what good varroa management will look like:

- **Treating colonies to control varroa.** There are variations in the effectiveness of varroa control methods, but scientific studies show that the use of any type of varroa control is associated with much better outcomes for the colonies.
- **Alternate between different chemical controls when possible.** Don't rely on a single product to continuously treat for a pest or disease. This applies to both organic and synthetic treatments. Always follow label directions.
- **Broodless periods reduce mite loads on the parent colony.** When a colony experiences a broodless period there will be a reduction in varroa levels. This may occur during colony splitting, or by queen confinement. Colony splitting can compromise queen quality, so the use of such techniques should be balanced against the need to rear good queens using more controlled breeding methods. Splitting colonies should not be the sole method used to control varroa.
- **Monitor varroa levels.** Scientific data shows that all beekeepers should monitor for varroa, even those who generally do well in most other measurements of colony health. Visual observation of varroa on adult bees is not considered a monitoring method. The best monitoring methods are sugar-shake, sticky boards or alcohol wash. If you are uncapping drone brood, be sure to uncap at least 100-200, as uncapping only a few will not provide any meaningful measurement. Consult the varroa manual for more information.
- **Build a relationship with neighbouring beekeepers.** Neighbouring apiaries that are heavily infested by varroa pose a risk that cannot be easily controlled. A positive relationship with neighbours will help develop a mutual understanding of the importance of timely varroa control. Scientific studies have shown that even with excellent beekeeping management, the consequence of having a nearby apiary that is heavily infested will lead to reinvasion of your hives. Mite levels quickly return to damaging levels because of reinvasion, even shortly after treatment. Co-ordination of varroa treatment amongst local beekeepers is needed to reduce the risk of reinvasion.
- **Use a robbing screen.** Scientific data also shows that robbing screens may provide some protection from reinvasion, as they may also prevent new mites arriving on bees that are drifting between colonies.
- **Reading the varroa manual.** The *Control of Varroa: A guide for New Zealand Beekeepers*, 3rd edition by Michelle Taylor and Mark Goodwin provides a recently updated guide on how to monitor and control varroa in New Zealand beehives.

A long-term approach

The benefits of good varroa management are cumulative. One study found that by the third year of best-management beekeeping, winter colony loss was reduced by 30%, compared to beekeepers who were using 'average' beekeeping practice.

Colonies that experience good control of varroa will have also reduced viral infections from deformed wing virus. The effects of this virus can persist for many months after the varroa infestation has been reduced.

Many of the stresses on honey bee colonies cannot be controlled by the beekeepers, such as the weather or neighbouring apiary sites. However, management practices for varroa can be changed, and when done well, they can have a positive effect on colony survival and productivity.