

PEST & DISEASE CONTROL OPTIONS

The goal of organic management is to maintain healthy and productive honey bee colonies without the use of synthetic treatments or antibiotics. There are parasite and disease control options available for an organic management system.

Organic Treatments

Organic treatments for pest and disease control are often based on natural chemicals or compounds. Formic acid, oxalic acid and thymol are examples of organic treatments for varroa mites. These treatments, if registered, can be used within an organic beekeeping operation.

Cultural Management Practices

Cultural/physical controls are management practices applied by the beekeeper that use specialized equipment or physical means to control pests and diseases. Drone brood removal and screened bottom boards can help reduce varroa mites. Removing old frames can help reduce the level of diseases in the hive.

Genetic Stock Selection

Genetic control of pests and diseases involves the use of honey bees which have a genetic tendency to be resistant to infection or infestation. Hearty genetic stock does not eliminate the need for other treatment methods, but will aid in allowing the beekeeper to treat less often and to extend the period of time between treatments.

See the *IPM for Beekeeping in Ontario* manual for more information about controlling pests and diseases.

For more information:

www.ontariobee.com/organic

www.naturallygrown.org

www.organiccouncil.ca

www.cog.ca



ONTARIO BEEKEEPERS' ASSOCIATION
TECHNOLOGY TRANSFER PROGRAM

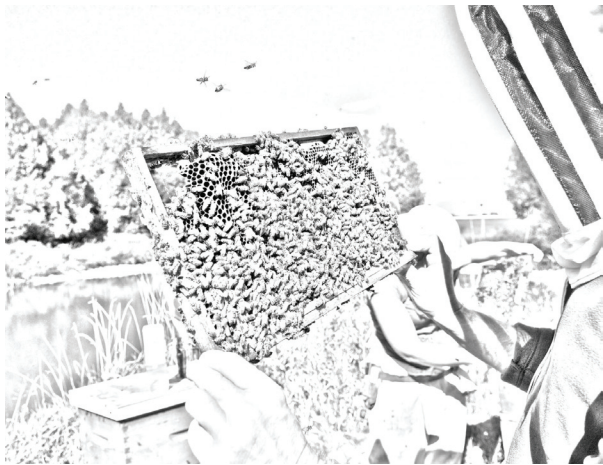
Suite 185, 5420 Hwy 6 N
Guelph, Ontario N1H 6J2

T 519-836-3609 | C 519-803-1395
ttp@ontariobee.com

www.ontariobee.com/outreach/ttp



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Organic
Beekeeping
Management

ORGANIC MANAGEMENT vs ORGANIC PRODUCTION

Using organic management practices for beekeeping is not necessarily producing certified organic hive products. To harvest certified organic products, a certification process must be followed and documented. Organic apiculture in Canada is governed by the Canadian Organic Standards Board (CGSB). The standards, along with the accompanying Permitted Substances List, dictate what practices and substances can be used in organic production in Canada.

Organic management encompasses essentially the same techniques as any Integrated Pest Management (IPM) system, but does not employ synthetics or antibiotics. The lack of antibiotic use can make organic beekeeping a challenging venture.

A serious threat to the beekeeping industry is the spread of American foulbrood (AFB). AFB can be difficult to diagnose because there are several stages of the disease with different symptoms. AFB can get out of hand in a short time period. An organic apiary can succumb and even worse, neighbouring beekeepers can be affected. To avoid this situation, colonies should be monitored often throughout the bee season (at least once/month).

Employing an IPM program with organic management controls can help make organic beekeeping successful. Knowledge of pests and diseases, how they develop, how they can be controlled and what products are available to control them is important for success.

The four essential components of an IPM system are: awareness, monitoring, treatment thresholds and solutions.

Awareness: Regardless of the type of management system a beekeeper uses, the same disease threats are inflicted on the colonies. Being aware of current problems and new developments regarding honey bee pests and diseases is necessary for all beekeepers.

Monitoring: The frequency of monitoring should be increased for organic beekeeping practices. This is particularly important for AFB as antibiotics are not used. Therefore, the only defence against foulbrood is to visually identify the problem at its onset, to immediately remove the infected colony, and to follow the recommended treatment for foulbrood, excluding the use of antibiotics. Monitoring for varroa is also important, Since organic varroa treatments can be affected by environmental conditions, it is critical to monitor not only before, but also after the treatment to ensure efficacy.

Treatment Thresholds: These remain the same for all beekeeping operations. See the current *Ontario Treatment Recommendations for Honey Bee Disease and Mite Control* for the recommended thresholds.

Solutions: A set of solutions are available for use in an organic IPM system. As previously mentioned, synthetic treatments and antibiotics are not permitted. When considering which organic treatments are available to use, check with the CGSB for a list of permitted substances for honey bee colonies.

BEST MANAGEMENT PRACTICES

- Sterilize hive tools by using a torch to melt wax and propolis off before use.
- Clean up and contain any excess comb removed from the hive to prevent robbing. Honey in the comb can contain AFB spores.
- Avoid barrel feeding. Barrel feeding stimulates robbing, a situation where diseases can be transmitted.
- Avoid putting collected swarms of unknown origin into an existing yard, as this can introduce disease and parasites.
- Restrict the purchase and introduction of used beekeeping equipment. Disease spores can remain in wax for many years.
- Monitor brood frames on a regular basis and look for signs of AFB.
- Keep colonies strong, with a good population and adequate feed stores.
- Dead colonies should be dealt with immediately. Do not leave them exposed to be robbed by live colonies in the yard.
- Implement a good record keeping system to track bee hive movement, observations of inspections, use of treatments and much more.