



Best Management Practices

Residential Beekeeping

Good Neighbor Practices

You are planning to bring several thousand stinging insects into close proximity of your neighbors' backyards. Being a good neighbor would include letting them know your intentions. It may take some explaining and educating, but once people understand more about honey bees, their minds can be changed. Conflicts with neighbors are not good for you or other beekeepers and could result in strict regulation or prohibition in more confined locations.

Education

Any resident considering taking up beekeeping should first educate themselves on basic principles and guidelines. A basic understanding of honey bee biology, foraging habits, and hive management is essential.

- ***Take a class.***
Cal Poly Pomona – Extended University
Girl Next Door (girlnextdoorhoney.com)
Beekeeping organizations (all listed below offer courses)
- ***Join a local beekeeping club or group.***
Beekeepers Association of Southern CA (basbbees.org)
The Orange County Beekeepers Association (ocbeekeepers.org)
Los Angeles County Beekeepers Association (losangelescountybeekeepers.com)
OC Backyard Bees (backyardbees.net)
- ***Seek out additional on-line knowledge.***
[Scientificbeekeeping.com](http://scientificbeekeeping.com)
American Beekeeping Federation (abfnet.org)
American Bee Journal (americanbeejournal.com)
- ***Read a book.***
The Beekeeper's Handbook by Alphonse Avitabile & Diana Sammataro (2006)
First Lessons in Beekeeping by Keith S. Delaplane (2007)
Natural Beekeeping: Organic Approaches to Modern Apiculture by Ross Conrad (2007)
The Hive and the Honey Bee by L.L. Langstroth (1853)
The Backyard Beekeeper: An Absolute Beginner's Guide by Kim Flottum (2010)
The ABC & XYZ of Bee Culture: An Encyclopedia Pertaining to the Scientific and Practical Culture of Honey Bees
Beekeeping: A Practical Guide by Richard E. Bonney (1993)
Biology of the Honey Bee by Mark L. Winston (1991)
- ***Find an experienced beekeeping mentor.***
- ***Follow City of Fullerton Best Management Practices for Residential Beekeeping.***

Considerate Hive Management

Beekeepers should take into account that weather conditions influence bee behavior and should work bees when conditions are favorable. Beekeepers should open their hives when their neighbors are not working or playing outdoors. Beekeepers should also be mindful to perform hive manipulations as quickly as possible with minimum disturbance to the bees.

Extended hive manipulations, particularly when removing honey, should be carefully planned to accommodate neighbors' activities. Smoke should be used when working bees. Hive entrances should be smoked before mowing or trimming in the hive area. Clippings and exhaust should be directed away from hive entrances.

Recommended Standards

- a. Registration Encouraged. To protect your bees when Orange County Vector Control conducts pesticide spraying, the beekeeper should register with the County of Orange Department of Agriculture Commissioner within 30 days of establishing an apiary, and reregister January of every year thereafter while in possession of the apiary pursuant to California Food and Agricultural Code Sections 29040-29056.
- b. Permission of landowners. Any person wishing to place or keep an apiary, or cause or allow an apiary to remain on land not owned or possessed by such person should first obtain the permission to do so from the owner or person lawfully in possession of such land.
- c. Maximum hives. The number of hives will depend on the size of the property, the buffer space you have between you and your neighbor, the size of hives you have and the types of bees you keep. Beekeepers using proper management skills will split hives to prevent swarming and combine hives when they naturally shrink over the course of a year varying the number of hives they have in an apiary. Be a good neighbor and limit the number of hives to a reasonable and manageable amount.
- d. Hive type: All bee colonies should be kept in inspectable hives consisting of moveable frames. Removable frame hives allow inspection for size, brood, food, disease and queen. Two common examples of removable frame hives are the Langstroth hive and a Top Bar hive. Hives should not be kept in trees, walls, attics or meter boxes where they cannot be managed. Hives in those places should be removed by the property owner or a bee removal company.
- e. Hive color: Using a light color to paint the hive components will result in less heat being absorbed during the summer months. This will ensure bees are kept in a cooler environment and will reduce swarming tendencies.

Operational Standards

- a. Any production of honey, wax, or related product shall be subject to the Home Occupation requirements of Section 15.17.030M of the Fullerton Municipal Code and all applicable County of Orange Health Department Cottage Food or Certified Farmers Market permitting process and requirements.
- b. Hives should be continually managed to provide adequate living space for their resident bees to prevent swarming.

- c. Hives should be requeened at least once every two years to prevent swarming OR in any instance in which a colony exhibits unusually aggressive characteristics by stinging or attempting to sting without due provocation or exhibits an unusual disposition towards swarming, it should be the duty of the beekeeper to requeen the colony. Queens should be selected from stock bred for gentleness and non-swarmling characteristics
- d. Water source: Bees use large amounts of water to hydrate and cool their hive. A fresh, shallow, and consistent water source for bees should be provided at all times on the property where the bees are kept to discourage bee visitation at swimming pools, fountains, hose bibs and other water sources on adjacent public or private property. The water should be kept fresh and clean so as not to become a breeding ground for mosquitoes.
- e. Hive maintenance materials or equipment must be stored in a sealed container or placed within a building or other bee-proof enclosure.

Location Criteria

Hives should be placed in a quiet area and not directly against a neighboring property unless a solid fence or dense plant barrier of six feet or higher forms the property boundary. Hives should be kept as far away as possible from roads, sidewalks, and rights of way.

Flight paths into the hive (generally six-ten feet in front of the hive entrance) should remain within the owner's lot, although barriers (e.g., fencing and tall shrubs) can sometimes be used to redirect the bees' flight pattern. Care should be taken so this flight pattern does not cross sidewalks, driveways, playgrounds, or other public areas.

- a. Hives should be located between the residence and the rear property line.
- b. Hives should not be visible from a public right-of-way.
- c. Hives should be in a dark location when the sun goes down as bees are attracted to light. Avoid placing a hive where a light will attract the bees to create a nuisance.
- d. Hive location should be secured from unauthorized access.
- e. Hives must either be screened so that the bees must fly over a six-foot barrier, which may be vegetative, before leaving the property, or be placed at least eight feet above the adjacent ground level.

Swarm Prevention

Swarming is natural honeybee behavior, but it should be prevented or minimized. Two primary causes of swarming are overcrowding and/or overheating in the hive. To avoid these conditions, and reduce tendency to swarms, beekeepers should consider:

- a. Replacement of old or failing queens
 - As queen bees age, their queen pheromone fades triggering the hive to swarm
- b. Appropriately timed addition of supers for brood rearing and honey storage
- c. Colony division (splitting a hive)
- d. Brood chamber manipulation
- e. Use of screened bottom board

When a swarm occurs, efforts should be made to collect the swarm or call a bee removal company to do the collection. Swarms captured from areas where the origin of the bees may be questionable should be monitored frequently for abnormal defensiveness.

Queens

Queens should only be obtained from reliable sources. Queen breeders are preferred to reduce the chances of introducing Africanized honeybees and to ensure the queen is well suited to the climate. Beekeepers should ensure their queens are young (less than two years recommended) and vigorous layers. Each beekeeper must evaluate their queens on a regular basis for performance and hive gentleness. Desirable genetic characteristics for a queen include:

- Gentle Disposition
- Quick Colony Build Up
- Good Honey and Pollen Collectors
- Low Swarming Instinct

Any colony exhibiting unusually defensive behavior or an excessive swarming tendency should be re-queened as soon as possible.

Robbing Behavior

When nectar is scarce, honeybees may rob from other hives. When they do, they tend to appear more defensive. Under such conditions, beekeepers should work hives for only short periods of time and only if really necessary. Exposing honey can encourage robbing. Open hives can entice robbing thus stirring up the hive. Be a thoughtful conscientious neighbor. All honey and sugar water spills should be cleaned up immediately. Areas used for honey extraction should be bee-proofed to prevent robbing situations.

Disease Control

Any hive found to be diseased should be dealt with in the appropriate manner. There are a number of honeybee diseases and pests. It is critical that beekeepers be educated to recognize and respond to disease. A disease like American Foulbrood has spores which can remain viable for three or more decades and is extremely contagious. The only recourse with this disease is burning the equipment or placing it in a sealed bag to be taken to a landfill. When evidence of disease is found, the hive should be treated and or the equipment removed promptly to avoid spreading the disease to neighboring hives. For this reason, beekeepers should be extremely cautious about mixing hive equipment and purchasing used equipment. It is incumbent on beekeepers to manage all disease and pests, including parasitic mites, to ensure colony health and honey quality.

Recordkeeping and Time Management

The keeping of bees requires time to inspect and manage a hive properly, keep it healthy and keep it at an optimum size for honey production without swarming. Ideally, hives should generally be inspected once a week for food, queen behavior, disease and pests, and spacing.

Good recordkeeping should be a priority for all beekeepers. For those just starting to keep bees, keeping a written record of colony manipulation and observation for each hive would be helpful. As a bee hobbyist, your colony management log could include a catalog of the equipment used, a record of inspections and findings, and a history of actions (e.g., adding / removing honey supers), and any relevant observations regarding the hive.

Glossary

Residential Beekeeping Best Management Practices

Apiary: Single location where one or more beehives are kept.

Bee: Any stage of the common domestic honey bee (*Apis Mellifera* species).

Bee Box, Brood Box or Honey Supers: Boxes typically used in a Langstroth hive with removable frames that have no top or bottom which allow the beekeeper to expand or condense the hive depending on the strength of the hive.

Bee Hive: Structure for the housing of a bee colony.

Beekeeper: A person who keeps honey bees and manages bee hives

Beekeeping (Residential): The keeping or maintenance of an apiary in a hive as an accessory use.

Brood: The eggs, larvae and pupa of the honey bee prior to emerging as an adult bee

Colony Collapse Disorder (CCD): The phenomenon that occurs when the majority of worker bees in a colony disappear and leave behind a queen, plenty of food and a few nurse bees to care for the remaining immature bees and the queen.

Frame: A hive component where bees build their honeycomb

Hive: A collection of bees with one queen. This can be from a few hundred bees to many thousand bees.

Honeycomb: Beeswax cells where honey pollen and brood are stored

Langstroth Hive: A type of hive which was designed to be expandable or contractible with frames that can be removed for inspection

Pollination: The process of collecting pollen from one flower and depositing it on another flower.

Removable Frame: A frame designed to be removed from a hive for inspection purposes.

Requeen: To replace the queen bee in a colony with a new, younger queen, a common practice in beekeeping to prevent bee swarming, increase brood and honey production or reduce hive defensiveness.

Robbing: Bees trying to steal honey from a hive that is not their own.

Smoker: A tool used by a beekeeper to produce smoke to calm the bees

Swarm: Group of bees in a transitional state leaving their original hive, clustering and then leaving again to establish a new hive in a new cavity.

Top Bar Hive: A trapezoidal box with slats of wood which the bees will make comb along. These slats can be pulled out with the comb for inspection.