

# **New York City Beekeepers Association's Best Management Practices for Safe Urban Beekeeping**

## **DISCLAIMER**

This document is and will always be a work in progress, intended for regular update and revision. It offers guidelines for responsible hobby beekeeping in New York City. It is not an instructional text; we strongly urge anyone interested in urban beekeeping to take the New York City Beekeepers Association (“NYCBA”) course on urban beekeeping (go to [www.nyc-bees.org](http://www.nyc-bees.org) for details on current course offerings). Likewise, this document is not intended to provide legal advice. It does not address practices related to selling honey or any other farm product; moving colonies, bees, or beekeeping equipment; or liability / insurance issues. Finally, this document represents the Best Practices advocated by the NYCBA, not New York City or its Department of Health.

## **INTRODUCTION**

Beekeeping has become increasingly popular in New York City. Although generally docile, honeybees (*Apis mellifera*) can and may sting. Responsible management is therefore necessary to avoid creating problems for neighbors, particularly in an urban setting. This document is intended as a reference and standard for honeybee management in New York City. It may serve as a resource for information to reinforce community confidence in the safety of beekeeping activities; a standard reference for addressing complaints or conflicts about beekeeping activities in New York City; and a compendium of best management practices that NYCBA members are encouraged to follow.

## **HIVE NOTIFICATION & SELECTED REGULATION**

Beekeepers must notify both New York City and New York State regarding hives kept in the five boroughs. Article 161 of the New York City Health Code, section 161.01(b)(12), requires that persons keeping honey bees “file a notice with the Department, on a form provided or approved by the Department, containing the beekeeper’s name, address, telephone, e-mail and fax numbers, emergency contact information, and location of the hive, and they shall notify the Department within ten business days of any changes to such information.” NYC hive-notification forms are available at <http://www.nyc.gov/html/doh/downloads/pdf/ehs/ehs-beekeeping-guideline.pdf>.

NYS hive-location surveys are available at <http://www.agmkt.state.ny.us/PI/PI-134.pdf>.

Section 161.01(b)(12) also requires beekeepers in New York City to “adhere to appropriate beekeeping practices including maintaining bee colonies in moveable-frame hives that are kept in sound and usable condition; providing a constant and adequate water source; locating hives so that the movement of bees does not become an animal

nuisance, as defined in § 161.02 of this Article; and shall be able to respond immediately to control bee swarms and to remediate nuisance conditions.” Section 161.02 defines a beekeeping nuisance to “mean conditions that include, but not be limited to, aggressive or objectionable bee behaviors, hive placement or bee movement that interferes with pedestrian traffic or persons residing on or adjacent to the hive premises; and overcrowded, deceased or abandoned hives.”

## **GENERAL BEST PRACTICES**

### **Education**

The first and most critical step in responsible beekeeping is education. All beekeepers should have a solid understanding of honeybee biology and basic beekeeping methods. We strongly suggest that new beekeepers take the NYCBA Basic Urban Beekeepers Course and read at least three different beekeeping guides. Here are some books that the NYCBA recommends:

- The Beekeeper’s Handbook by Alphonse Avitabile & Diana Sammataro (2006)
- Beekeeping for Dummies by Howland Blackiston (2009)
- First Lessons in Beekeeping by Keith S. Delaplane (2007)
- Natural Beekeeping: Organic Approaches to Modern Apiculture by Ross Conrad (2007)
- The ABC & XYZ of Bee Culture: An Encyclopedia Pertaining to the Scientific and Practical Culture of Honey Bees
- The Backyard Beekeeper: An Absolute Beginner’s Guide by Kim Flottum (2010)
- Beekeeping: A Practical Guide by Richard E. Bonney (1993)
- The Hive and the Honey Bee by L.L. Langstroth (1853)
- Biology of the Honey Bee by Mark L. Winston (1991)
- Honey Plants of North America by John H. Lovell (1926)

Beekeepers should stay informed of recommended changes in beekeeping practices, including the treatment of parasites and illness, threats to honeybee health, and government regulations. One way to do so is to become a member of a beekeeping association that holds regular (preferably monthly) meetings, such as the NYCBA. Another way is to subscribe to a beekeeping magazine like Bee Culture.

### **Colony Temperament and Behavior**

A colony’s temperament is determined by its queen’s characteristics, its health, environmental factors (e.g., weather), and proximate activities. Every effort should be made to maintain a docile and non-defensive colony. Guidance on selecting queens, maintaining hive health, and mitigating environmental impact follows.

### **Considerate Hive Management**

Beekeepers should take into account that weather conditions influence bee behavior and plan to work bees when conditions are favorable. Beekeepers should make sure that neighbors are not working or relaxing outdoors when they open hives and should 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. Consider using a manipulation cloth (to cover the top of the open hive) in extreme heat or to otherwise minimize hive disruption.

### **Hive Placement**

Correct placement of hives is a very important consideration for responsible beekeeping in urban and suburban settings—perhaps the most important consideration in New York City. Successfully moving an established beehive, especially from a roof in New York City, can be very challenging (and sometimes impossible). Renters are especially encouraged to seriously consider the long-term potential of their situations. Ensure that your hive is in a location that can be accessed regularly, safely, and easily.

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 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.

For flat-roof placement, ensure that the hive can be made level; ensure that the roof below can support the weight of a hive full of honey with cinder blocks on top (and you); and attempt to reduce the impact of high winds. The NYCBA is not aware of successful roof-top placement of hives in New York City above the sixth-floor level; please let us know if you have been able to keep hives with success on higher floors.

Beekeepers are encouraged to post signs to alert neighbors and passersby to the presence of their hives; generally it is best to place such signs so that they are only in view when the public would otherwise be able to view the hives themselves.

### **Hive Densities in an Urban Setting**

Beekeepers are advised to closely observe their apiary locations to determine the carrying capacity of the area—both the immediate area and roughly three miles in all directions—and to limit the number of hives accordingly. Signs of over-saturation in an area include slow colony growth, poor honey production, and excessively defensive behavior.

### **Provision of Water**

Article 161 of the New York City Health Code, section 161.01(b)(12), requires that beekeepers provide “a constant and adequate water source.” Bees use large amounts of water to control temperature and humidity within the hive. They prefer a sunny place with surface moisture—such as gravel / a sponge set in a dog water bowl or the edge of a birdbath—where they will not drown. The water should be kept fresh and clean so as not to become a breeding ground for mosquitoes. Beekeepers should establish such water sources near the apiary to encourage bees to forage for moisture near the hive. In hot

weather, honeybees use large amounts of water to control temperature and humidity within the hive. It is particularly important in an urban environment like New York City to provide a source of fresh and consistent water for the honeybees, to prevent them from seeking water from sources such as air conditioners or other such locations where the honeybee would be perceived as a nuisance.

### **Swarming**

Swarming is natural honeybee behavior, but it should be prevented or minimized (especially in urban settings). Two primary causes of swarming are congestion and poor ventilation in the hive. To avoid these conditions, beekeepers should consider:

- Appropriately timed addition of supers for brood rearing and honey storage
- Use of screened bottom board
- Brood chamber manipulation and/or colony division
- Replacement of old or failing queens

These and other swarm management practices are explained in detail in most good beekeeping textbooks.

When a swarm occurs, efforts should be made to collect the swarm. Swarms captured from areas of interstate transportation or heavily populated areas or other locations where the origin of the bees may be questionable should be monitored frequently for abnormal defensiveness. Recommendations for dealing with a defensive colony are covered in the final (Africanized Honeybee) section of this document.

### **Queens**

Queens should only be obtained from the most reliable sources. Please check with the NYCBA for suggestions on obtaining queens. Local sources, where available, are preferred to reduce the chances of introducing Africanized honeybees and to ensure that the queen is well suited to the climate. Beekeepers should ensure that their queens are young and vigorous layers. A queen of less than two years old is recommended. Nevertheless, each beekeeper must evaluate their queens on a regular basis for performance and hive gentleness. Desirable characteristics for a queen include:

- gentle disposition
- brood viability
- low swarming instinct
- colony build up
- disease and pest resistance
- pollen hoarding

Only queens of European origin should be used. The NYCBA recommends that Italian or Minnesota Hygienic queens be used in New York City, although other European races of Apis mellifera include Buckfast, Carniolan, Caucasian, Cordovan, Russian, and Starline. Any colony exhibiting unusually defensive behavior or an excessive swarming tendency should be requeened 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. (For this reason, the NYCBA does not recommend the use of hive-front Boardman feeders except for watering in the summer months.) All honey and syrup spills should be cleaned up immediately. Areas used for honey extraction should be bee-proofed to prevent robbing situations.

## **Disease Control**

There are a number of honeybee diseases and pests for beekeepers to be concerned with. It is critical that beekeepers be educated to recognize and respond to disease. Some diseases, like American Foulbrood, are extremely contagious. Beekeepers should be extremely cautious about mixing hive equipment and purchasing used equipment for this reason. It is incumbent on beekeepers to manage all disease and pests, including parasitic mites, to ensure colony health and honey quality. Beekeepers should also report outbreaks of bee disease and pests in accordance with Article 15 of the NYS Agriculture and Markets Law, available at <http://www.agmkt.state.ny.us/TheDepartment.html>.

## **Recordkeeping**

Good recordkeeping should be a priority for all beekeepers. A written record of colony manipulation and observation should be maintained for each hive. Your colony management log should include a catalog of the equipment used, a record of inspections and findings therein, and a history of actions (e.g., adding / removing honey supers), and any relevant observations regarding the hive.

## **AFRICANIZED HONEYBEE**

The Africanized honeybee (“AHB”) was introduced to Brazil in 1957 and accidentally escaped from confinement colonies. While maintaining its genetic identity, this race of bee expanded its range in South and Central America and arrived in the United States around 1990. Since that time, AHB have colonized Texas, New Mexico, Arizona, California, Nevada and Utah, Oklahoma, Louisiana, Arkansas, Alabama, and Florida. Due to defensive behaviors and difficulties managing AHB using European honeybee beekeeping methods, the AHB population has disrupted agriculture, beekeeping, tourism, recreation, and public life in general as it has spread. It is not yet known whether ABH will be able to establish in cooler climates. That said, northern states rely on southern states, particularly Georgia and Florida, as a source of package colonies and queens, and commercial beekeepers routinely transport colonies to over-winter in southern states.

## **Management to Avoid AHB Introduction and Establishment**

The queen management techniques laid out in the General Best Practices section of this manual are relevant to the discussion of AHB avoidance practices. The techniques are intended for maintenance of European stock and include:

- Bi-annual requeening with certified European stock purchased from reliable sources (local when possible)
- Requeening only with marked queens
- Maintaining requeening records and purchase documentation
- Monitoring the behavior of the bees and replacing the queen immediately if the hive becomes difficult to manage

Any beekeeper who witnesses unusually defensive behavior should take the following steps:

1. Contact the NYCBA
2. Requeen immediately with certified European stock
3. Contact the State Bee Inspector
4. Monitor requeened hive for continued defensiveness