

Getting Started and Locating Bees

Methods to Obtain Hives and Choose Apiary Sites

**Webb Flowers, Carroll County
Extension**

**Rick Fell
Department of Entomology
Virginia Tech**



When to Start

- **Spring**
 - Ideally April or early May
- **Advantage - allows bees plenty of time to build in strength and prepare for winter**
- **More time to learn (and more time for bees to recover from your mistakes)**
- **Can obtain hives in midsummer or fall - may be price advantage**

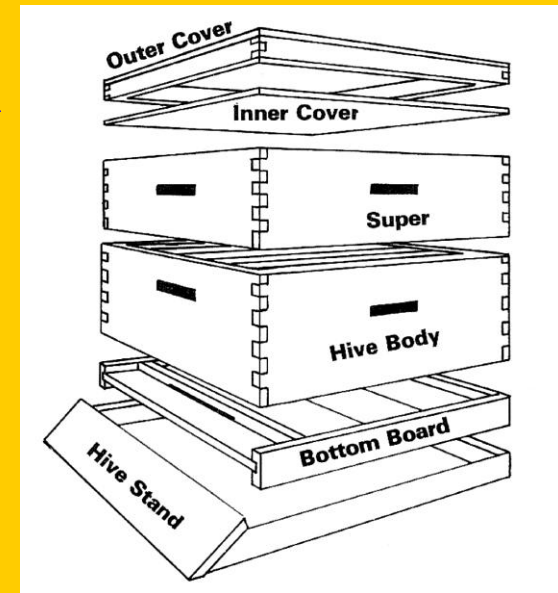


Starting a new hive

Recommended Equipment For Each Hive

1. Bottom board
2. 2 Full depth hive bodies (alternate 3 medium)
3. 10 frames / hive body, plus foundation
4. Inner cover and telescoping cover
5. Honey supers (minimum 2 medium, plus frames, foundation; better 3 supers per hive)

(Also need equipment for protection and working bees - veil, smoker, hive tool)



Techniques to Start a Hive of Bees

Methods to Obtain a Colony of Honey Bees

- 1 - Buy an established hive
- 2 - Capture a swarm
- 3 - Hive a wild colony
- 4 - Purchase a package of bees



Package bees as they are sent through the mail.



Buying an Established Hive

- **Not a technique recommended for the beginner**
- **Large colonies are more difficult to handle**
- **Price can be an advantage**
- **A good colony can be productive the first year**
- **Must be inspected and disease free**



Opening a strong hive for inspection can be intimidating.

Factors to Consider When Buying an Established Hive

- Honey bee colonies must be inspected by state inspectors for disease before sale, and an inspection certificate must accompany the hive. The state inspection does not certify the condition of the equipment or the strength of the colony.
- Size of the hive - recommend a minimum of 2 hive bodies
- Be sure it is standardized equipment

Also be sure equipment is structurally sound. The equipment on the right is sound, but in need of a coat of paint.



Factors to Consider When Buying an Established Hive

Equipment condition - should be in good repair, including comb



The frame on the left was damaged by a mouse and the foundation in the frame on the right was chewed but not drawn into comb. Poor quality frames could indicate problems.



Another very important factor to consider in purchasing a hive is colony strength.

Factors to Consider When Buying an Established Hive

- Colony populations change during the year. Estimating strength by bee numbers is difficult.
- One of the best indicators is the amount of brood.
 - ✓ A strong colony in the late March/early April ~5 - 6 frames with brood.
 - ✓ By mid May that number will increase to 10 - 12 frames.
 - ✓ A strong hive in late summer may have 6 -7 frames of brood.



A strong hive in the spring.



A strong hive in early fall.



A frame of brood. Strong colonies in the spring should have a brood nest extending over 5-6 frames.

Factors to Consider When Buying an Established Hive

- Besides a good population of workers, a colony needs a laying queen.
- The other important factor to note when inspecting a hive, is the amount of food or stored honey present.
 - ✓ A colony should have a minimum of 15 - 20 pounds of stored honey at any time of the year (2 1/2 - 3 full depth frames).



A laying queen.



Frame of honey

Buying a Nuc (nucleus colony)

A good alternative to the purchase of an established hive.

A nuc contains a functioning colony with a laying queen, brood and a good population of workers.

5-frame nuc box



Capturing a Swarm

- A second method to start a hive is to capture a swarm. A swarm is the reproductive unit of a honey bee colony.
- Generally easy to collect
- Price is right!
- Disadvantage - finding one.



A swarm clustered on a branch.

Holding a swarm.
Bees in a swarm are usually gentle.



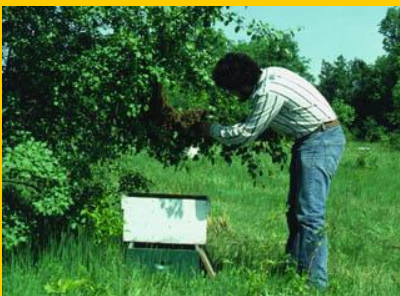
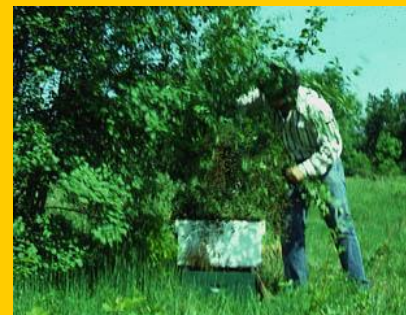
Capturing a Swarm

Swarms are generally easy to collect. Bees clustered in a swarm can be shaken in to a hive or other container. A hive body with a couple of frames (with comb or foundation) can be placed under the swarm. When the branch is shaken the bees fall into the hive.



Swarm hanging on a branch.

Bees shaken off branch and into hive.



Small hive placed under swarm.

Cover is placed on hive and bees are allowed to collect inside.



Capturing a Swarm

- Swarms can also be collected in other containers such as a bucket or net and then dumped into a hive.
- The biggest problem in collecting a swarm is insuring that the queen is present. Without the queen, the bees will not stay in the hive.
- Once the swarm has been placed into a hive, it is often a good idea to leave the hive at the site until all of the bees have moved inside. A hive can be moved to a new site after dark.



Shaking a swarm into a bucket. The bees will then be dumped into a hive.



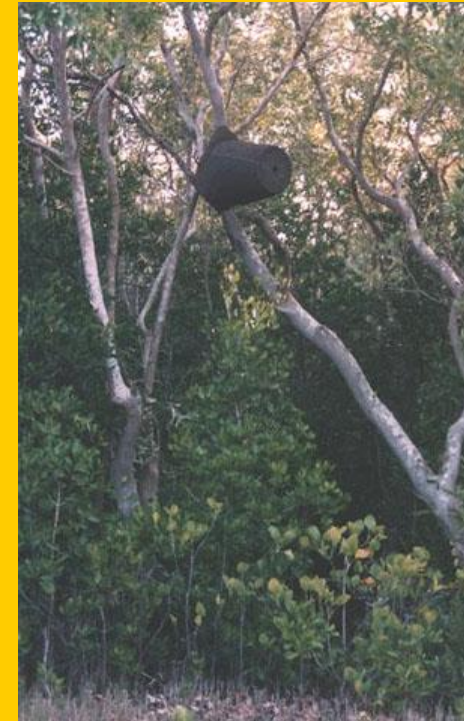
Dumping a swarm collected in an insect net in front of a hive.

Nest Boxes for Capturing Swarms

- Can also use nest boxes to capture swarms
- Hive bodies or nuc boxes can be used, or optimally sized nest boxes can be constructed
- The bait hives are hung in trees at a height of about 10 feet and should be hung at least two weeks before the start of the swarming season.
- Bait hives should be checked weekly during the swarm season, and moved to a hive location if occupied. The bees can then be transferred into a standard hive with frames and foundation.



Nest boxes



Swarm traps

Purchasing a Package of Bees

- One of the easiest and surest ways to start in beekeeping
- Installation is simple
- Cost of bees and equipment is higher than other methods
- Generally not expect surplus honey production the first year



Two packages of bees as they are sent through the mail. Packages can be purchased in different sizes, but a good choice is a 3 pound package, which contains 11,000 - 12,000 bees.

Purchasing a Package of Bees

- Packages should be ordered for as early a delivery as possible in April or May.
- The producer will give a tentative date for shipping - be sure that the equipment is assembled, painted, and ready for the bees well in advance of the delivery date.
- When the bees arrive, place them in a cool, darkened location and feed them with a sugar solution made up as a 50:50 sugar to water mixture.



A newly arrived package being fed a sugar solution. The bees may consume a pint or more of the solution. Well fed bees are gentler and easier to install.

Installing a Package of Bees

The bees should be installed in late afternoon or early evening of the day that they arrive.



A package ready to be installed in a hive. Five or six frames have been removed to provide space for the bees.



The bees are knocked to the bottom of the package with a sharp rap on the bottom.



The top is pried open so that the feed can and queen cage can be removed.

Installing a Package of Bees



The feeder can is removed.



The queen cage is removed from the package and the package is temporarily closed by placing the wooden back on top.



The queen in the cage is checked to be sure that she is alive. (If the queen is dead, reassemble the package and call the producer to inform him of that fact.)

Installing a Package of Bees



After checking the queen, the bees are ready to be dumped into the hive. Knock the bees to the bottom again, and then turn the package over and dump the bees into the hive. Gently rolling the package end to end will help dislodge the bees.



When the package is nearly empty, place it in front of the hive and replace the frames. The bees will not be aggressive if they have been well fed.

Installing a Package of Bees



- The cage with the queen should be placed on top of the frames.
- The cork is removed from the end of cage with the candy and the bees are allowed to chew through the candy to release the queen. (If the cage has no candy, place the cage in the hive and release the queen manually a day or two later.)

- Place a feeder bottle (or plastic pail) with a 1:1 sugar:water solution on top of the inner cover, over the hole.



Installing a Package of Bees



An empty hive body is placed on top of the inner cover and then the telescoping cover on top of the hive. An entrance reducer should also be placed in the hive entrance.



The newly established hive should be left alone for a couple of days and then checked to be sure that the queen has been released. If she is not free, she can be released by opening the cage.



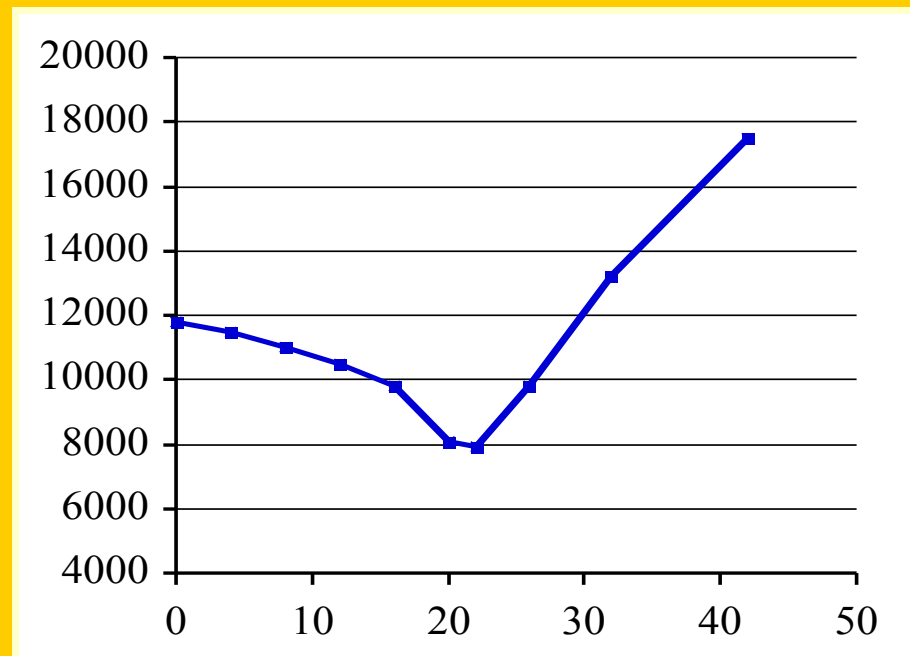
Empty queen cage and successful queen release

Installing a Package of Bees

A hive should be fed for at least 2 -3 weeks after installation to help them get started building comb and raising brood. Feeding is very important since hive populations decline for 3 weeks after installation and it reduces the colony's need to forage.

Changes in the worker population of a hive after installing a package. Note the loss of approximately one third of the bees in the first 3 weeks.

Number of Bees



Days after Installation

Installing a Package of Bees



- It may require a month or more for a colony to draw out the foundation in a new hive.
- The figure shows the 6 frames the bees from a package drew into comb over a 14 day period.
- When the bees complete comb building on the outer frames, a second hive body should be added.
- The basic management goal the first year should be to get the colony into 2 full-depth or 3 medium-depth hive bodies for the winter.

Managing a Colony the First Year

First year is the hardest - survival rate of newly established wild colonies < 30%.

Goal in terms of management is to :

encourage population growth

insure that the bees build the comb they need

insure that they are adequately prepared for winter



Encouraging Colony Build-up



- What needs to be done if colony growth / build-up stops during the summer?
- Answer - stimulative feeding
 - Feed 1:1 sugar syrup to simulate nectar flow and stimulate brood rearing and comb building



Important to get the colony into 2 hive bodies (with drawn comb and stored food) before winter.



Apiary Location

- Face south or south-east
- Colonies should be well exposed to the sun
- Windbreak
- Slope to ground - good water drainage



Apiary site with good sun exposure, windbreak, slope to the ground



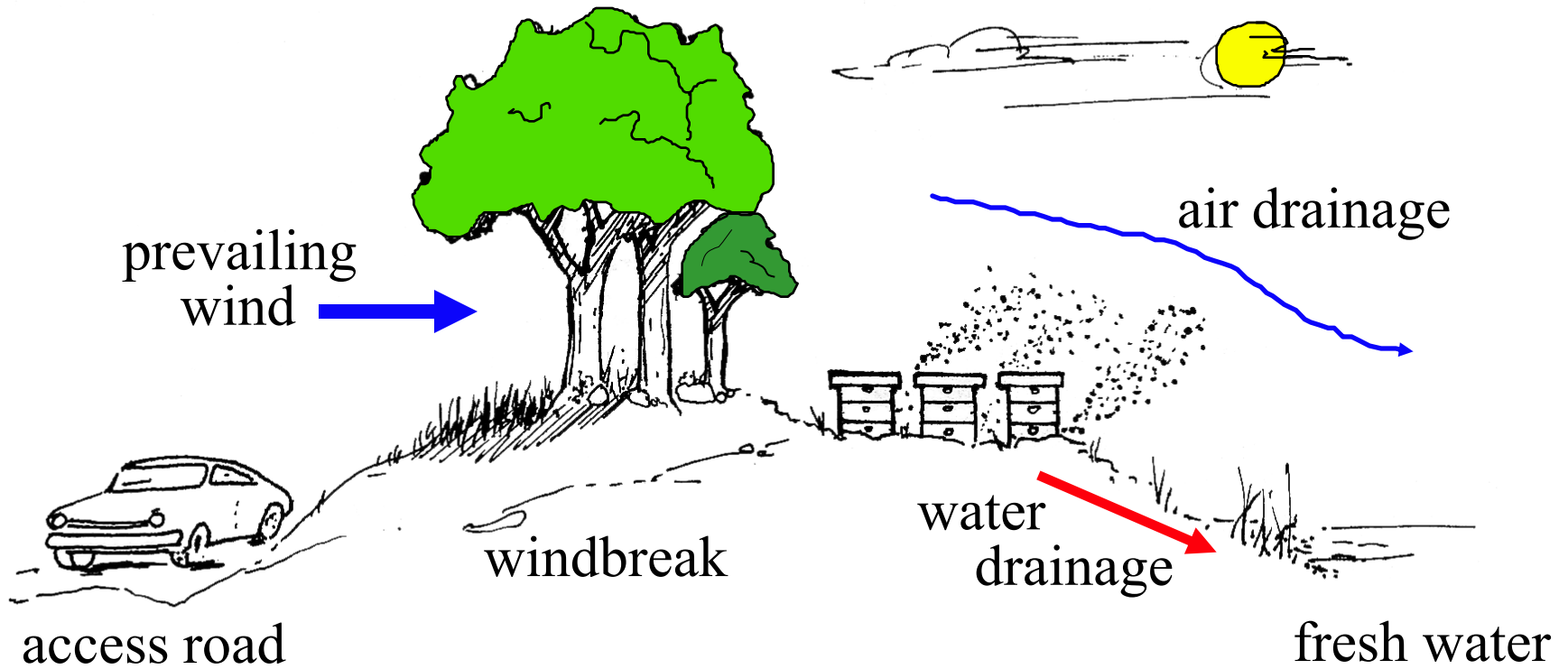
Shaded hives develop more slowly and are more difficult to work

Apiary Location

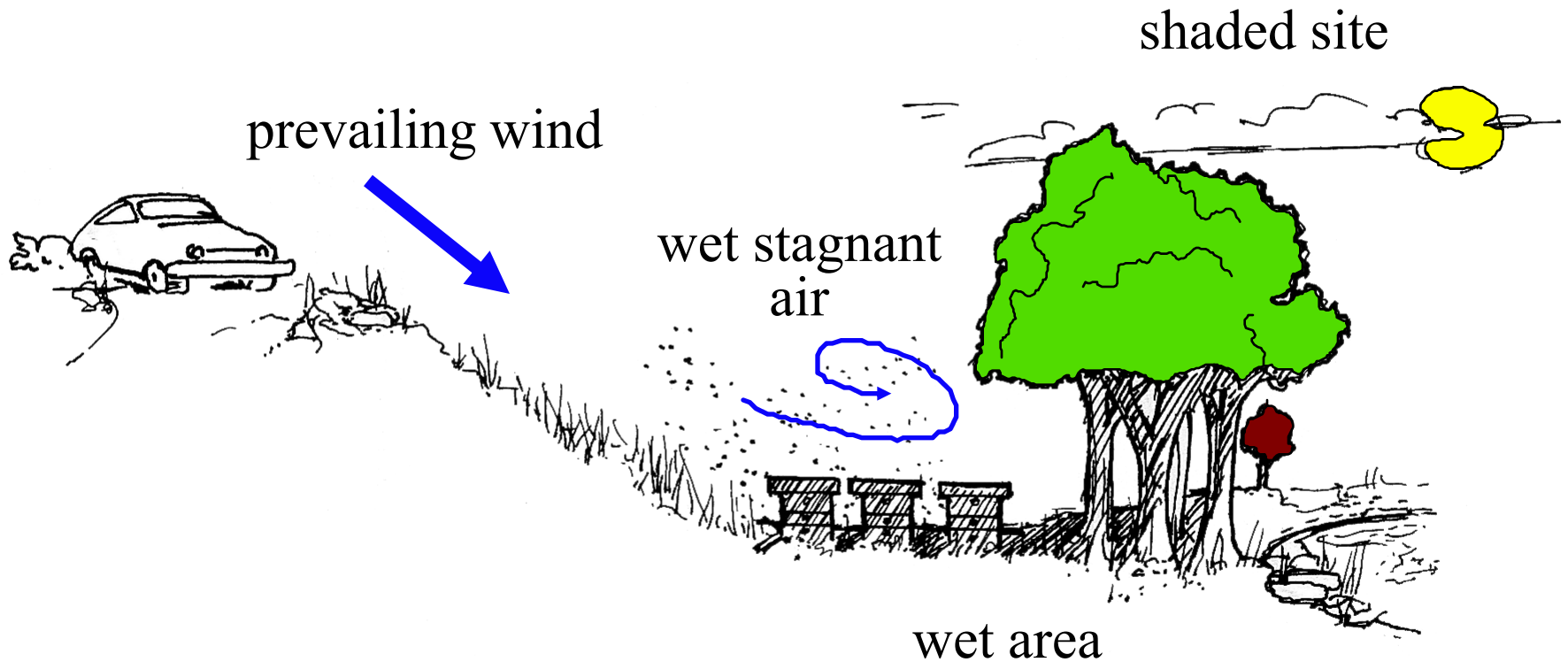
- Face south or south-east
- Colonies should be well exposed to the sun
- Windbreak
- Slope to ground - good water drainage
- Source of fresh water nearby
- Do not want a highly visible site
- Access ease at all seasons



Ideal Apiary Site



Poor Apiary Site



Locating Bee Hives in Urban Areas

1. Low visibility - Out of sight; out of mind
2. Use flight obstacles in front of hives
3. Don't over-populate
(< 4 hives on $1/4 - 1/2$ acre)
4. Keep gentle bees

