HOW TO BECOME A BEEKEEPER IN NORTH CAROLINA

Beekeeping is a very enjoyable and rewarding pastime that is relatively inexpensive to get started. Moreover, it's a hobby that can eventually make you money! The following is a primer on how to start your first hive and begin keeping bees.

BASIC HIVE EQUIPMENT

The minimum amount of equipment you will need to become a beekeepers is one complete 'starter' hive, which consists of a *bottom board* (the hive "floor"), a *hive body* (the main box) with 10 *frames* (on which the bees build wax comb), an *inner cover* (the hive "ceiling"), and a *lid* (the hive "roof") (see Figure 1). A colony of bees can live very successfully in such a hive and can store enough honey for its own needs. They may quickly out grow this space, however, and produce a swarm (where approximately half of the bees will fly away to start a new colony). To keep the bees from swarming, and to harvest their surplus honey, you will likely need additional hive equipment. But if you don't want to collect honey, then a starter hive is all the equipment you will ever need.

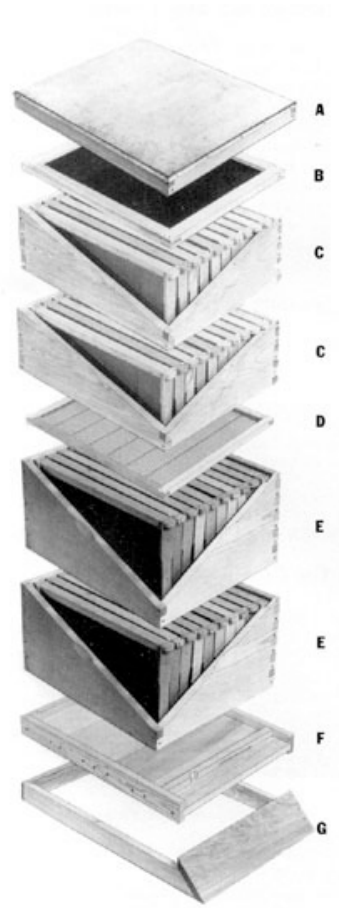

Figure 1. Basic hive equipment.

Most beekeepers are not content with watching half of their bees fly away, and so they will try to prevent this from happening by furnishing more hive space in the form of additional boxes, called '*supers*', on top of the original box. This gives the colony more space to grow and the bees more room to store honey. If you wish to remove honey from the hive, adding supers is a necessity.

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Figure 2. Top. An assembled 'starter' hive. Bottom. Beekeeping gear: hive tool, smoker, and veil.

We recommend that a first-time beekeeper start with two full beehives. That way, you will have a minimal frame of reference to compare your new colonies and to develop your management techniques.

In addition to furnishing a beehive, you will also need some other equipment. There are three items that are required to safely work a beehive: a *smoker* (to pacify the bees and reduce their defense response), a *hive tool* (to pry apart hive equipment and frames), and a *veil* (to protect the head and face). Beginners often feel more comfortable with the extra protection of a full-body beekeeping *suit* and *gloves*, but eventually they are not necessary if the bees are handled properly.

GETTING STARTED

Equipment is available from any one of several beekeeping supply companies (listed below) and may be purchased in a variety of ways. Most companies have 'starter kits', which usually include a complete starter hive (without bees), smoker, hive tool, and veil (see Figure 2). There are also 'deluxe kits', which include the previously mentioned items, as well as additional equipment to add to the hive as the colony population grows. The prices of these kits range from about $125.00 for the starter hive to about $325.00 for a deluxe kit. You can also buy the individual (pre-cut) parts of the hive and assemble it yourself (listed in Table 1).

Once a hive is assembled, it is ready to house bees. There are three main ways to acquire a living honey bee colony. First, you may purchase a five-frame 'nucleus' colony (or "nuc box") from a local beekeeper who is registered to sell bees (contact the North Carolina Department of Agriculture and Consumer Services for a current listing; see below). A nuc box usually contains five frames of 10,000 adult bees, wax comb (with honey and pollen), brood (developing young), and an egg-laying queen. Starting a colony this way can cost between $70-$100, but it will become a mature hive very rapidly and be less likely to fail. Second, you may purchase a three-pound 'package' of bees with a queen. Any number of beekeeping operations nationwide will send through the mail a screened wooden box with live bees, costing $45-$65. The bees can then be shaken out of the package, and they will establish themselves in the hive. Third, you can capture a swarm that has escaped from another hive. Although not as common as they once were, wild swarms can be obtained in the early to mid-spring (late March, April, and early May). Local beekeeping clubs often have "swarm-call" lists to assist beekeepers in capturing swarms reported in their area, and beginners usually need help with capturing their first swarm. These latter two approaches are more cost effective (virtually free in the latter case), but the bees will need more time for the colony to develop and become productive.

Of course, honey bees have the potential to sting in defense of their hive. The frequency of being stung, however, is much lower than what is commonly believed. If managed properly—using smoke, a hive tool, protective clothing, and gentle manipulation—stings are quite unlikely. If a

beekeeper is stung, localized pain and swelling is a normal reaction and one that should not cause undue concern. Nonetheless, bee venom can be a serious allergen for certain people, with 1 in 200 persons having a true allergic reaction requiring immediate medical attention. Consult with a physician if you have any concerns about being stung.

Table 1. List of individual components of a beehive, with the approximate price and description of each.

Individual Hive Item	Approximate Price (or range of prices)	Description/Purpose
Bottom board	$10.00	Hive body sits on this and acts as the floor of the hive.
Hive body	$8.00-10.00	Standard size is 9 5/8 deep. Holds 10 full-size frames. Also called a deep super.
10 deep frames	$8.50	Full-size frames used by the bees to construct their wax comb.
10 wax sheets	$7.00	Foundation used by the bees for building their honey comb.
Inner cover	$8.00	Thin board between top box and outer cover. Helps with ventilation.
Outer cover	$17.00	Covers the top of the hive. Provides shelter from the elements.
Smoker	$24.00-30.00	Used before opening a hive to help calm the bees and make them less likely to sting.
Hive tool	$4.50	Used to pry apart pieces of the hive that have been stuck together with 'bee glue' or propolis.
Veil	$11.00-25.00	Covers the head and face of beekeeper to prevent stings to these sensitive areas.
TOTAL	**$98.00- $120.00**	
Additional Items		
Bee suit	$50-150	Complete suits cover whole body to help protect from stings.
Gloves	$10.00-20.00	May be used to prevent stings to the hands, but they can make it more difficult to manipulate the hive.
Entrance reducers	$1.00	Minimizes amount of entrance space the bees need to guard and minimizes the flow of cold air in winter.
Queen excluder	$6.00	Placed below the honey supers to prevent queen from laying eggs in the honey comb.
Feeder	$4.00-17.00	During times of food scarcity, bees may need to be fed sugar water. There are several types of feeders available.
Supers (assembled with frames)	$35.00	Any box placed on top of the hive body to give the colony more room. Honey supers are used for producing honey.

RESOURCES

Books

The Beekeeper's Handbook, by Diana Sammataro and Alphonse Avitabile. Designed for beginners, this book has very nice drawings and diagrams that describe the parts of the hive, what is necessary to get started, how to obtain bees, and general seasonal management. Also discusses bee pests and diseases, an important aspect of modern beekeeping.

*First Lessons in Beekeeping***,** by Keith Delaplane. Introduction to beekeeping with descriptions of necessary equipment, basic biology of the colony, honey plants, and pollination. Good overview of management of a colony in different seasons.

*Beekeeping for Dummies***,** by Howland Blackiston. Designed for beginners with good step by step directions on practical aspects of beekeeping, but limited information on background biology.

Honey Bees and Beekeeping: A year in the life of an apiary, by Keith Delaplane. Instructions for the beginner on setting up an apiary and how to maintain it throughout an entire year. In addition to the book, there are two videos with topics in beekeeping for beginners.

The Hive and the Honey Bee, edited by Joe M. Graham, Dadant & Sons. The ultimate reference book! Very detailed information that is designed for the more advanced beekeeper. In-depth information on honey bee biology, seasonal management, diseases and hive pests, even starting a beekeeping business. Ideal for looking up information on any topic, but not designed to read from cover to cover.

Periodicals

Bee Culture: Monthly Issues, 1 year subscription- $25.00; TEL: 800-289-7668 or 330-725-6677; FAX: 330-725-5624; WEB: www.beeculture.com

American Bee Journal: Monthly Issues, 1 year subscription- $24.95; TEL: 217-847-3324; FAX: 217-847-3660; EMAIL: abj@dadant.com

Speedy Bee: Monthly Issues, 1 year subscription $17.25 , TEL: 912-427-8447; FAX: 912-427-8447; EMAIL: speedybee@bellsouth.net

BEEKEEPING SUPPLY COMPANIES

North Carolina

Brushy Mountain Bee Farm, 610 Bethany Church Rd Moravian Falls, NC 28654; TEL: 800-BEESWAX (800-233-7929); FAX: 336-921-2681; EMAIL: sales@brushymountainbeefarm.com; WEB: www.brushymountainbeefarm.com

Miller Bee Supply, 11562 North Highway16, Millers Creek, NC 28651; TEL: 888-848-5184; Customer Service: 336-667-7513; EMAIL: woodnwax@earthlink.net; WEB: www.millerbeesupply.com

Other states

Mann Lake Ltd. 501 S. 1st St Hackensack, MN 56452; TEL: 800-880-7694; Customer Service: 218-675-6688; FAX: 218-675-6156; EMAIL: beekeeper@mannlakeltd.com; WEB: www.mannlakeltd.com

Dadant & Sons Inc. 51 South 2nd Hamilton, IL 62341; TEL: 888-922-1293; WEB: www.dadant.com

The Walter T. Kelly Company, PO Box 240 Clarkson, KY 42726-0240; TEL: 800-233-2899; EMAIL: kelleybees@kynet.net; WEB: http://www.kelleybees.com/

CONTACT INFORMATION

North Carolina State Beekeepers Association

http://www.ncbeekeepers.org

North Carolina has approximately 60 county beekeeping associations across the state, which are part of the larger North Carolina State Beekeepers Association (NCSBA). Most of these chapters meet monthly with instructional programs, and many clubs offer new beekeeper classes each year. These local associations serve as valuable resources where experienced beekeepers offer advice and can act as mentors to beginning beekeepers. If you would like some hands-on experience before you start your own hives, offer to help a beekeeper in your area when they are working with their bees.

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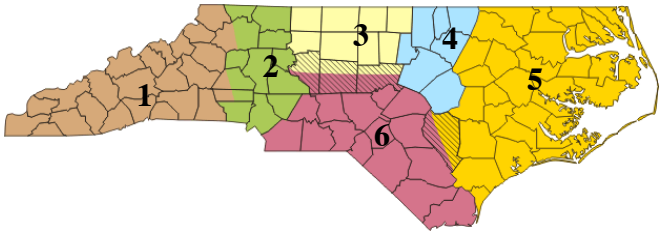
Regional Rep.-Region 6	Ellis Hardison	910-948-4121
Editor Bee Buzz	Janno Daniel	910-572-1015

North Carolina Department of Agriculture and Consumer Services, Apiary Inspection
http://www.agr.state.nc.us/plantind/plant/apiary/apiarymp.htm

North Carolina is fortunate to have an active Apiary Inspection program, which is part of the NC Department of Agriculture and Consumer Services (NCDA&CS). There are six regional inspectors across the state who serve as important resources for beekeepers to keep their hives free of diseases and pests. All new beekeepers should contact their regional inspector so that they may register their hives and have them periodically inspected.

POSITION	Name	Phone
Chief Bee Inspector	Don Hopkins	(919) 233-8214
Region 1	Jack Hanel	(828) 298-2419
Region 2	Richard Lippard	(704) 528-9774
Region 3	Don Hopkins	(919) 233-8214
Region 4	Will Hicks	(336) 599-6345
Region 5	Adolphus Leonard	(252) 830-0275
Region 6	Bill Sheppard	(910) 944-3647



North Carolina State University Apiculture Program
http://entomology.ncsu.edu/apiculture

The Apiculture Program at NC State University has been a leader in honey bee research, outreach, and instruction. Part of the program's mission is to assist beekeepers by helping to develop and disseminate information about new management techniques to improve colony health and productivity. For further information about the program, contact your local Cooperative Extension Agent.

David R. Tarpy
Associate Professor and Extension Apiculturist
Department of Entomology, Campus Box 7613
North Carolina State University
Raleigh, NC 27695-7613
TEL: (919) 515-1660
FAX: (919) 515-7746
EMAIL: david_tarpy@ncsu.edu

Jennifer J. Keller
Apiculture Technician
Department of Entomology, Campus Box 7613
North Carolina State University
Raleigh, NC 27695-7613
TEL: (919) 513-7702
FAX: (919) 515-7746
EMAIL: jennifer_keller@ncsu.edu

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