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The Hive

A “hive” is the structure that honey bees live in. A “colony” is the bees themselves. The terms are often used interchangeably but that isn’t technically correct usage of the words.

There are many different types of hives. The Langstroth hive is by far the most common and is by default what we assume everyone in the class will use. A discussion of some of the different types of hives and the options within the standard type can be found in the article “Standard Equipment: How Standard Is It?” (February 2016) at https://baileybeesupply.com/articles/.

The following definitions refer to the components of a Langstroth hive.

Bottom Board - a wooden base that the hive rests on. Some are solid wood while others have a screen in the floor to allow debris to fall to the ground. Bottom boards should be set on a raised stand (cinder blocks, wooden platform or other sturdy structure) to keep them well off the ground.

Hive body or brood chamber – one or more boxes which hold frames of comb that are dedicated for use as the colony’s brood nest. Technically, the “hive body” is the bottom box regardless of how many boxes are used for the brood chamber.

Foundation – a sheet of thin wax or plastic imprinted with the shape of hexagonal cells, provided as the substrate on which the bees will build comb. Providing foundation encourages the bees to build straight comb with cells all of the desired size (worker or drone).

Frames – four-sided wooden frames used to hold foundation. Frames prevent the foundation from sagging, deter the bees from attaching comb to the sides of the hive and permit the comb to be removed for inspection.

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Queen excluder - a device used to keep the queen in the brood nest and prevent her from laying eggs in the honey supers.

Honey supers – boxes which hold frames of comb that are dedicated for storing excess honey.

Inner cover – a lid that goes over the uppermost super and underneath the outer cover. It prevents the bees from attaching comb to the outer cover and creates an air space that aids ventilation.

Outer cover – the outermost lid that serves as protection from the weather.

Entrance reducer - wooden blocks that partially close hive entrances. These allow weak hives to better defend their home from robbers. They also keep mice out of the hives during winter.

Feeders – For a discussion of feeders and the need for them, see the article “Yum Yum, Eat ‘Em Up!” (January 2015) at https://baileybeesupply.com/articles/.

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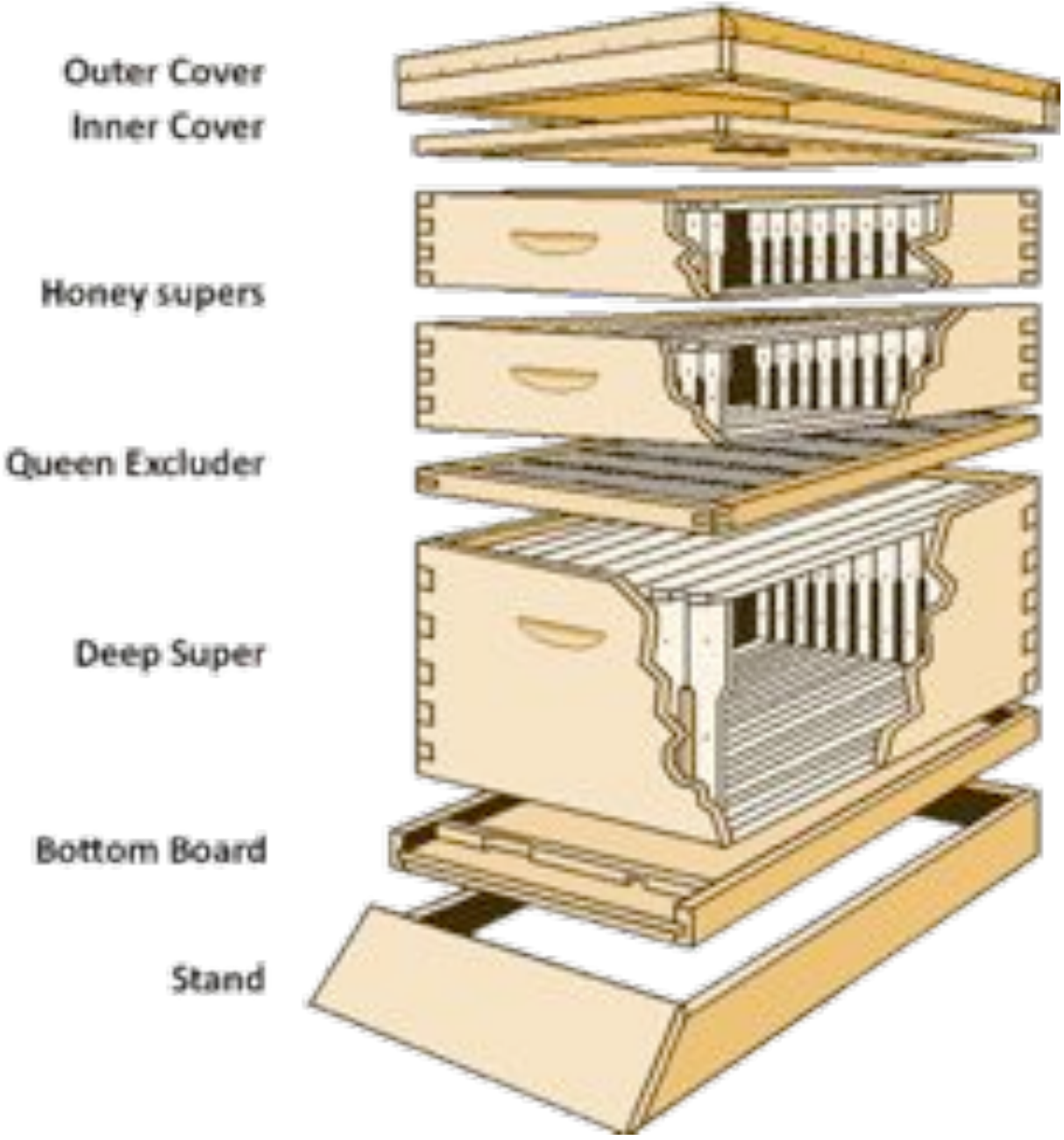
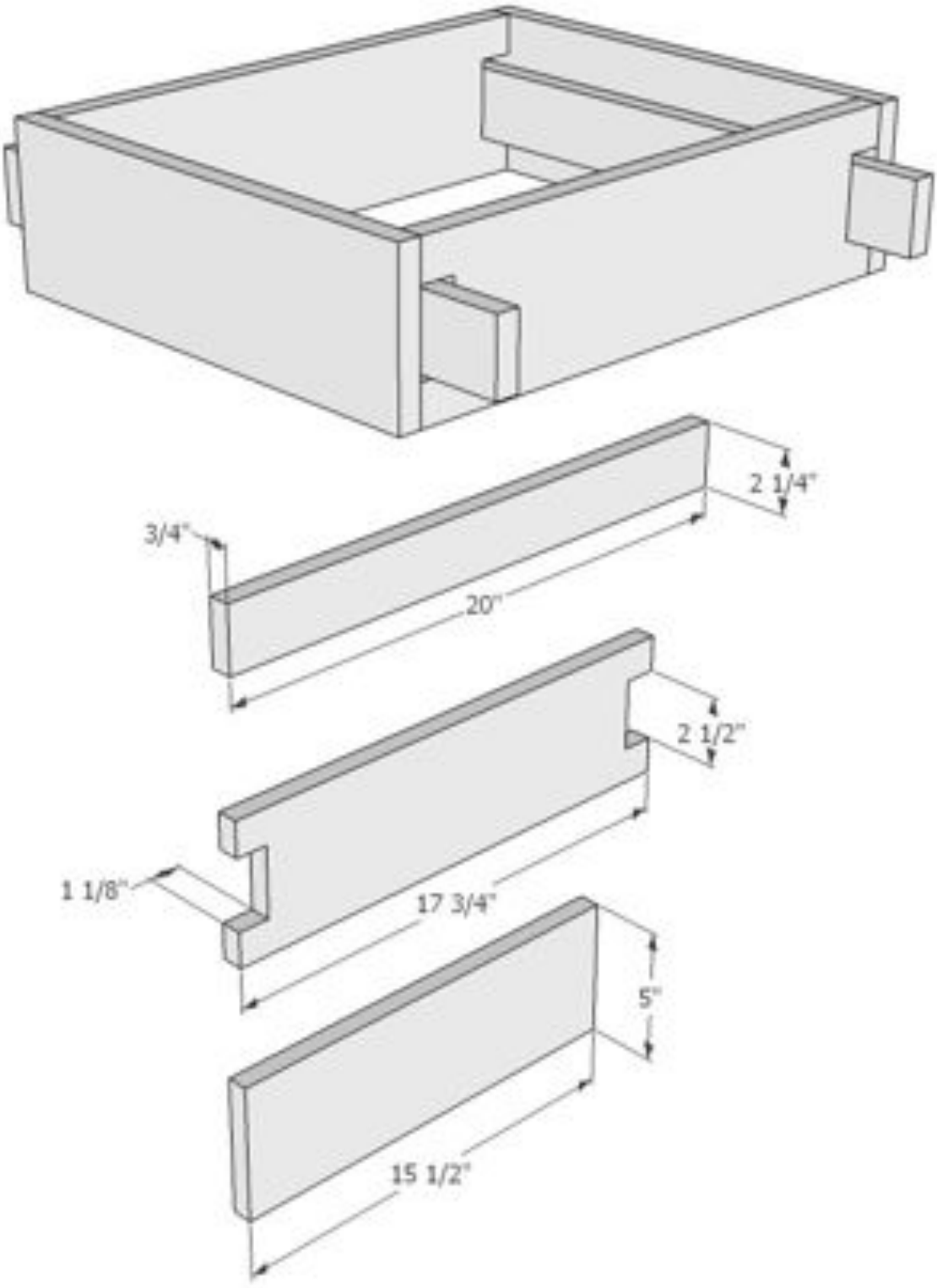


Frame Assembly Jig



Adapted from design at www.myoldtools.com

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Lighting the Smoker

Lighting a beekeeping smoker isn't always as easy as you might think. Between poor or wet fuel, wind, or improper equipment, getting a bee smoker lit can be frustrating at times. Follow these simple rules to get your smoker lit and burning easily every time.

Step 1 - Assemble your Materials
You will need the following materials to light your smoker:

- Starter Fuel - shredded paper works best, but pine needles, dry leaves, newspaper or any other dry kindling material will suffice
- Final Fuel - dry, compressed wood pellets are ideal; you may also use strips of burlap, twigs or chips of hardwood, bark, or other slow-burning material. Stay away from wood containing a high sap content, such as pine, cedar or juniper
- Flame - A long-stemmed lighter is the easiest method of lighting, but long kitchen matches or a burning twig work fine as long as you have very dry, fast-lighting kindling

The selection of your starter fuel should be determined by how easily the fuel will light and how fast it will burn up. We have found that shredded paper is ideal, as it lights readily and burns quickly. The final fuel needs to be quick-lighting, slow-burning, produce non-toxic, cool smoke and not contain a high sap content, to minimize tarring of your smoker. Compressed wood pellets seem to work best, but use any material that has all these properties.

Step 2 - Prepare your Smoker
Your smoker should be free of excess debris and soot before you use it again. Remove the kindling tray and clean out your smoker. When replacing the kindling tray, make sure the posts of the tray do not obstruct the air hole at the base of the smoker.
Wait to light your smoker as the last step before opening the hives. Preferably, fill and light your smoker at the apiary; it's much more convenient than carrying a lit smoker to the apiary and worrying about it falling over and spilling the fuel.

Step 3 - Add the Kindling
Add whatever quick-lighting, fast-burning kindling you have available. Shredded paper works best, but pine needles, dry leaves, newspaper or any other dry kindling material will suffice. You should only need about a handful to generate enough heat and flame to light the final fuel.

Step 4 - Light the Kindling
Using your lighter, set the kindling aflame. Stoke the kindling to cause it to burn quickly by squeezing the smoker bellows until the flame from the kindling comes out the top of the smoker lid.

Step 5 - Light the Final Fuel
After the kindling is burning hot with a flame coming out the lid as you work the bellows, add a handful of final fuel on top of the kindling. Dry, compressed wood pellets are ideal; you may also use strips of burlap, twigs or chips of hardwood, bark, or other slow-burning material. Stay away from wood containing a high sap content, such as pine, cedar or juniper.
Immediately after adding the first handful of final fuel, stoke the fuel to get it burning by squeezing the bellows repeatedly. Keep working the bellows until you get thick smoke coming out the lid of the smoker.

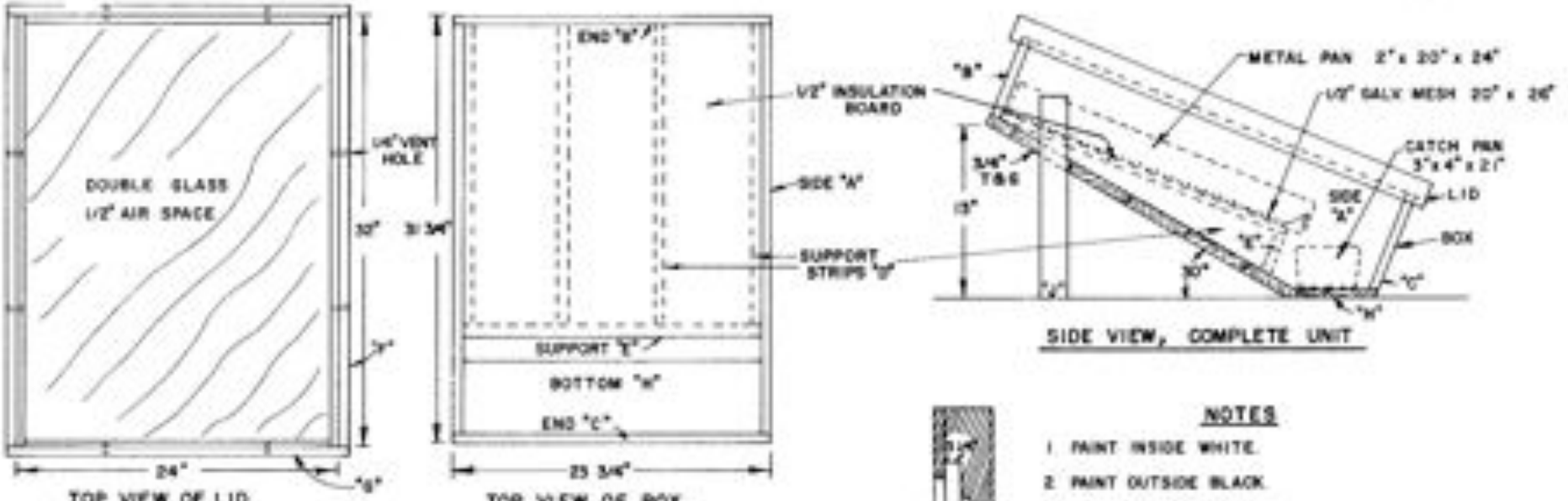
Step 6 - Fill the Smoker
Continue to add handfuls of final fuel to the smoker, pausing between handfuls to work the bellows until thick smoke comes out the lid. Do not add more fuel until the previous handful has begun generating thick smoke.
Stop adding fuel when the smoker contains from one-half the three-quarters fuel. Too much fuel in the smoker only means that burning fuel will likely fall out the nozzle when you tip the smoker into or over the hive to apply smoke to the colony. Never overfill a smoker.

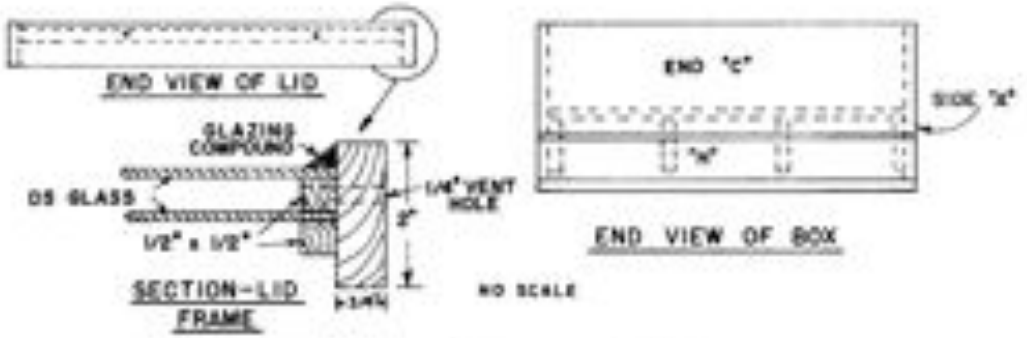
Step 7 - Ready to Smoke
Close the lid of the smoker and work the bellows until you get a thick stream of white smoke shooting out the nozzle. Work the bellows every few minutes while you're in the apiary if you're not using it, to ensure the final fuel remains burning steadily.

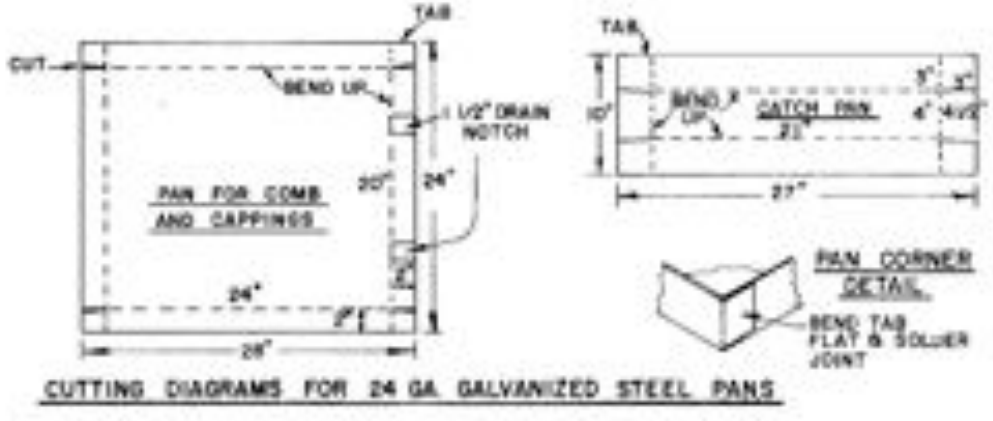
Tip: Take an extra jug of water with you to the apiary to extinguish the smoker fuel when you are finished working the hives.

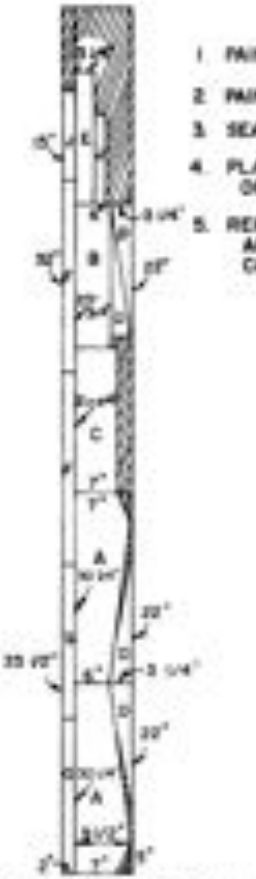
Bellows Replacement (what not to do): Never take a smoker that has been smoldering overnight and try to light it back up (you should have extinguished it after using it anyway). The embers will have burned down to the bottom of the smoker, so adding fuel and trying to stoke it back up by working the bellows will likely cause the hot embers at the bottom to shoot a flame out of the air entrance, straight into the bellows! The flame will burn a hole in your bellows, rendering your smoker useless. If you're lucky, your bellows won't burn up completely. If you have the misfortune to ruin your bellows, you'll need to order a shiny new set.

Source: www.beecare.com









NOTES

1. PAINT INSIDE WHITE.
2. PAINT OUTSIDE BLACK.
3. SEAL ALL CRACKS.
4. PLACE IN PROTECTED PLACE ON SOUTH SIDE OF A BUILDING.
5. REMOVE WAX AND HONEY WHEN MOST COMBS ARE MELTED. THE HONEY SHOULD BE DISCARDED.

BASED ON: PENN STATE UNIV PLAN NO. 750-301

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

SOLAR BEESWAX EXTRACTOR

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Beekeeping Equipment Resource Listing

Local Supplier

Bailey Bee Supply, 359 Ja-Max Dr., Hillsborough, NC 27278 • www.baileybeesupply.com • 919-241-4236

Beekeeping Supply Houses

Betterbee, Greenwich, NY • www.betterbee.com • 800-632-3379

Brushy Mountain Bee Farm, Moravian Falls, NC • www.brushymountainbeefarm.com • 800-233-7929

Dadant and Sons, Inc, Hamilton, IL (local Branch: Chatham, VA) • www.dadant.com • 1-800-220-8325

Mann Lake Supply, Hackensack, MN • www.mannlakeltd.com • 1-800-880-7694

Miller Bee Supply, North Wilkesboro, NC • www.millerbeesupply.com • 1-888-848-5184

Rossman Apiaries, Moultrie, GA • www.gabees.com • 1-800-333-7677

Walter T. Kelley Co., Clarkson, KY • www.kelleybees.com • 800-233-2899

Online Resources

Bee Source • www.beesource.com
Information, articles, equipment plans and an active forum.