



Getting ready for your first Hive

Anne Lesenne

Every beekeeper should make a goal to have both healthy and productive hives. The most important step to achieve this goal is lifelong learning. Research is ongoing and constantly updating the current best practices, so the successful beekeeper needs to develop connections to keep up to date with the latest and greatest discoveries, and how they affect your existing practices. Join a local beekeeping club, subscribe to a beekeeping journal, or follow your local beekeeping organization on social media.

Have an Emergency Plan and First Aid available

No matter where you are going to locate your apiary it is a good idea to have an emergency plan in place that covers what to do for the most commonly occurring incidents that would require help. Know where the closest medical facility is and the quickest route to get there. Carry your cell phone on you while tending your bees. Have a First Aid kit in your vehicle that has bandages, tweezers, antihistamine, and pain relief. Know the address and be able to give good directions if an emergency vehicle needed to access your apiary site. Carry extra drinking water and be sure to hydrate during hot weather. Lift with your knees and avoid twisting as much as necessary. Remove tripping hazards.

Locating the Hive

Once you have your Beekeeping equipment ready, it's time to think about the best place to locate your hives. Bees make many people nervous, so it's important to be a good neighbor and put some thought into where to locate your hive so that it won't bother anyone else. Many of us would like to keep our bees in our own backyard, but if you live in a densely populated neighborhood unless you have a very large yard, it would be best to locate your apiary on a farm or rural property. The first consideration is to look around the location to see if there are enough floral resources within a 1-mile radius throughout the year to feed the bees. It usually takes one hive of bees to pollinate one acre of orchard trees, but many floral resources only bloom for a few weeks a year. Healthy bees need to have a rich variety



Nicely spaced hives on level ground facing south

of floral resources all year long and not all flowers provide the nectar and pollen they need. Do some research into the best floral resources that are growing around your intended site and consider planting additional flowers that will bloom during the times where resources are scarce.

The next consideration would be close access to fresh water such as a pond, lake, or river. If none of these natural sources are available, you will need to provide a shallow water source. This can be as simple as a bird bath with pebbles for the bees to land on. Bees will also need a windbreak from strong winter winds, and afternoon shade in the heat of summer. Your bees should be at least 3 miles away from other hives to minimize transference of viruses and diseases as well as robbing. Face the entrance to the hive towards the south or southeast to take advantage of the first warming sunshine in the morning to get the bees actively flying. The hive should also be placed on a stand at least a



A water source for bees can be a shallow container with rocks and glass pebbles for the bees to land on.



Swarm of bees in a tree

few inches off the ground with easy drive up access all year long. If you have a sloped area they should be placed at the top of the slope to avoid pockets of cold air in the winter as well as avoid flooding during rains. Make sure the entrance to the hive isn't close to pedestrian walkways or in an area that might be vandalized. Depending upon the wildlife present in the area, you may need to fence your apiary to protect them from predators.

Now that you know where your apiary should be located, and your hives are in place, it's time to get bees. There are several options for starting a new hive. You can capture a swarm or trap a hive from nature. You could also purchase a hive or nucleus colony or package of bees. Each has benefits and purposes they are suitable for.

Swarms

Every spring Mother Nature makes more bee colonies by doubling those that survived the winter. Once the weather has warmed and there are good sources of nectar and pollen available to raise brood, as well as some new drones available, the queen will lay a few eggs in queen cups at the bottom of the comb. These queens take 15 days from egg to hatching, so usually sometime around day 9 half the colony will leave the hive with the old queen. The old hive is left with approximately half the worker bees, the comb, lots of brood, and hopefully good stores of food. The new queen will emerge on day 15, get mated within the first week or so, and within a few more days will start to lay more eggs.

The old queen and the workers that left with her will usually travel a short distance away and land temporarily on a branch. The foragers will shift their attention to scouting for a suitable new hive. When they find a suitable space they will come back to the swarm and share the location of the possible home they found. Other scouts will go to check it out, and if they approve, will also start to share this location with the swarm. They will also check out other possible sites that other scouts have found, and the debate will go on until they decide upon the most suitable location. Then they will run around exciting all the other worker bees getting them ready for flight. They will take off as a mass and fly directly to the chosen site, where they will start building wax honeycomb.

If you are lucky enough to find one of these swarms in a temporary location that is easily accessible, you can capture them in a hive box and take them to the location of your choice. Be prepared to feed them heavily to help them produce wax for honeycomb.

Advantages of collecting a swarm are:

- No cost
- Early spring swarms can develop into large colonies.

Disadvantages of collecting swarms are:

- They should be treated as soon as possible after capture as they probably have Varroa mite.
- You are collecting an old queen, so may need to requeen soon.
- Some swarms are located in difficult places that aren't worth the effort.
- Swarms can be Africanized and very defensive.

Trapping a Swarm

Another way to capture a swarm is to place a hive box or container in a tree where swarms may find them. You can place scent on the hive box or container to lure the scouts to find the location. Patience will be necessary for this method, as you just need to wait until bees find your trap and take up residence.

Advantages of trapping a swarm are:

- No cost except the trap

Disadvantages of trapping a swarm are:

- There's no guarantee that you'll attract a swarm
- You'll have to place the trap up high in a tree and retrieve it too
- You need to have some knowledge of where swarms frequently land

Purchasing a Complete Hive

There is sometimes the option to purchase a complete working hive from a beekeeper who is moving or downsizing. Be sure to thoroughly check the bees for health and freedom from diseases and pests. Inspect the frames and the bottom board for signs of issues and to assess the strength of the queen. Make sure that the purchase price is about half of what the equipment and bees would cost new. Keep the new bees isolated from the rest of your hives for several weeks to make sure they are free from pests and diseases that might infect your other hives.



Two deep hive bodies with two honey supers on top Purchasing a Complete Hive

Advantages of purchasing a complete hive are:

- All the equipment is assembled
- Your initial investment could be less
- Seller can give you history of the bees
- Hive is already going so you could get honey your very first year

Disadvantages of purchasing a complete hive are:

- You need to inspect thoroughly to make sure you aren't getting diseased bees, or a mite infested hive
- Comb could be old and need to be replaced soon
- Comb could contain pesticide residues
- Queen could be old and need to be replaced soon
- Some of the wooden ware could be in poor repair
- The weight of the hive full of bees, honey and wax will be quite heavy and require two adults
- Moving of the hive will need to happen at night

Purchasing a Nucleus Hive 'Nuc'

Purchasing a nuc from a reputable beekeeper is the best way to start a new hive for new beekeepers. The seller will specify how many frames will be in your nuc, as they can contain 3, 4 or 5. These frames should be fully drawn out with honeycomb and come loaded with worker bees and a laying queen. Sometimes there is an option to have the nuc colony treated for mites or to have the queen marked before you pick them up. Nucs usually contain at least one full frame of brood, a frame full of honey and bee bread, and a partially open frame so the queen has room to keep laying eggs.

The value of purchasing a nuc to start your hive is in the ease of transferring the frames into your hive box, and that the hive starts with honeycomb, a laying queen, and food resources. If this nuc is given plenty of floral resources and



Preparing to install a Nuc

good weather, they will grow very quickly and fill the brood boxes within a few weeks. The frames should be removed from the Nuc box they came in and placed in the center of the 8 or 10 frame hive body, with empty frames placed on either side to fill the box. Since bees work from the middle towards the outside of the box, they will fill the frames they came with and start building the empty frames as they need more space. Once they have filled 7 or 8 of the frames of a 10 frame hive, place another brood box on top to give them more space. Once they have filled this second brood box it is time to add a queen excluder and honey super on top.

Many more beekeepers are starting to raise Nucs as a regular part of their apiary so that they are always ready to boost a weak hive, replace a failing or weak queen, or replace a failed hive quickly. This practice helps to make your beekeeping more sustainable in the long run.

Advantages of purchasing a nuc are:

- Frames are built out with brood of all ages, honey and bee bread
- You have all ages of bees present and a laying queen
- They are easy to install with little disturbance to the bees
- They can be kept in the nuc box for several days or weeks if necessary
- They cost about the same as a package
- Easy to transport and not very heavy
- Build up quickly if plenty of floral resources are available
- Are available most of the year
- Are a great way to keep extra laying queens and workers on hand to boost a weak hive

Disadvantages of purchasing a nuc are:

- Many spring nucs are made after bees have gone to the Almond pollination, so they may need to be treated for mites
- You may not know the age of the queen

Purchasing a Package

Packages of bees are usually around 3 pounds of bees that have been shaken into a screened box and given a newly mated queen that may or may not have started laying eggs. They come with a can full of sugar syrup to feed them during the days of transport, but you should install them into your hive box as soon as possible. First, you remove the queen cage and attach it between two frames in the middle of the box. Then you will remove the feeding can, which also acts as the plug, and start shaking the bees into your hive box on top of the frames where you placed the queen cage. You should then place some sugar syrup feed on the hive to stimulate the workers to start producing all the comb they need for their new hive. The queen will not



A 'Package' of bees consists of approximately three pounds of worker bees, a container of sugar syrup to feed them on their journey, and a virgin queen in a cage.

be able to start laying egg for new brood until the workers have successfully produced comb for her to lay in.

Advantages of purchasing a package are:

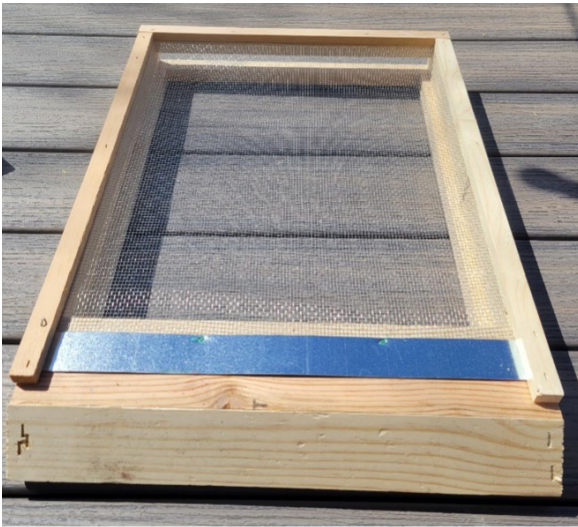
- Can be treated for mites before delivery
- Can get a marked queen
- Usually the least costly way to purchase bulk bees
- Can be used for populating Warre or Top Bar hives

Disadvantages of purchasing a package are:

- Usually only available in Spring
- Need to be transferred into the hive within a very short period of time
- No knowledge of queen laying quality
- Takes at least 21 days longer for new brood to start hatching, and even longer if they need to build comb first
- Very stressful on the bees
- Success is quite dependent on the weather being nice and floral resources easily available
- Bees must be fed heavily

Equipment needed for first hive

New beekeepers should start with a Langstroth style hive. These are the most common so you will be able to easily find equipment for Langstroth hives as well as find lots of people that know how to manage these hives. Before purchasing any equipment you need to decide if you want to use 8 frame or 10 frame equipment. Weight is the difference between these two types of hives. Deep frames when full of honey can weigh 10 pounds each, so a 10 frame deep box could weigh 100 pounds when full. This may be too heavy for some people to manage. The 8 frame hives will be a little less wide and they will also be about 20 pounds lighter when full. The frames are interchangeable, but all the other components will not fit each other. Make this decision first, and then be sure to purchase equipment made for the size you have chosen.



Screened bottom board



Deep brood box on top of bottom board with entrance reducer

Hives usually are made from wood, so they should be placed on an elevated **hive stand**. This is both to get the hive up off the ground so the wood bottom board doesn't rot, but also to place the hive at a more comfortable working height. A hive stand with four legs is good for areas with ant problems. A can of oil can be placed under each leg which creates a barrier they can't cross. The next piece of equipment is the bottom board. Traditionally these were a solid piece of wood, but new advances have found several reasons to use a **Screened Bottom Board** instead. The screen allows for ventilation in the summer, as well as a way to remove debris from the bottom board without disrupting the colony. Screened bottom boards also allow for insertion of a sticky board for monitoring mite drop following a mite treatment.

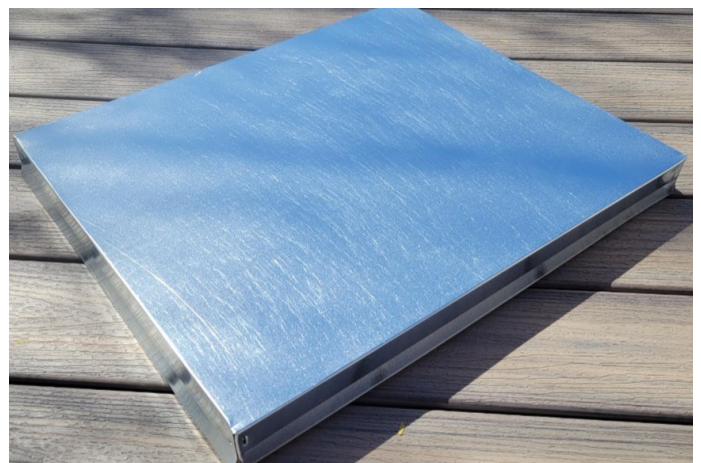
On top of the bottom board you will place your brood box which is usually a "Deep". This box is for raising brood. When you bring your first Nuc home, you will place the frames from the Nuc into the center of the deep brood box and place empty frames on the outside to fill the box. You will see that the design of the bottom board allows the brood box to sit on three sides tightly, and leaves a gap at the front for the bees to enter and exit. During winter and fall you will probably place an entrance reducer in front of the entry to restrict the width of the opening. **Entrance reducers** usually have two different size openings cut into them so you can choose which one you want just by rotating the reducer.

On top of the brood box you will place an inner cover and the outer cover. Inner covers usually have a hole in the middle to facilitate feeding when necessary. They won't be visible once the outer cover is in place, but they keep the cover from becoming glued to the top box.

Outer covers are usually covered with metal to help them reflect light and stand up to rain.



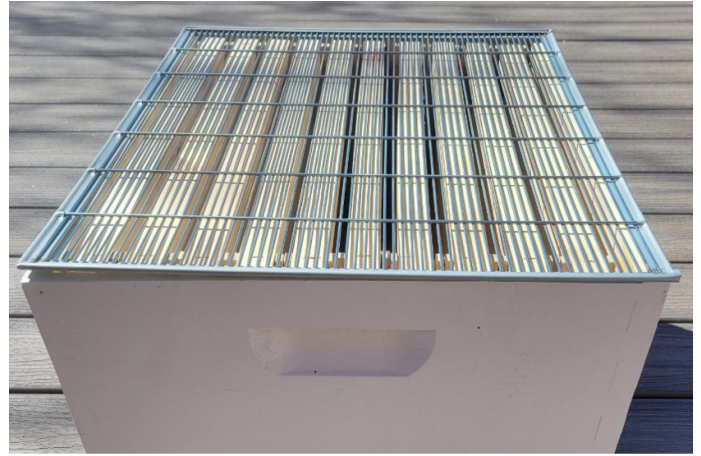
Inner cover **Outer covers** are usually covered with metal to help them reflect light and stand up to rain.



Outer covers



Two deep brood boxes with metal outer cover



Deep brood box with metal queen excluder on top

If you install your Nuc in the spring and there is good weather and floral resources, they will fill all the frames in the bottom brood box quickly. Once they have filled the bottom box 80% and at least built the outside frames with honeycomb, it's time to add another deep brood box on top of this one. Once they fill the second deep brood box, it is time to add a **Queen Excluder** on top (to keep your queen down below and not laying brood in the honey supers) and a **Honey Super**.

Honey supers are a little more shallow than the deep boxes, and they are used solely for collecting honey. The bees will start in the middle of the box and build comb and fill it with honey. As the middle gets full and capped they will start working their way out to the sides. Once this honey super is 80% full you will add another honey super. Usually, you will lift the nearly full honey super and place the empty honey super underneath. As the bees walk back and forth over the empty super, it will smell like their colony and they will start to build comb and fill it. You can keep adding honey supers as needed, but usually beginners will only need one or two.



Deep brood box with 10 frames on screened bottom board



Back of deep brood box with Flow Hive on top. Flow frames are exposed getting ready to harvest honey.

Another option is to use a Flow Hive as the honey super. These hives allow you to remove the honey as it is capped, without going through the whole extraction process. These hives come with a “key” to turn the segments on the individual frame you are harvesting, which allows the honey to flow out the hole at the bottom into a collection jar. The honey is usually very clean and free from wax debris so it can be bottled without further filtering. It takes about 30 minutes to harvest a frame when it is warm outside, and then the “key” is turned back to allow the bees to store more nectar and turn it into honey. If this type of honey super is used, you will only need one as they can be harvested during the season as necessary to make more room. They come with viewing windows which allow you to view the end and side to inspect the progress of the bees in filling the frames and capping them. Again, bees will fill the inner frames first and work towards the outside frames as the inner frames are full.

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THE UNIVERSITY OF ARIZONA
Cooperative Extension

AUTHORS

ANNE LESENNE
Assistant Agent, Horticulture

CONTACT

ANNE LESENNE
annelesenne@email.arizona.edu

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