

Beekeeping for Beginners

Beekeeping can be a hobby, a sideline operation or a full-time vocation. Keeping bees is a hobby practised by hundreds of people in Alberta and millions around the world. Beekeeping is a relatively inexpensive hobby that provides a sweet bonus each year. This factsheet is primarily a guide for someone who comes in contact with bees somewhat later in life.

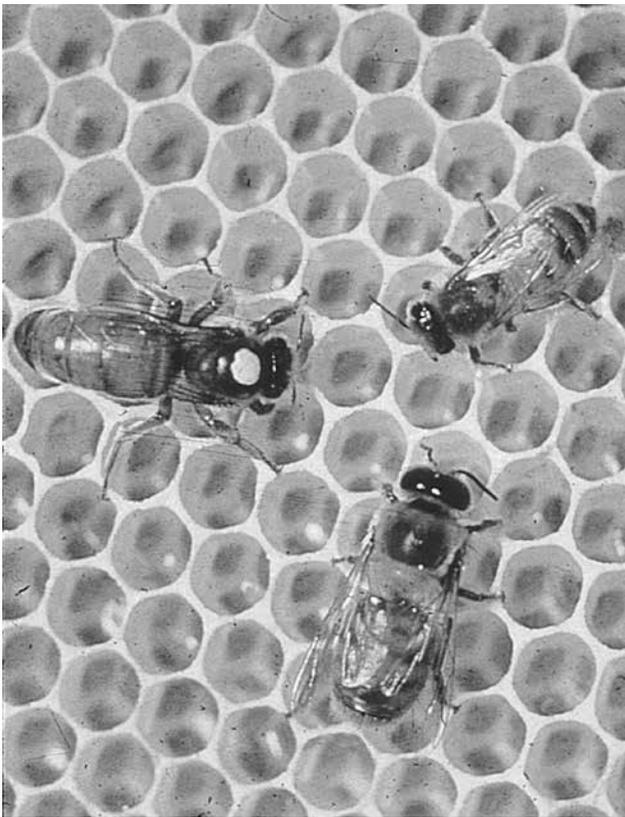


Figure 1. Queen with identification mark on thorax (left), worker bee (upper right) and drone (lower right).

There are two considerations to weigh before committing yourself to beekeeping: the sting and the back.

If you keep bees you will be stung by them and probably some of your family will get stung over time. For most people a bee sting hurts, and a brief period of discomfort follows. For others (about 0.4 per cent of the population) there is a danger of death from anaphylactic shock brought on by the bee sting. Frequently there are indications that a person is becoming highly allergic to bee stings, but occasionally the problem occurs unannounced. (Swelling at the site of the sting is normal; hives over the body, itching in areas of the body remote from the sting and shortness of breath are abnormal and cause for concern.)

You do not have to be physically strong to keep bees, but it is helpful to have someone to help with the heavy lifting. If the stings can be endured and the lifting accommodated then by all means go ahead and become a beekeeper.

Gaining knowledge

Reading is a good way to learn about beekeeping. However, no written material can prepare you for the assault on your senses when you first open a hive and all those insects are so close to you. If possible, contact an experienced beekeeper and trade your free labor for a chance to accompany him or her as the hives are worked. Learn how to open a hive and remove frames.

Become familiar with the differences between queens, workers and drones. Observe closely what normal brood looks like, the difference between brood and honey cappings and how honey shines in the cell compared to pollen.

The beekeeper's year

Springtime

Whether bees come from packages or have been kept over the winter, the beekeeper does basically the same things. The bee colony is inspected to ensure that the queen is present and laying eggs, that there is no sign of disease and that the colony has sufficient stores to last until the first nectar and pollen becomes available from willow bushes. The colony is given preventative medication to ensure that diseases do not become established. The colony should be inspected and medicated every two weeks. When the bees in the hive cover seven of the frames in the top super then a new super should be added. Medication should stop by June 10 to ensure that none of the medication ends up in the honey crop.

Summer

As July approaches it is time to put an extra super of white frames on the colony to hold the honey. Bees need this extra room or they cease working well and may even swarm. Continue to monitor the hives and add another super on top as the five centre frames fill with honey. When all the frames in a super are filled with honey and one-half of the cells are capped with wax, the super and frames may be removed from the hive and the honey extracted. Normally honey flows in Alberta slow down in August and the amount of space given to the bees can be reduced somewhat. After the first killing frost all the supers above the second can be removed and extracted.

Fall

Once the honey supers have been removed, the bees in the colony can be killed if you plan to buy package bees in the spring. If you wish to winter your bees then the colony should be examined to ensure the queen is still viable and that no disease has developed. Medicate the colony at this time. The colony must be fed sugar and water to ensure that it will have enough food to survive the winter. This feeding is best done before the end of September. The total weight of two supers, lid, bottom, honey, pollen and bees should be at least 125 pounds. Towards the end of October the bee colony can be moved indoors for winter or wrapped to protect the bees from the elements.

Winter

If the bees are outside there is little that can be done to assist them. They will survive even if they are

completely covered by snow for a while. If the bees are indoors ensure that the temperature stays low and constant (about 5°C) and ventilation is maintained. It is normal for bees to leave the hive during the winter and die.

Costs

Every hobby requires an outlay of funds. In beekeeping the expenses can be divided into four categories: expenditures to protect you as you work the bees; money for bees and the hives for them to live in; cash for extracting equipment, so the honey may be harvested; and something to protect the bees over the winter.

Personal equipment

The minimum personal equipment that is needed includes a veil, hive tool and bee smoker. The bee veil keeps bees away from your head. It is disconcerting to have bees crawling on your face or in your hair. As well, stings on the head are especially painful. A special hat may be purchased to hold the veil but you may already own a suitable wide brimmed hat. A baseball cap will not do.

The bee smoker allows the beekeeper to keep the bees from becoming agitated. A gentle puff of smoke usually calms the bees and permits the beekeeper to continue working in peace. The hive tool is specially designed to assist the beekeeper in manipulating the frames in the supers. Bees are less likely to become disturbed if the proper tools are used.

A bee suit and bee gloves are desirable accessories that can be added later. The bee suit is designed with no opening to the interior. When outfitted with a bee suit, a pair of suitable high top boots, bee gloves, veil and a good hat, a beekeeper is well protected from bee stings during normal beekeeping operations. Occasionally, when provoked, bees may penetrate the join between the suit and the veil or sting right through the cloth of the bee suit. Working the bees with your bare hands improves your feel for what you are doing and leads to less jarring of the hive and calmer bees. Sometimes, however, the work must be done quickly at which time gloves are good to have.



Figure 2. The basic equipment for handling bees.

Beehives

A standard beehive has a bottom board and a hive cover with five supers in between. Each super contains nine or 10 frames of comb in which the bees rear their young and store honey and pollen. Normally the bottom two supers are brood supers used for rearing the young and storing honey and pollen for short-term and winter use. The top three supers are used to hold the honey crop. Special “shallow” supers can reduce the weights that must be lifted.

A beehive may be built from new components, but installing bees into such a hive stresses them and usually reduces the honey crop. It is better to purchase a hive that has already had bees in it for a year or more. If you are inexperienced or unsure, ask a beekeeper for advice and help to inspect a potential purchase. Buy standard sized equipment that has been properly constructed and well maintained.

- The supers and frames should be square and tight. The interior dimensions of the supers should be 18 5/6” by 14 15/16” by either 9 5/8” or 6 1/2” deep.

- The dark brood combs should be checked to ensure that:
 - the vast majority of the cells are worker sized to give good populations of worker bees.
 - the cells are free of brood diseases so that all the eggs laid will have a good chance to develop into adult workers.
 - there are no moths attacking the frames, eating the wax and pollen and sticking all the frames together with webbing.
- The white honey frames should be checked to ensure that they are in good condition so that, in future, they can be used as brood frames.

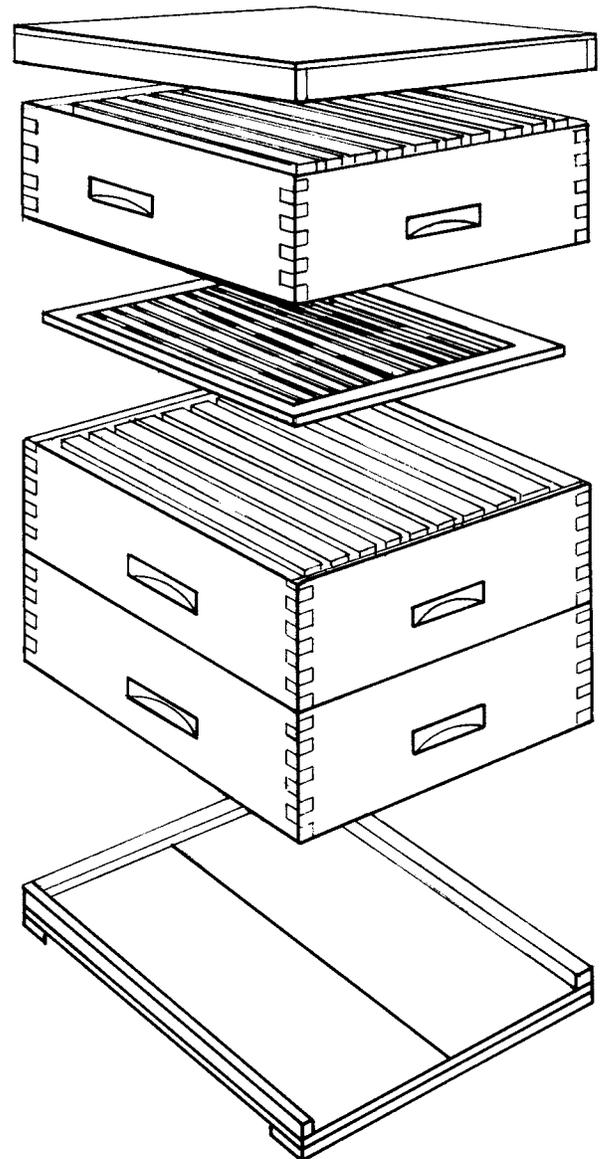


Figure 3. A typical bee hive.

Make enquiries to be sure that you are paying a fair price for the equipment you are buying.

Bee hives may be purchased with bees in them or the bees may be purchased separately. The best time to buy bees is in the spring when you can ensure that you receive a viable hive headed by a good laying queen. Packages of bees with two or more pounds of bees and a queen can be obtained. Nuclei colonies (nucs) with three or four frames of bees, brood and honey can also be purchased. January is not too early to make arrangements for the bees you want in April or May.

Before purchasing bees determine what their status is relative to bee mites. If you are offered bees known to have mites consider carefully the welfare of neighboring beekeepers and your own ability to deal with this condition.

Extracting equipment

Harvesting the honey crop involves several steps, all of which require some equipment. The first step is to separate the combs of honey from the bees (pulling the honey). This can be as simple as using a bee brush to sweep the bees from each frame. With just a few hives a bee brush is adequate and inexpensive, but a fair bit of work. Bee escape boards can be used to direct the bees into a one way trip out of the honey supers. This method uses one escape board for each hive in the apiary, which means plenty of lifting and two trips to the beeyard.

Using chemicals (Bee Go, Bee Robber) requires a number of special covers (acid boards). The chemical is placed on the underside of the cover and the smell drives the bees out of the honey super. Using a bee blower may require a stand to place the super on. The bees are blown right off the frames, out of the super and onto the ground in front of the hive.

Once the honey is pulled, you can extract it yourself or perhaps an established beekeeper will extract it for you. Honey extractors range in size from two-frame, handpowered devices to motor-driven machines that can handle 100 or more frames. New extractors are expensive, but a second hand unit can occasionally be found at a good price. If there is a possibility of you getting more bees in the future, it is better to buy a larger extractor now than to deal with an inadequate machine in the future. In addition, a device will be needed to remove the wax cappings from the honey comb. An electrically heated knife is commonly used.

Once the honey is extracted it should be strained (cheesecloth or nylon work well) and then stored in a warm place in a tall tank or container to allow the fine impurities to rise to the top. At this point it helps to have a proper tank with an outlet at the bottom so that the clean, warm honey can be drawn from the bottom directly into the honey containers.

Any clean containers can be used for packaging small quantities of honey, but proper honey containers make the crop more attractive and easier to sell.



Figure 4. Hand-powered honey extractor.

Wintering equipment

With just a few hives it is easier to winter bees outdoors. Insulation must be placed around and over the hives. The hives are then wrapped in plastic or tarpaper to hold the insulation in place. The insulated hive is covered with a lid or piece of plywood and the whole thing is tied with twine to prevent wind damage.

Protect your investment

Once you get started in beekeeping you have a fair number of dollars invested. It is prudent to protect that investment. Obtain and follow the recommended treatments for bee diseases. Learn what normal brood looks like and seek advice if you observe abnormalities. Protect your equipment from the weather and mice. Repair and replace equipment as it wears or is broken.

The Bee Act

The Alberta Bee Act regulates beekeeping in Alberta. Anyone offering used beekeeping equipment for sale (especially supers and frames) must have a permit to do so from Alberta Agriculture. Anyone purchasing such equipment must inform the Provincial Apiculturist of this purchase within 15 days. Anyone owning bees or used beekeeping equipment in Alberta, or operating bees in Alberta is required to register annually with the Provincial Apiculturist.

Factsheet originally prepared in 1992.