Package Bees

From Arrival to Honeyflow

The advent of the movable comb hive ushered in a period of great expansion in the beekeeping industry. Apiaries increased in size from three or four box hives to bee yards with hundreds of colonies. For the first time in the long history of bees it became possible for men to keep bees as their only means of livelihood. With this large increase in the number of colonies came a demand for a source of supply for bees. To meet this demand there grew up in the southern part of our country a package bee industry. The package bee producer shakes bees into a screen wire cage, in which is suspended a queen bee in a smaller cage, and sends the package of bees to northern buyers. Packages of bees are usually furnished in two- and three-pound weights. All things considered either package will give good results.

A southern package bee producer shaking bees into the screenwire cage in preparation for shipment. Notice the funnel into which the bees are shaken and the scales used for weighing the package. It has been determined that there are approximately 3500 bees in a pound. Your two-pound package will contain over 7000 bees, since the shippers always allow some extra weight in shaking the package.

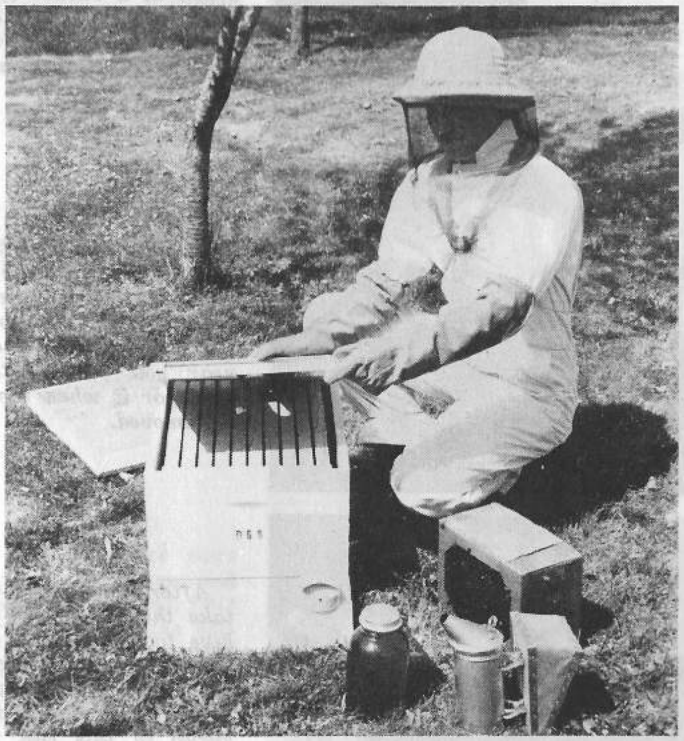
Your package of bees should reach you at the time of early fruit bloom, which usually starts with apricot and pear and ends with apple bloom some four to five weeks later. The exact time will depend upon your location. Be sure to have your equipment ready for the bees upon their arrival, the hive set up and painted and the comb foundation placed in the frames. The equipment needed for installing a package of bees is a hive body, frames with full sheets of foundation, bottom board, cover, entrance closer, and a feeder.

Parcel post, either surface or air, is the only method of delivering small numbers of packages. Usually postal charges assessed by the shipper will include insurance, and any damage on arrival should be noted by the postal clerk, then sent to the shipper for adjustment.

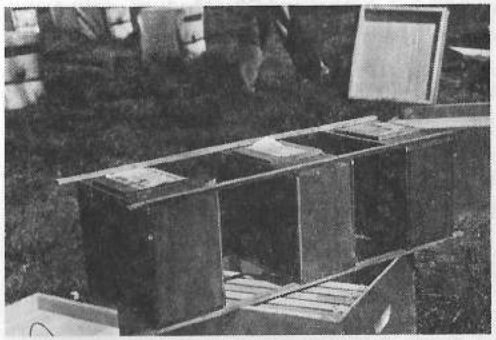
The next step is to take your equipment (hive body, frames, bottom, cover, empty supers or feeder shell, feeder, and entrance closer) to the spot where the colony of bees is to be kept.

The following pages will show you step-by-step pictures telling how to install a package of bees.

There is no particular rush about installing a package of bees after they are received. It is best to place the package in a cool, dry—and preferably dark—room, a basement answering well for this purpose. The package should then be fed sugar syrup. The syrup is made by mixing together one part of granulated sugar to one part of hot water. This syrup is fed to the bees by dipping a clean paint brush in the syrup and rubbing the brush on the wire of the cage. Caution should be taken not to apply too much syrup while the bees are confined in the package. When the bees do not remove the syrup quickly from the wire, they have had enough.

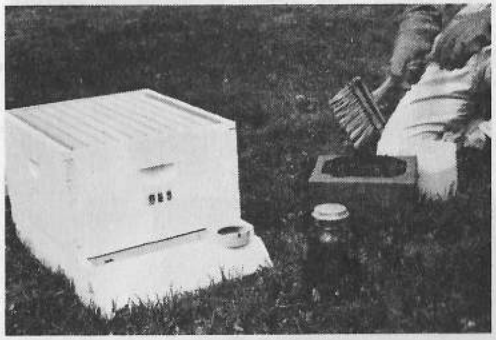


The package of bees has arrived, the entrance block and feeder block are in place, and the feeder jar is filled with sugar syrup. It's time to open the hive and put the bees in.



EVERY STEP IN

The best time to install a package is in the late afternoon or early evening. Take your packages of bees to where you have placed the hives and remove the wooden strips which fasten the packages together.



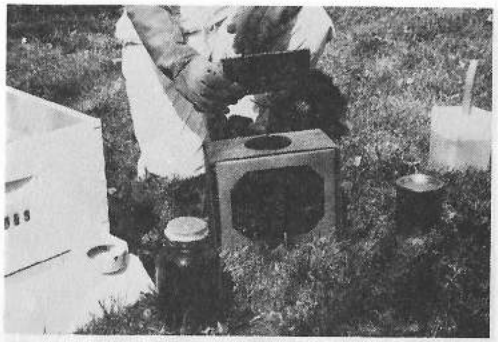
Wet the bees thoroughly with warm water. This can be done with a hand sprayer or you may dip a large paint brush in a bucket of warm water and sprinkle the water on the bees. This wetting prevents the bees from flying.

Using the end of the hive tool, the next step is to pry up and remove the cover from the top of the package. Be sure to keep the cover near you because there is need for it when the feeder is removed.

After removing the cover, take the sharp end of your hive tool to lift up and remove the small feed can that was shipped with the package of bees. The remaining syrup in this can may be added to that which you have prepared for the bees.

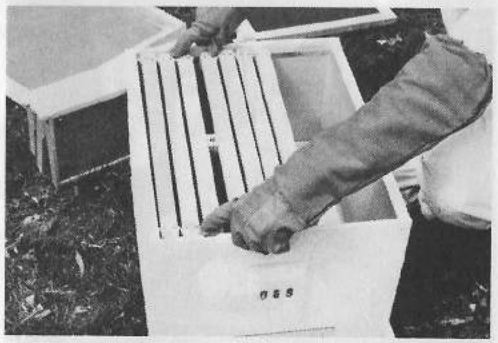
HIVING PACKAGES

When the feed can is removed, place the cover over the opening in the top of the package. This prevents the bees from getting out of the package while you are disposing of the can.

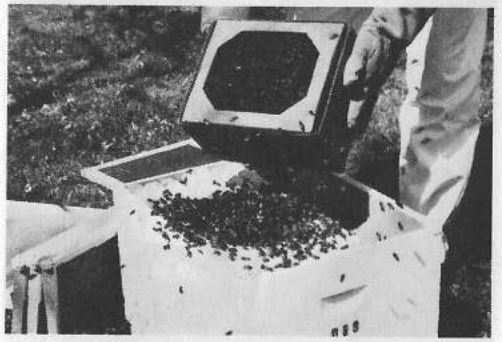


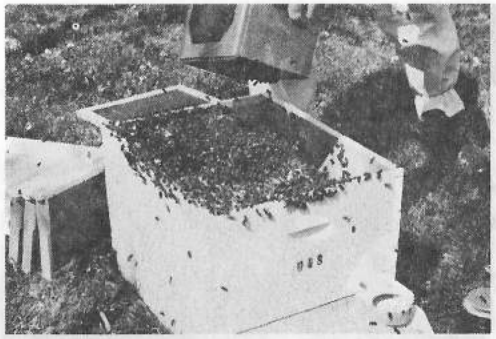
You will notice that one end of the queen cage has some white candy in it. The cork covering the hole which leads to this candy should be removed and a small hole, about the size of a match, punched through the candy.

Now suspend the queen cage in the hive. The proper place for the cage is three or four frames in from the side of the hive. Be sure that the end containing the candy is toward the bottom of the hive.

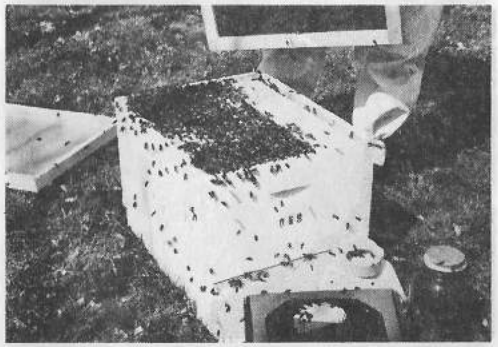


Take the package cage containing the bees and bounce it on the ground. This will jar the bees to the bottom of the package cage. Pour about half of the bees in the package directly over the frames where the queen is suspended.

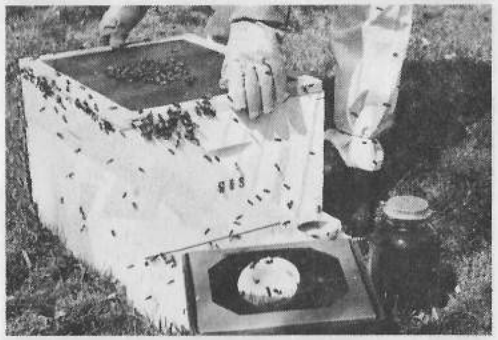




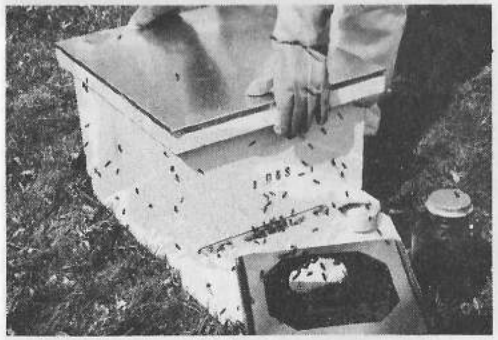
The next step is to jar the bees into the bottom of the package again and pour all of the remaining bees possible over the frames. The bees on the top of the frames will find the queen almost immediately and begin to eat the candy and release her.



There will still be some bees left in the package. Place the package with the remaining bees in front of the colony and make sure that the hive contains all of its ten frames with foundation.

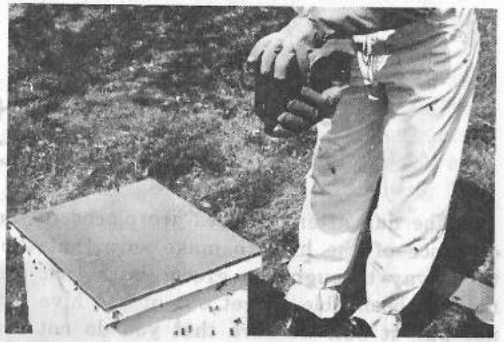


Next, place the inner cover on the hive. This should be done very gently so that the bees are not crushed. A little smoke on top of the bees will make them rather quickly run down between the frames and make placement of the inner cover easier.

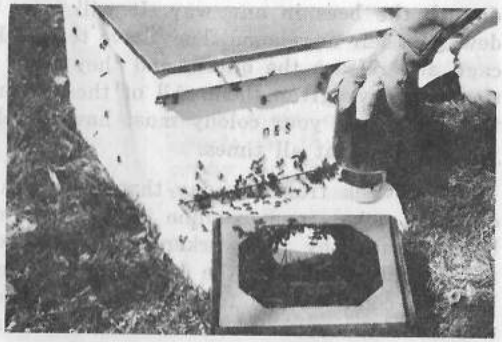


The next step is to place your telescoping cover on top of the inner cover, again being careful not to crush bees. The bees are now safely housed in their new home.

Your colony has a lot of work to do. To help them secrete wax and build combs, be sure to use your entrance feeder and to keep it full of sugar syrup for at least the first six weeks.

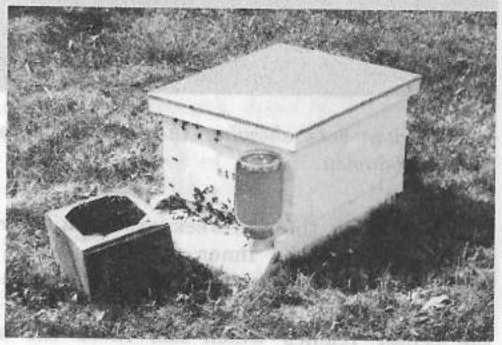


The entrance feeder jar is carefully placed in the entrance feeder that was supplied with your colony. Note the package cage laying in front with some few bees still clinging inside. They will rather quickly crawl out and join their sisters within the newly established colony.



The last step in hiving your package is to lightly stuff the small entrance with a little green grass. This confines the bees to the hive for a short time and allows them to become accustomed to their new home before they take flight.

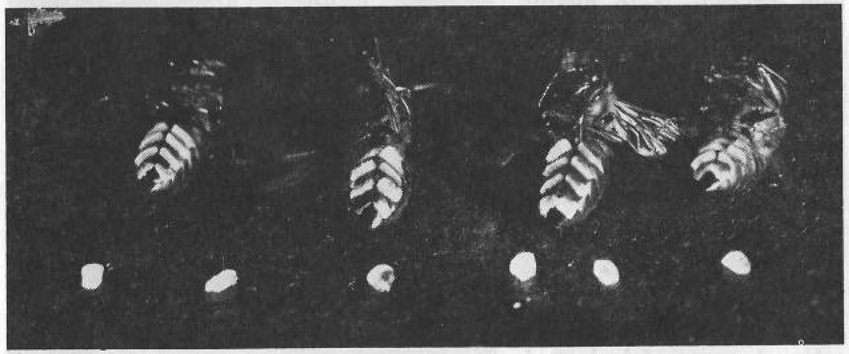
The job is done, your colony is now safely housed and fed in its new home. Success or failure will now depend on the care that you give the developing colony between the time of package hiving and the beginning of the first honeyflow.



HOW TO MANAGE THE PACKAGE UNTIL THE HONEYFLOW BEGINS

The day after the bees are placed in the hive you should examine the entrance of the hive to make sure that the bees have been able to work their way through the green grass that you put there. If the bees have not yet been able to get out of the hive loosen the grass slightly, but do not pull it out. **Be sure that you do not remove the cover of the hive or disturb the bees in any way.** It will take the bees some time to settle down in their new home. They have to eat through the candy in the queen cage and release **the queen**, and they have to build comb on the foundation you have given them. All of these operations will take time. During this first week your colony must have ample feed. Make sure the feeder jar has sirup at all times.

One week from the day that you installed the package it is safe to open the colony and examine it. By this time the queen bee should have been released by the workers and will probably be laying eggs in the newly built comb and the bees should have made some progress toward building comb on the foundation which you furnished them. In building this comb the worker bees take the wax scales which are secreted on the under surface of the abdomen and shape and form them on the foundation until the wax conforms to the pattern of the cells.

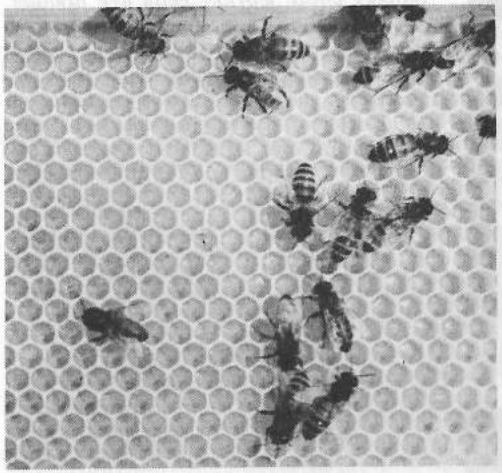


Worker bees showing the wax scales secreted on the lower surfaces of the abdomen.

In making the one-week examination, remove the cover and, smoking gently, remove the inner cover in order to find the suspended queen cage. Then spread the frames at this point and remove the queen cage, examining it to see if the queen has been released. Then lift out one of the center frames which has faced the suspended queen cage. If you

see eggs or larvae you can be sure the queen is present and laying. Do not bother to look for the queen. Close the hive, replacing the inner cover and the cover as quickly as possible, but with easy motions.

If, in your examination, the queen was not yet released from the cage, then poke an even larger hole through the remaining candy. If the queen was released but you did not see eggs or larvae, then the chances are good that the queen somehow was lost or destroyed. Under such circumstances, you should order a new queen immediately, introducing her in the same manner as described previously.

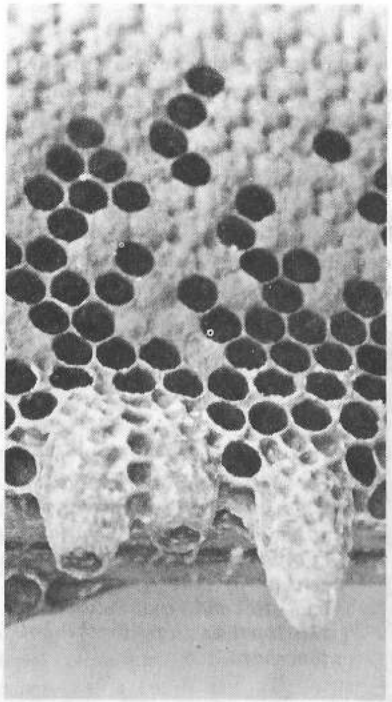


Worker bees in the process of drawing foundation. Usually worker bees will start their comb building efforts in the approximate center of the frame from end to end and closer to the top bar than to the bottom bar.

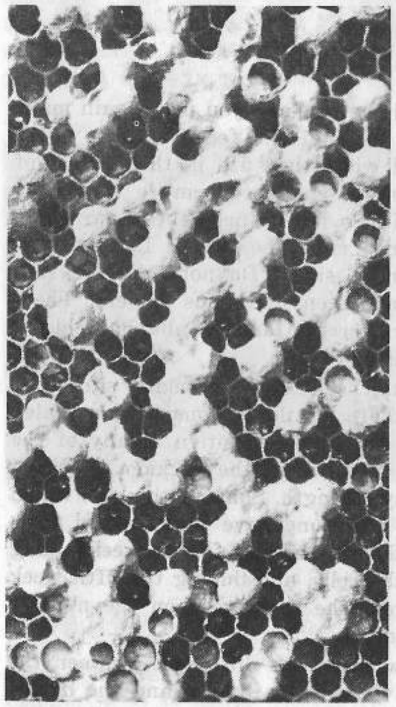
Three weeks from the day you hived the package you may again make an examination of the colony. Be sure to refill the feeder during every examination. The bees need lots of food when they are in the process of wax secreting and building. When there is enough bloom so that they may secure nectar from flowers they will no longer need the sugar sirup and, in fact, will no longer take the sirup from the feeder. Let the bees be the judge of whether or not they need sirup. Do not take the feed away from them simply because you have seen numerous flowers. There are many factors which influence nectar secretion and an abundant bloom does not necessarily mean an abundance of nectar.

During this three-week examination check again to make sure that the queen is laying well. By this time there should be considerable sealed brood in the combs. Do not attempt to change the position of any of the frames in the hive at this time. Three weeks after the package has been hived is the period of lowest ebb in colony strength. Some of the bees which were shipped in the package have died and none have yet emerged from the cells to take their place. Toward the end of the fourth week young worker bees will start to emerge from the cells, and during the fifth week they will emerge in great numbers. From the fifth week on the number of worker bees will increase fairly rapidly.

From previous information you now know the difference between the three types of bees in the colony—the worker, the queen, and the drone. Nothing has been said, however, about the difference in the cells from



Worker and queen cells, approximately natural size. Notice how much larger the queen cells are than those of the worker. Queen cells are found in the hive only under certain conditions (discussed in the following pages) while worker cells are always present. There are approximately five worker cells to the linear inch. With a full-depth brood comb with foundation it is possible to have as high as 7000 cells of worker brood. Ten such frames in one hive will more than take care of the egg-laying capacity of a good queen.



Drone brood—smaller than natural size. With a good queen very few drone cells will be present in your colony. Notice the characteristic bullet-shaped appearance of the sealed drone brood in this picture. They may easily be distinguished from worker cells by the way in which they protrude beyond the rest of the cells in the comb. The over-production of drones is one thing that should always be discouraged. Usually the bees will build drone cells in any section of the comb that has been damaged. Because of this the beekeeper should be careful when working his colony not to damage the comb.

which these bees emerge. A careful examination of the pictures on the opposite page should reveal this information to you.

During the fifth week you should conduct another examination of the colony. Check again for the queen and make sure that the brood nest is expanding and that the bees are drawing their foundation well. It will help if you will move sheets of foundation that have not been drawn, up next to the brood nest. A word of caution here—always put frames with empty comb or foundation **up to** and **not into** the brood nest. If the frames of the brood nest are separated there is danger of some of the larvae being chilled if the weather is cold.

By the end of the sixth week the fruit bloom is over and clover bloom is close at hand. It would be well to talk with neighbor beekeepers and find out from their experience just when you may expect the main honeyflow to start. Usually by the end of the sixth week you may stop feeding sirup. There should be plenty of bloom present by that time to supply natural sources of food for the bees.

Swarming reduces the worker population and, therefore, reduces the amount of honey crop. If at all possible, swarming should always be prevented.

There are many ways to prevent swarming of bees. Giving them plenty of room for normal expansion is just one of them. Another aid is proper ventilation of the hive. As your colony of bees grows and increases in size, give it a larger entrance opening. The entrance closer supplied with your original outfit has two separate openings. When the package is first hived it is best to use the small opening, but by the end of the fourth week the larger opening should be used. As the honeyflow approaches you should remove the entrance block entirely and let the bees use the full entrance to the hive. This should provide adequate ventilation, but if the weather is extremely warm it would be well to place two small blocks of wood between the hive body and the bottom board. This will raise the hive and tilt it backwards and allow ventilation along the sides as well as increased ventilation in front.

Just before the main honeyflow begins there is usually a lull in activity within the colony. By this time the colony has reached its numerical peak and without abundant flowers in bloom there are thousands of bees with little or nothing to do. This is a good time to put on your first super. It gives the bees plenty to do for they must draw the foundation out into comb before they can store honey. Putting on the first super is a swarm control measure that is effective if properly timed and executed. **Be sure your bees have sugar sirup at this time if natural sources of nectar are not yielding.**

Supersedure of the queen is Nature's way of replacing a failing queen. The worker bees take matters in their own hands and construct queen cells in an attempt to replace their failing mother.

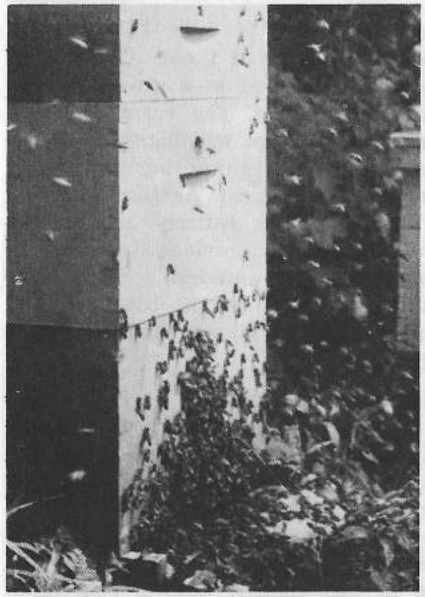
Supersedure in package bees occasionally presents a problem. Sometimes it is caused by too frequent handling of the colony. Such supersedure in package bees usually occurs about three weeks after the package has been installed. Certain queens also are inferior to others in the qual-

ity and quantity of their brood, a factor which contributes to queen supersedure.

The beginner is apt to be confused as to the difference between queen cells constructed for the purpose of supersedure and those constructed for the purpose of swarming. Actually, there are many old-time beekeepers who are unable to distinguish the difference.

Simply stated, supersedure cells are few in number—usually only three or four are constructed—are of the same age, and therefore, in the same state of development, and usually are larger and more copiously supplied with royal jelly than are the swarm cells. They commonly are constructed outward from the surface of the comb or in some depression along the side of the comb. Swarm cells are numerous, usually ten or more being constructed. They are of varying size and age, one or two being started each day over a period of a week or more, and are primarily constructed along the bottom edge of the combs.

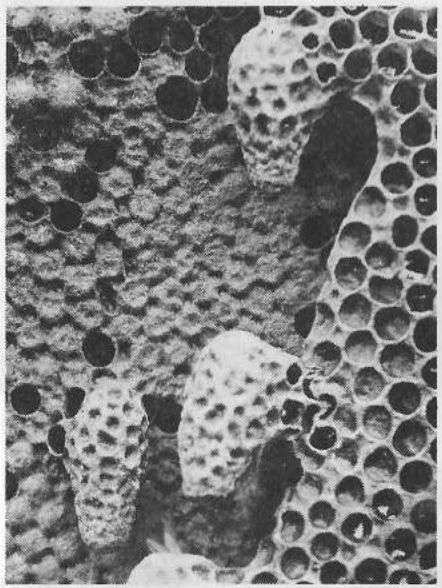
Since supersedure may occur at the height of the prosperous period before the honeyflow, the colony may dovetail their swarming with their efforts to secure a new queen by supersedure.



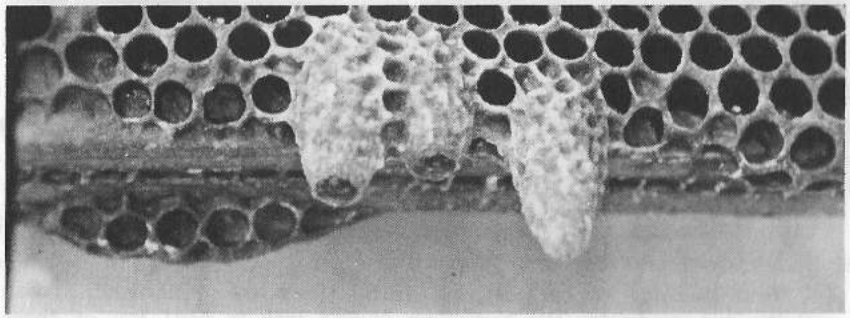
Here is a case where swarm prevention measures were not applied in time. This swarm is just leaving the colony. Weakened by the loss of the swarm, this colony will not make a profitable crop of honey without a considerable amount of help from the beekeeper.

Fortunately, this swarm lit among the low-hanging branches of a nearby tree. It may now be captured and hived. After the honeyflow has started it may be placed back in the colony from which it emerged —thus increasing the population of the original colony.

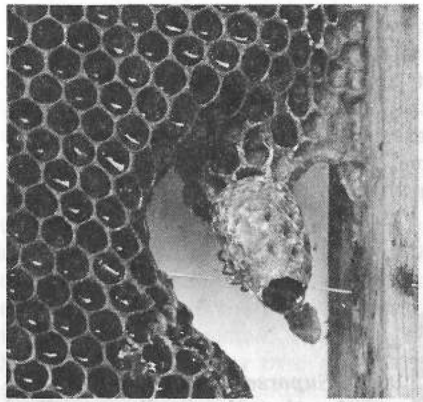
If there is evidence of swarming, all of the queen cells should be destroyed. However, if there are only a few cells and evidence of an attempted supersedure it would be best to leave two sealed cells in widely separated parts of the hive. When the bees are trying to supersede the queen and all cells are destroyed there is the possibility that the colony will become queenless in a short time. Usually the worker bees do not attempt to supersede the queen unless there is evidence that she is failing in her allotted role of egg-laying.



Supersedure queen cells. Notice that these cells are all of the same approximate age. Supersedure cells tend to be large and lavishly supplied with royal jelly. Notice how these cells were built next to the damaged area on the face of the comb. Some authorities tend to the belief that a queen raised under the supersedure impulse cannot be surpassed for quality. As a result of supersedure it occasionally happens that two queens, mother and daughter, inhabit the same hive.

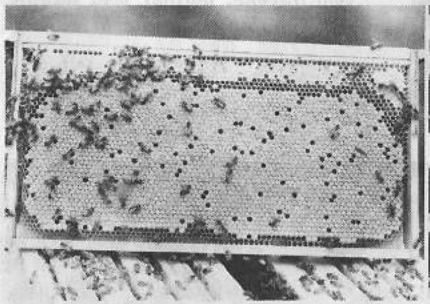


Queen cells built under the swarming impulse. Notice that in this case there are three cells of varying ages. The cell on the right is already sealed and in the pupal stage. The queen cell on the extreme left is just approaching the sealing stage, while the center queen cell is still in the mid-larval stage and will be the last cell to be sealed.

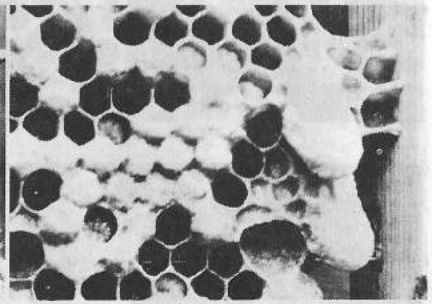


A queen cell along the side bar of a frame from which a queen has recently emerged. Notice how the cell was constructed in a damaged area in the comb. The worker bees remove the wax cap of the cell when they hear the queen trying to get out. The queen then has to gnaw her way out through the pupal case.

A queen's quality may readily be recognized by the way in which she deposits her eggs in the cells. A good queen will lay in a compact area so that the sealed brood presents a solid mass of wax cappings. A poor queen usually lays spottily with eggs scattered throughout the comb leaving many cells empty. Occasionally a queen will become a drone-layer—i.e., she will lay unfertilized eggs which will develop into nothing but drones. Such a queen should be replaced as quickly as possible. Order a new queen, and when she arrives kill the old one and place the new queen in the colony. (Instructions for introduction of a queen are included in shipment of the queen cage.)



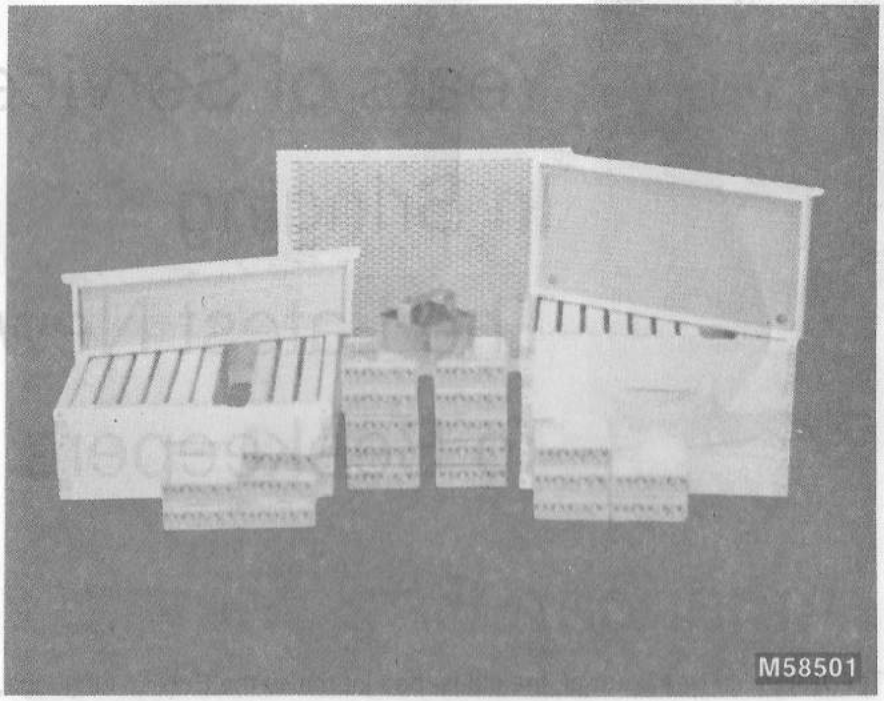
Good brood—the result of an excellent queen.



Poor brood—the result of a drone-laying queen.

Your package of bees is now a full-grown colony, humming with activity and ready for the honeyflow. Here's luck to you! Put on those supers and breathe a little prayer to the whims and fancies of Mother Nature. May she yield you an abundant supply of rich nectar.

If you have any special problems or questions feel free to write to us. Each problem will be given our personal attention and answered to the best of our ability.



HOBBY KIT NO. 2 when used with the Hobby Kit #1 (above) provides every item needed to ensure colony growth and longevity, and to produce and package a honey crop. Unassembled.

- 1 - hive body
- 10 - 9⅛" wedge top bar frames
- 10 - 8½" sh. Duragilt Foundation
- 1 - plastic queen excluder
- 1 - stainless steel comb cutter
- 1 - 5 11/16 comb honey super
- 10 - 5⅜" wedge top bar frames
- 1 - lb. - 4¾" cut comb foundation
- 20 - plastic cut comb boxes
- 20 - self adhesive honey labels

HOBBY KIT #2, M58501, wt. 33 lbs. _____ **$**