

'Bout a 100 – Sideline Beekeeping

RAISING QUEEN CELLS

Fall queens are tricky, but worth the work.

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Maybe the year 2008 will be one of those small benchmark moments where folks will point back and say “that’s when people started to talk seriously about raising queen cells. And some actually did.” At the risk of repeating myself (why that has never stopped me before will remain a mystery), we should take some time to discuss queen cell sales as a double whammy for local beekeepers.

First, the local sales of cells will train beekeepers to think outside of the hexagon (or whatever) – shaped box they have put themselves into and find ways to promote beekeeping in their own area by producing and selling ripe queen cells for use by local beekeepers. Or not so local, since cells may be easily shipped to other beekeepers in more remote areas for use.

Second, we need to look at the timing of these sales. For many northern beekeepers an abundance of queen cells will provide a method of putting highly desirable genetic material into the hands of willing and waiting beekeepers for Summer and Fall use. It will have the tremendous advantage of getting beekeepers to think about and actually learn how to use queen cells. To do this, they

Removed from the shipping bank, the beekeeper is holding a queen cell with a cell protector around it. Cell protectors are essential for shipping queen cells because they prevent early emerging queens from destroying other queens while still in the cell. Some beekeepers leave the protectors on the cells during introduction, while others experience higher queen acceptance without them.



With the cover and insulation removed, you can see the queen cells, each in its own cell protector. Nurse bees are shaken onto the cells and provided water during the shipping process. These bees had been in this container for three days when this photo was taken. In spite of the bees there was some evidence of delayed development of the queens, so fast transport of nearly ripe cells is the key for these containers to succeed.

will probably need to learn something about splitting hives or making increase colonies. And by using queen cells in such colonies, they will effectively handle cells and learn essential aspects of queen use and rearing.

So, when should you use queen cells in your area? Could you really install ripe cells into colonies in the months of September and October in your area? The answer to that question is actually pretty simple. You have to look at the developing supply of drones in the colonies that will ordinarily provide them for mating to your virgin queens. Remember, these are NOT the drones produced in the beeyard where the mating colonies are located, but in surrounding apiaries!!

The simple test of your local colonies and of neighboring colonies is this: DO YOU HAVE YOUNG DRONES IN DEVELOPMENT IN SURROUNDING HIVES WHEN YOU PLAN TO INSERT THE CELLS INTO THE COLONIES?? Of course, you need to have adequate drone numbers in these surrounding hives. A single colony with 50 to 100 young drones can hardly provide enough drones for a mating of 50 or 100 queens from queen cells you plan to use.

AND what is the correct aged drone? The rule is that you must have drone brood sealed for five days (when the pupal eyes turn purple) at the date you start cell production. It is such a simple rule, and so hard to convince folks that it is important. But in the Fall it is very easy to produce drones that are off the mark. Adult drones in a colony at the time you graft queen cells will probably mean that they will be dead and gone when the queens go out to mate.



A weak colony was selected to split into several new increase colonies. The original queen was removed. Her spermatheca was light in color, and suggested poor mating. However, Nosema infection was not ruled out. By dividing the assets of the hive into three or four nucs (three to five frames each), the brood and stored food was immediately put to use. Here the last frame is added to the increase colony.



One of the queen cells from the queen bank is being installed into the increase colony. This is a simple process – just separate the frames enough to safely put the cell between the two frames. One reason to fill the box with empty frames with drawn empty comb or foundation is to insure that the cells do not fall when the colony is moved. The cell protector may be removed or left on the cells, and results compared to determine future procedures.



Once the queen cell is in place, the colony is ready for the lid.



Since this unit was being assembled in an apiary where robbing was present, the colony entrance was screened for the rest of the day. In the evening the screen should be removed and an entrance reducer placed on the colony to prevent this weak colony from being robbed out. Many beekeepers load these increase colonies onto a truck and move them to another location at least a mile away to prevent drift. However, most of these bees were young nurse bees and unlikely to leave.

The problem we have in the Fall, of course, is that colonies conservatively invest in young drones late in the season without some plan to keep them around for mating, so I think the key question is when and how many drones are in production, and managing colonies so that they continue to feed and support drones well into the cooler weather, and after the nectar flow is well over. This is not easy to do. If you have installed drone combs into the hives in the mid to later Summer and you have had a nectar flow that stimulated the queen to lay into the drone cells, then you are on track for adequate drones for good mating. This is especially true if you have stimulated drone production from those colonies that you have designated “target drone producers” because they carry genetic traits you see that you want to propagate. These are varied queens producing a wide range of target drones.

But if you do not have drones in production, and



The objective of all this work with increase colonies and queen cells is to get good queens laying lots of eggs at the right time of the year. This queen is inspecting an empty cell just prior to laying.

do not stimulate their production by heavy feeding, you probably will not have enough drones for the queens you want to produce.

All this means is that the beekeeper must get into the hive and monitor drone numbers as the Summer winds down and Fall begins. As long as the goldenrod and aster remain in bloom in many areas, you may be fine. But if a September or October blast of cold air shuts off the flow, the drones are often ejected for the rest of the season. Unless you have colonies already set up with the conditions of queenlessness or queen replacement it is pretty unlikely that any drones will be maintained.

Drone holding colonies do this job – they are just increase colonies or nucleus colonies containing frames of brood of both worker and drone pupae, plus a caged unmated queen. The colonies must, absolutely, have abundant pollen for drone feeding. This colony duplicates the colony undergoing supercedure and the drones will be held long after other colonies have given the drones the no vacancy notice.

Using queen cells

Most queen producers use the plastic queen cells with a wide base. These cells have the advantage of being easy to ship and handle, and they are easy to place between two frames, or push into a frame of brood for introduction to a colony. These photos were taken at a queen rearing class in Essex County, Massachusetts in July. Rollie Hannan, Jr. of Connecticut co-taught a queen rearing course there and he supplied 60 queen cells in a queen bank. Some of these cells were used to demonstrate how to put together summer increase colonies. **BC**

Dr. Connor's books, including Bee Sex Essentials, are offered for sale through many bee supply dealers, and at his website, www.wicwas.com. A PayPal store is available on that site for those who want to have the convenience of purchase via this option.