Apis m. Esoteria 15a

Queen Replacement

What is the difference between buying a mated queen, letting the colony grow a new queen, and moving a working queen from a "replacement parts nuc."?

Time and money. To buy a mated queen could cost $35 or more and you have to go get her or have her shipped in. Overnight mail costs about $70. The fastest shipping will take about 3 days from the time you order. This queen will be producing new emerging bees in 25 days depending on the introduction technique.

Letting the colony grow a new queen is easy and "free". Depending on when you discover the need for a new queen there may be queen cells in the colony already. It will take 58 days from the time the worker bees decide to draw a viable queen cell, and her new bees emerge from the cell. The bees discover the need for a queen +3 days, then select a newly hatched larvae +3 days, that queen emerges +16 days, +6-9 days to mate, +9 days to start egg laying (hormone development), then +21 days to emerging new bees. Do you have that much time to go queenless. The colony will do just fine, but winter may come and terminate the honeybee replacement cycle before there are enough bees back in the colony to form a large winter cluster.

If you have used the *"Replacement Parts Nuc"* program you have a queen sitting in the apiary ready to go! This is where you have split a colony to control swarming or colony expansion. The nuc is growing but the intent is not necessarily to grow it into a 10-frame colony just yet.

Smoke the dickens out of the receiving colony to dampen the queen's pheromone. Capture the queen with the queen grabber tool. You can set the tool with the queen in it on the top bars of the needy colony, and you are done. Or a better practice is to carefully release the queen onto the face of a frame of the needy colony and immediately cover her with a "push in cage". To do this is tricky maneuver. Remove 2 frames. Brush the bees off a frame which will not be replaced into the colony for 2-3 days. Place the queen receiving frame on its side

on top of the top bars of the receiving colony to do the work. With one hand (holding the queen grabber tool with queen) and the other hand holding the push in queen cage, release the queen and cover her with the cage so fast she cannot escape. Leave her in the push in cage for a few days and then remove it. The queen will be laying eggs while she awaits release.

Sugar syrup spray will help dampen any pheromone smells and keep the bees busy cleaning up the sticky mess, so they don't fight.

The nuc will grow a new queen ready to lay eggs in 37 days.

Another Consideration

There is enough time in the first half of the year to take advantage of the winter brood break or introduce a brood break as a varroa mite reduction technique. If there is no brood being developed there are no new varroa mites hatching.

The best queen is the wintered over queen. There is normally a brood break stimulated by a lack of flowers and cold weather sometime between Thanksgiving and mid-January. Brooding should restart mid to late February and will really expand when the henbit weed, and the red maple trees are blooming at the same time. The new bees will start emerging 21 days after the brood break ends. The brood break could last the whole of "winter". 31 days in January, plus 15 days in February, plus 21 days to emerge, equals a mite control period of 67 days.

A queen in a swarm is also a very good queen, or her colony would not have grown large enough to swarm. The swarm left behind a lot of mites in the brood and on the nurse bees. By the time the colony reestablishes itself on drawn comb a lot of the varroa mites on the adult swarm bees will have dropped off the host bee because of the mites' maturity. During the period that new brood starts to develop, more mites will die. This is a big mite reduction but not a complete eradication. This brood break for the swarm is 10 days while the queen stops laying eggs (mites are maturing on the swarm bees), plus 3 days to find and settle on a new colony location, plus 5-10 days to draw new comb. If you catch the

swarm and place it in a hive with drawn comb you lose these days. Then there is the 21 days before new worker bees start emerging with many of these bees being mite free. The net gain is a colony with a very reduced varroa mite infestation. However, any adult bees that had a mite on them that matured and flew off might be infected with several viruses the mite vectored to the honeybee while feeding on the bee's stored body fat.

You can create a brood break by removing the current queen and allowing the colony to grow a new queen. Doing this in the spring after the old queen has repopulated the colony is feasible. Late in the summer will result in a smaller winter cluster. This "grow your own queen" technique will take about 58 days before the new batch of bees emerges. Remove the queen, 3 days until a new queen cell is formed, plus 16 days for the queen to emerge, plus 9 days for her to mate, plus, 9 days for her to start laying eggs, plus 21 days before the new batch of brood starts to emerge, equals about 58 days. You have some old larvae hatching with mites attached. But You have 44 days with no new mites hatching with the larvae. On day 21, after the queen was removed all the old brood will have hatched. Then no new mites will be produced until the brood from the new queen starts emerging. Again, a very large reduction in varroa mite infestation. Adult varroa mite count drops drastically to 0 at about day 36 after queen removal.

Migrating Pollinators have the most time to do this type of action.

Sideliner beekeepers >25 <50 Hives must work it into their breeding schedule

Hobby beekeepers <25 hives producing just for the family use are trying to maximize bee populations have a hard time working a brood break other than December and January.

Are you just growing honeybees! Most Pollinators are, honey is a by-product of pollination, not the target crop. Or are you trying to produce honey for sale.

Most Sideliners are trying to be a small business. Hobbyists are just trying to keep their bees alive for family products like honey and wax.