2026 Stahlman Bee Notes

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A follow-up on Making Hive Increases

RAISING YOUR OWN QUEENS

Beekeepers should consider having reserve queens in the bee yard so a colony needing to be requeened has one available. One can also raise a few queens to make splits later in the season.

Every beekeeper can raise queens.

The bees do all the work. As humans, we can create conditions for the bees to raise queens. I am including an attachment - a pamphlet that I wrote quite a few years ago for Ohio beekeepers called "*Queen Manual.pdf.*" It is included with this post.

Every apiary location is unique and as long as drones are available, virgin queens will be adequately mated. Getting good queens depends on a number of factors. The bees seem to work out problems regardless of what a beekeeper does.

Don't worry about the methods used to raise queens. The bee's DNA is to swarm – a natural way to make increases and **queen-less bees** will select young larvae to become queens. Additionally, bees will replace queens that are failing. Royal Jelly is the food that makes all the difference. **Just remember that fertilized eggs can produce both worker and queen bees.**

A colony reproduces by swarming and the ideal time to raise a few queens is when a colony is preparing to swarm. Conditions are perfect – large populations of bees, weather conditions are warm, food is available and queens are laying a lot of eggs including unfertilized eggs which produce drones.

One can get very technical when talking about breeding queens. That is an area that most of us avoid. Breeders use

a different standard than the average beekeeper. We are going to raise a queen. Something they would call a wild bee. They are concerned with morphometric analysis of various genes and phenotypes.

Honeybees have evolved over millions of years. Survival for a honeybee colony is produced by instincts making it possible for bees to replace a queen if she is killed in the hive by accident or faces natural death. We all know that honey bees are remarkable creatures and ***Keith Delaplane's book "Honey Bee Social Evolution"*** examines all things associated with the dynamics of things honeybees do. He writes, "In crystal dynamics, the resulting matrix (comb, skin, swarm, and colony spatial distribution) is the emerging property; the cohesion forces are those that sustain the individual component." If you understand all that (crystal dynamics, spatial distribution, cohesion forces) you don't need to read the rest of this.

I like the **KISS** approach - (Keep it simple stupid)

Let's start with the egg. If eggs are present, the bees will have a chance to replace [a queen if she is removed from the bees for some reason or other.]
All of us know that it takes 21 days for a worker bee to emerge from a cell. The time line given for the queens development is 16 days.
But consider this: If one <u>selects</u> to remove a few frames of bees and brood from a colony with a queen, the bees on the frames will try to feed several young larvae to become queens when placed in another box. <u>The lack of a queen's pheromone (from the queen left behind in the colony) will start the process</u>.

As this picture shows, the bees will feed a rich milky substance called royal jelly to the young larvae and build a cell wall so the larvae can grow and mature as a virgin queen in only 12 days (if the larvae selected is 4 days old). The only other requirement to raise queens is enough worker bees to attend to feeding the larva , keeping it warm, and a lot of food. Oh, by the way I might mention that virgin queens need an available drone population.

One might open the new hive raising queen cells just to make sure some cells are started. The best choice is to wait out the next 20 - 24 days to see if eggs are found. Often new queens are hard to find – they run when light enters the hive and looking for bees running on a frame might be a good way to locate young queens. I would venture to say that this process works 75 % of the time. In beekeeping terms, raising a queen this way requires no cell building hive, no skill of grafting young larvae to a cell bar, and no moving of queen cells to a mating nuc. A split such as this is a hive that completes

the same operations without additional management techniques used by those raising a lot of queens. This is referred to as a "dirty split".

Looking Ahead

I am hearing reports that the honey harvest for this spring has not been good. North Carolina is suffering from a serious drought period – according to news reports -- this area has not had a serious drought for at least the last 10 years. This is nothing new! My grandfather always saved 10% of his bee earnings each year. I can remember him saying "bees fail getting a honey crop in about one out of every five years." So, beekeepers must set something back to help for those years that crop failures come around. I know that this statement will not fit every beekeeping operation. But getting honey is based on honey plants in bloom.

Right now, I am raising a few queens for my own use. At one time I produced queens and had several queen mating yards. This is a photo of one of them. This picture also allows me to share a bit about hive placement and colony sizes.

This is a queen mating yard. The hives you see in the picture are small 4 frame mini-nucs. They were scattered about facing in all directions. New queens were raised on a 14–16-day cycle which required queen cells ready to emerge in two days to replace mated queens harvested when they were laying eggs. The mini nuc's made it easy to find and cage queens quickly. I bring up this point because queen-less honey bees will accept queen cells while virgin queens introduced to the bees are not usually accepted.

When individuals raise queens, they may worry a lot about how far queens need to fly to be mated. From practical experience I flooded my mating yards with a number of good drone mother hives. There is just no way to control which drones mate with which queen. All that I was taught is a lot of drones are needed for a mating yard. Genetic diversity is important and queens mate with an average of 12 drones and some indicate queens mate with possibly 20 drones. The goal of anyone raising queens should be to get good mated queens!

Any time open mating is used -- all control of future stock is in the hands of the law of survival. Over thousands of years, honeybees have developed to survive in semidesert, tropic regions, as well as cold temperate zones. Today the concern is focused on the mite situation. The bees you see in your hives looks like bees found in amber thousands of years ago. It is the force of nature that has allowed us to classify the many races of honey bees. The honey bees in the United States are so hybridized that it is hard to find any pure race of the honey bee family. Artificial insemination is used to control the breeding and some resistant lines have been developed but consider this – open mating results in reverting to the mean average of survival or resistance for anyone raising queens where other honey bees are located nearby.

Thus, the success of raising a queen of your own is as good as buying an expensive queen and using her eggs to raise virgin queens to be open mated. It is similar to taking a Kentucky Derby mare and putting her into a field with a number of other non-pedigree standard male horses. It is possible for her to mate with an undesirable stallion. The foal born will be a horse – maybe a good horse but still it would grow to be a horse.

(Queen Rearing.pdf)	This is short and covers some of the methods used to raise queen bees. Every area has weather conditions to deal with and the pdf was written especially for classes given in Ohio by the Ohio State Beekeeping Association and a grant given to The Ohio State University under the direction of Dr. James Tew, to train 100 new beekeepers.
(Essay on Queens.pdf)	This is a short essay on various characteristics one should consider when raising queens especially for those that want to sell queens.

A number of very good books about queen rearing are available. Even those written many years ago are still valid. Very little has changed except for the addition of instrumental/Artificial insemination of honeybee queens.