

# STAHLMAN BEEKEEPING

## NOTES FOR 2025



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Published by Dana Stahlman Raleigh, North Carolina  
Published free as a public service to anyone interested in honeybees. Email me to be added to my mailing list. [stahlmanapiaries@aol.com](mailto:stahlmanapiaries@aol.com)

### Supersedure Part I

Many years ago, I was a County Bee Inspector in Ohio. I was called upon by a beekeeper to check his hives – about 200 of them. He had a dispute with a company selling package bees. He had installed the packages, and a month later he noticed that he was facing about a 50% queen loss. He was a long-time beekeeper in good standing and had introduced queens into hives on a regular basis and this one batch stood out. He was asking the package producer to provide him with replacement queens.

The package producer refused. It is an interesting story often repeated by hobbyists and experienced beekeepers when they buy package bees. Without any experience, new beekeepers are usually faced with accepting the loss – most likely accepting the blame that they did something wrong. Queens are sold “as is” meaning they are alive when picked up. How they perform is not guaranteed. The days of buying tested queens is over. Tested queens were queens kept by queen producers for a period of time to determine the value of her off-spring. I would say that the majority of queens sold today are newly mated under trying conditions. Some may not be mated at all! The quality of queens goes far beyond the selection of breeding stock. Good queens require proper nutrition while developing, something like 12 – 20 drones to mate, and good management and some of it is due to weather conditions. Any one of these things missing could cause problems in how queens perform.



When a queen is introduced into a colony of new bees, a period of time is used by bees to determine if the queen is acceptable. Some will tell you -- if the colony is queenless they will accept a queen. Queen acceptance takes time and honeybees may *after* having a chance to evaluate their new queen -- replace or kill her.

This is a 3-hole Benton queen cage. It does contain a queen and up to 5 worker bees. Some queens are sold in cages without worker bees – usually when queens are included in a package with honeybees or when queens are purchased in battery boxes.



**Marked queens are easier to see in queen cages.**



The color of the mark usually indicates the year when a queen was produced/born.

1. Once marked a queen rarely loses the tag – it may wear with time but the bees do not remove it.
2. Some tags (not paint) have numbers on them. This can be used to determine the genetic history of the queen line and any other information the breeder might have.

A queen's ability to produce a large bee population is based upon a number of factors.

First, and most important is what the bees in the colony expect of her! **Her acceptance is not automatic.**



*Beekeepers often don't know that something is going on in the hive – But research by Tom Seeley points out that decisions are being made by the bees in a colony all the time.*

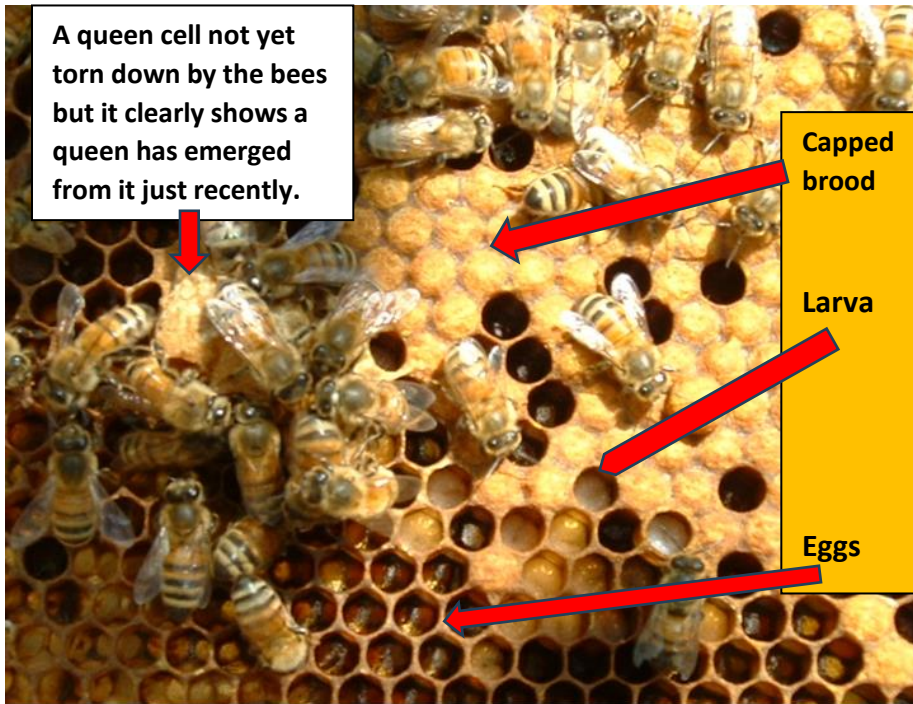
**Bees in any situation may try to replace a queen for any of the**

**following reasons:** (The following reasons are listed in **The Beekeeper's Handbook** 5th ed by Diana Sammataro and Alphonse Avitabile). I might add that this textbook should be in every beekeeper's library!

- **Queen is deficient in egg laying.**
- **Queen produces inadequate amounts of queen substance (pheromone) due to age, injury, lack of nourishment when a larva, or other physiological problems.**
- **Queen is injured as a result of clipping, fighting among virgins, or temporarily balled by workers when released.**
- **Queen was injured when removed from or placed into a queen cage.**
- **Queen is defective, not raised under ideal conditions, or poorly mated.**
- **Colony and queen have nosema disease or tracheal mites.**
- **Weather has been inclement for extended periods (other than winter)**
- **After installation of a package, when numbers of adult bees decline and no new ones emerge for 21 days, the remaining older workers may undertake supersedure activities.**
- **Queen's pheromone levels are low.**

*Wow, and remember a poor laying queen must be replaced as early in the season as possible -- either by the bees or the beekeeper.*

**What has this got to do with new beekeepers? Let me start with established colonies and then go to colonies that are just being started.**



A queen cell not yet torn down by the bees but it clearly shows a queen has emerged from it just recently.

Capped brood

Larva

Eggs

### But what about that queen cell?

It is not an emergency queen cell – Why? Because it takes a virgin queen a period of time to begin laying eggs. There would be a period of brood interruption. Most likely no larva would be present and much of the previous capped brood would have emerged from cells.

are waiting to replace her when the newly mated queen takes over.

It is not a swarm cell. Swarm cells (many of them) are located near the bottom of the brood cluster or to the sides of the brood. Since it takes approximately a week for a queen to mate and another week to start laying eggs, this queen cell was created by the bees for a different purpose.

When doing an inspection, one can see a number of interesting things happening in a colony.

This is a typical look at a frame that contains capped brood, some larvae, and eggs.

What is going on here?

There is a laying queen in this colony. This is indicated by the presence of eggs, larvae, and capped brood. At least we know that the colony had a queen at least three days earlier.

The presence of this queen cell and there may be a few others – all located near the center of the brood comb – indicate that the bees have replaced the old queen or

A normal colony handles this situation by avoiding brood interruptions which happens both during swarming and the emergency queen response.

*Next week, I will share the importance of checking new and weak colonies for signs of supersedure. While a strong colony can take care of its own problem, new package bees and even nuc's face serious problems if a weak queen or old queen occupies a hive with maybe 10,000 bees and little or no brood. Bees may tolerate her for a short period but will often abscond or try to raise a new queen. Both situations not good for the beekeeper.*