

Capped drone brood

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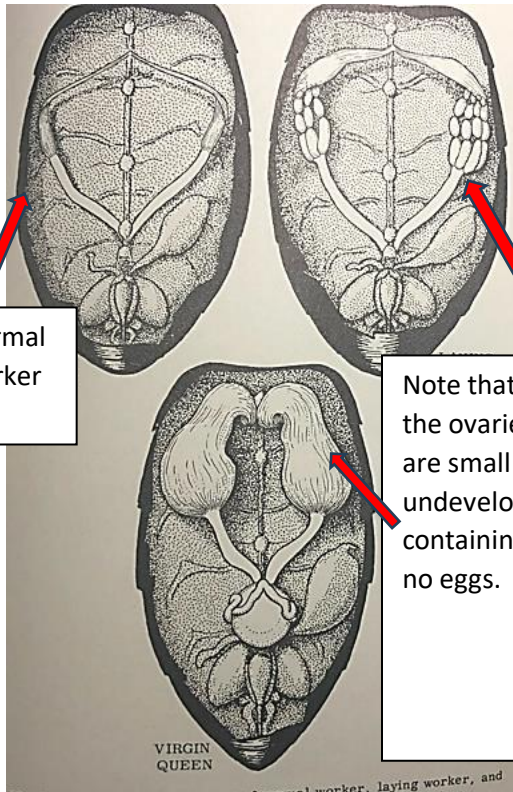
STAHLMAN BEEKEEPING NOTES FOR 2025

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

Laying Worker or Drone Laying Queen

Beekeepers have many things to check when they open a hive and since I have been talking about queen replacement – this topic fits right into that subject area.

Biological fact: Worker bees are female and do have the ability to lay eggs.



Normal worker bee

Note that the ovaries are small and undeveloped containing no eggs.

This is a plate from Anatomy and Dissection of The Honeybee by H.A. Dade. This plate shows the dissection of two worker bees and a virgin queen. It is possible to dissect a worker bee to determine if she has developed the ability to lay eggs. All worker bees will look alike – you can not detect a laying worker from a normal worker bee. I have heard

This is a laying worker. Note the ovaries are not as well developed as a virgin queen and notice the presence of eggs.

it said that the laying workers will have a larger abdomen but when I have seen bees in a laying worker hive, there are hundreds of worker bees and they all looked alike to me.

Queens can also become drone layers. This term is used because unfertilized eggs become drones from eggs laid by a queen or worker bee. When a queens sperm supply is exhausted she lays only unfertilized eggs.

Without the queen pheromone present, honey bees will in a period of 12 – 20 days begin to lay unfertilized eggs. I would put the number of days a bit higher. Once worker bees begin to lay eggs, it is **unlikely** they will accept a new queen being introduced to them.



When a queen lays an egg, the egg will be deposited to the center of the cell as shown here. The fact that the eggs are standing in the upright position indicates that the eggs are newly laid. As eggs develop, they will lay on their sides at the bottom of the cell.



When you see more than one egg in a cell – **it must be looked upon as not normal!**

Mature well mated queens will place only one egg in a cell.

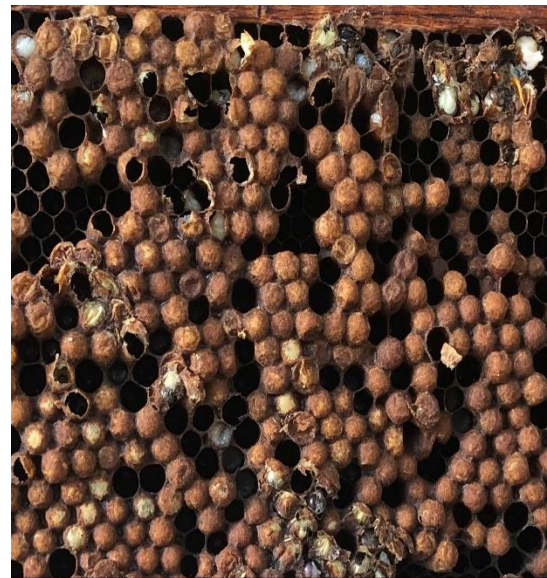
Newly mated queens may lay two on occasion but will place single eggs in a cell quickly as she develops. Laying workers will place two or more eggs in a single cell. They are not too particular -- egg laying is not compact but scattered about the comb in a frame and eggs may touch the sidewall of the cell.

- (1) Normal hives may have at times maybe 300 drones. They are raised in drone cells. These cells are 4 to the inch rather than 5 to the inch for worker cells. If a beekeeper notices that cells have rounded domes above the flat capped cells, it is another sign that a queen or worker bees are laying unfertilized eggs.



This picture shows an ideal good frame of capped worker cells.

What does one do if they have a colony with laying workers? Introducing a queen to save the hive will fail! No matter what some may suggest, egg laying worker bees can fly. Taking the bees some distance away and shaking all the bees onto the ground will not prevent egg laying workers from returning to the hive. Here is where that saying -- **“Talk to a beekeeper and get one version of maybe a dozen different answers.”** -- comes into play!



This picture shows drone cells. This colony has no future. If a queen is introduced to this colony, she will be surely killed.

- 3) This drone laying issue can be addressed in a number of different ways.

- One can take a drone laying colony and move it to a new location. A new colony with an established queen is put in its place. The foraging bees return to that location to be accepted by the new colony. The bees left in the drone laying colony can be killed or as one great general of the Army once told Congress [General MacArthur's Famous Farewell Speech]: "Old Soldiers never die, they just fade away."
- A drone laying colony can be set on a very strong colony - the strong colony will take care of laying workers (kill them). The strong hive can be split several weeks later and a new queen can be introduced to the split. This is quick and the bees in the strong colony will do all the work taking care of the problem.

Don't worry about the bees fighting. In the bee world, the strongest survive. Sooner or later a drone laying colony will be attacked by near-by bees in something called "Robbing." Feeding will attract bees and drones don't have stingers to defend the hive.

- If it makes you feel good, you can take all the frames in a hive some distance away and brush the bees -- all off into the grass. The frames with drone brood can be put into a wax melter to recover a small amount of wax. Good frames of bees and worker brood from other colonies can replace removed frames and a new queen can be introduced. Chances for queen acceptance is still up to the bees you place into the hive. Just make sure the introduced queen is protected by a cage that will require several days for the bees to become accustomed to her. If the bees start building queen cells – cut them down. Another option would be to let the bees raise a new queen but that will delay colony population growth well into a month or two.

The presence of old queen cell cups may indicate the colony swarmed and the virgin queen was lost during a mating flight. Thus, bees were unable to replace the queen and some bees become drone layers.



Frames like the one pictured should not be used in the brood chamber of a hive. The large number of drone cells

reduce the area for worker cells. In fact, a frame like this promotes congestion in the brood nest and contributes to swarming.

I know that saving a hive of bees is important, but when a colony has laying workers or a drone laying queen, its future does not exist. Queen replacement can be tried but it rarely works. **Quick identification of the problem** before one sees a frame like this is most likely the best solution to the problem. Drone brood located where worker brood should be – top or center of the frame – is not normal!