

Hobby Queen Production

**Presented
By**

The Ohio State Beekeeper's Association

A valuable queen mother

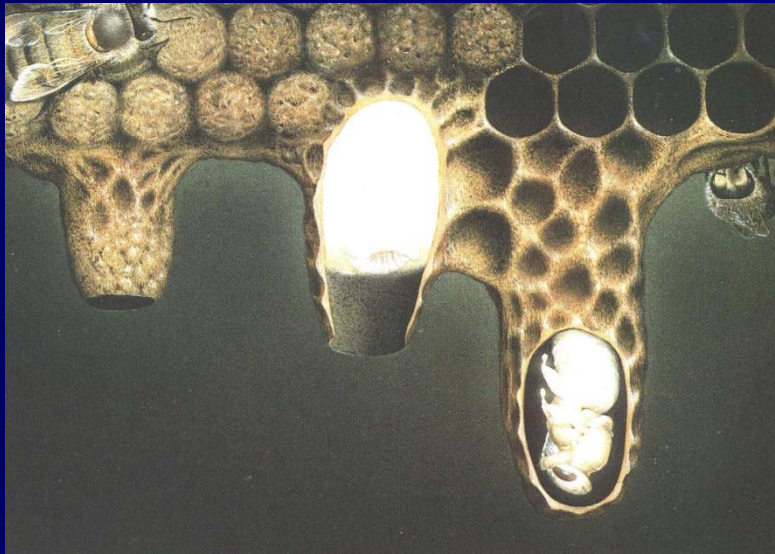


Why you should raise your own queens!

- Much interest has been generated concerning Northern Raised Queens.
- The many advantages of Northern Raised queens.
 - 1) They can be raised in AHB free drone congregation areas.
 - 2) They are tried and tested for the climate of our northern states.
 - 3) If bought locally the queens will be in better condition than if put into shipping cages and placed in the mail.
- Raising queens is not rocket science!
In fact “the bees do all the work!”

Some Biological facts with queen rearing.....

- Queens are produced from fertilized eggs.
- Fertilized eggs produce both workers and queens.



“Queen time”

Egg laid	Larva	Pupa	Adult
			
Day One to day three	Day four to nine. Cell sealed on approx- imately day eight	Day nine to 15	Day 16 Adult virgin queen emerges from cell

Methods used to raise queens

- Use natural swarm cells
- Use emergency cells
- Use non grafting methods such as Miller Method, Alley Method, Jenner System
- Use Doolittle grafting method

Non Grafting Methods

- Miller's Method



Non Grafting Method

■ Alley Method

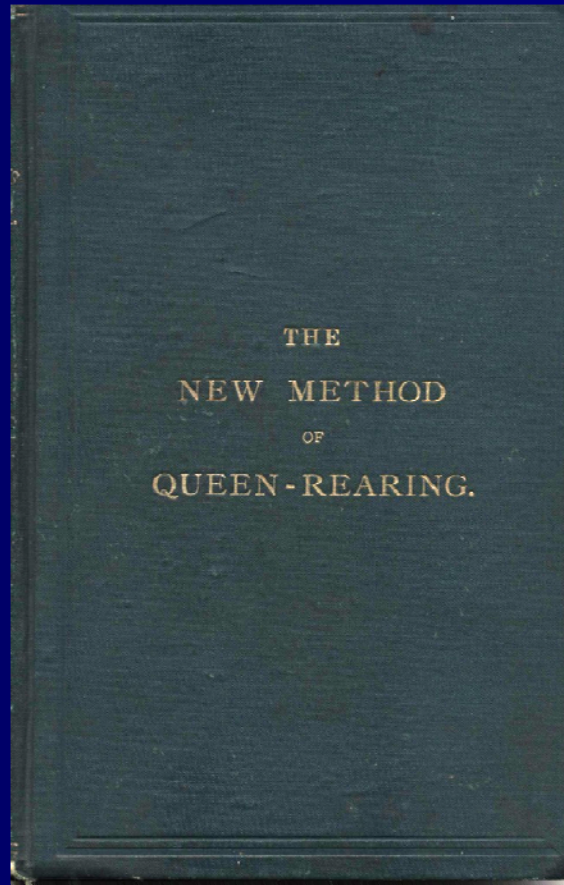
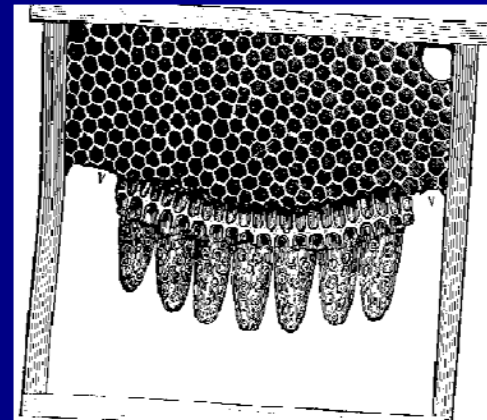
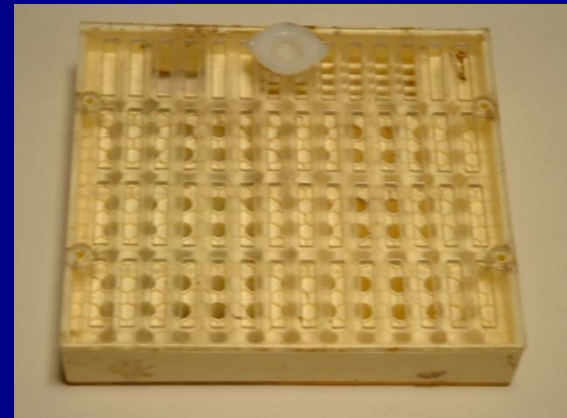
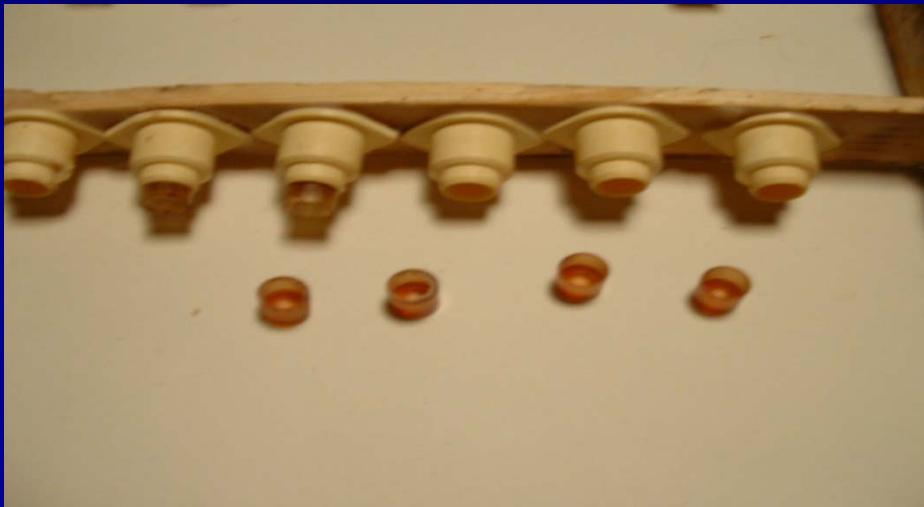


FIG. 5. Comb containing eggs in alternate cells.



Non Grafting Method

- Jenter System
- Requires specific equipment shown here.



Grafting Method

- Doolittle System
- This system requires the removal of young larva (less than 24 hrs old) from its worker cell and this larva is placed into a cell cup. (Either plastic or wax).
- The cell cups are placed on a bar within a frame and this frame is placed in a cell builder hive for the bees to feed the larva and create queen cells.



All of the methods discussed will produce queens. (However!)

- You will need a hive to build the cells. This hive is called a “cell builder hive”. Again, many individual methods exist for raising queens in cell builders.
- Some prefer what is called a “queen-right” colony.
- Others prefer queen-less hives.
- You may even run into the term “cell finishing colony”.
- Your method will vary according to the number of queens you want to raise.

Requirements to raise queens

- Fertilized eggs or larva.
- A cell builder hive supplied with a large population of well fed nurse bees.
- Hive well supplied with syrup and pollen.
- Conditions created to cause the bees to build queen cells.
- Close attention to calendar dates.
- Each queen to be raised must have a separate compartment or hive of her own.
- Lets look at all of these points!



Fertilized eggs or larva.

- If you are going to raise queens, why not try to raise the best you can!
- Select for characteristics that are important to you.
- Avoid any stock that is aggressive, prone to swarm, etc.



A cell builder hive supplied with a large population of well fed nurse bees. The cell builder I use.

- My cell builder was used to start and finish queen cells. Thus the cell bars or in the (Alley, Miller methods-- the frame with young eggs or larva) is placed into the center of this hive and it remains there until the queen cells are ready for harvest.
- When queen cells are harvested, I use the bees and frames to build nuc's.



Hive well supplied with syrup and pollen.

- It is important that the cell builder hive is supplied with syrup before queen cells are started and after they are placed into the hive.
- It is important to provide frames of pollen to the hive. (Note— some individuals use pollen patties)

Conditions created to cause the bees to build queen cells.

- “To produce good queen cells, the conditions that exist in nature when a strong colony produces cells under the swarming impulse should be approximated.”
 - From Queen *Rearing and Bee Breeding* by Harry H. Laidlaw Jr and Robert Page Jr. Page 44
- Thus, the following needs to be observed.....

Conditions created to cause the bees to build queen cells.

1. Crowded condition of the brood nest.
2. An over-abundance of nurse bees – to create the production of royal jelly.
3. Comb builders stimulated by feeding syrup.
4. Good supply of pollen – used producing royal jelly.
5. Good ventilation
6. Lack of queen substance (phermones). If present, it suppresses queen rearing. (Queen-less hive)
7. Presence of selected young larva.

How I build my cell builder

- I start with a bottom board, an empty deep super and a division board feeder.
- I fill the division board feeder with syrup and keep it full.
- I shake three or four 2 pound packages of bees to put into my cell builder. Sometimes this might be 3 pounds in each package. The number of worker bees determines the number of queens to be raised.
- I collect 5 frames of capped brood. I try to avoid any with eggs but sometimes it can not be avoided. I get 2 good frames of honey and pollen. I also insert one frames of new foundation –which is removed when the cell bars are placed into the hive. This is a great way to get new foundation started.
- I check for emergency queen cells two days later and place my grafted cell bars into the hive.

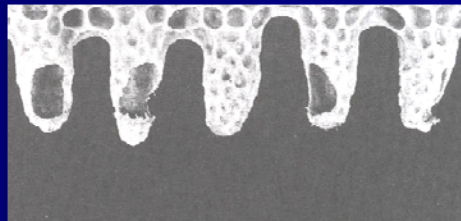
My cell builder

- I add a shallow super with new foundation above the deep hive body. It provides cluster space above the cell bars. I use no queen excluder. This is an excellent way to get new foundation drawn.
- A hive like this one shown will produce over 100 queen cells.
- The bees are used to stock new nuc's several days before the queen cells are harvested. There are a lot of bees on the outside of this hive because I shake all bees off frames checking for emergency unwanted queen cells.



Close attention to calendar dates

- Queens are produced from an egg in approximately 16 days.
- Thus if we graft a young larva (4 days old- 3 days as an egg and 1 day as a new small larva) the new virgin queen produced from that larva will emerge from her queen cell in 12 days + or – a few hours.
- Queens must be harvested before they emerge. This is usually 10 to 11 days after the graft.
- Otherwise, the first to emerge will kill the other queens by cutting down queen cells.



Each queen to be raised must have a separate compartment or hive of her own.

- My nuc's are deep five frame boxes. I can move standard deep frames into them and use the frames at the end of the year to build additional hives with the bees and queens still remaining.
- They are easy to build and often from scrap lumber.



Virgin Queens

- Emerge from cell. They don't hatch!
- Mate in good weather – usually after the temperatures have warmed a bit.
- Must mate within 20 days – or they then become drone laying queens.
- Will begin laying within several weeks after mating.
- Young queens may lay several eggs per cell at first.
- However, a brood pattern can be detected within several days. The term “untested” usually refers to a queen who has not been a proven productive queen. “Tested” indicates that the queen has produced brood which has been examined and certified by the breeder that she is producing good brood.

Finis

- It pays to have friends (bee inspectors) and a good patient dog.

