The Beauty of Honeybees...
So, Where are we exactly?
A brief history of time...

Founded in the Spring of 2016 ... accidentally
Started Beekeeping in 1999
Hive 5 Bees History

From this...

TO THIS...
Strategy for Success:

1 – Sustainable Beekeeping

The Sustainable Apiary by Mike Palmer
National Honey Show • 150K views • 4 years ago
A lecture given by Mike Palmer at the National Honey Show 2013 entitled “The Sustainable Apiary”.

2 – Breeding for Mite Resistance/tolerance and local area
KEY POINT: BEES ARE LIVESTOCK
They Need Active Management to be successful
Spring Assessment:

♦ First Impressions mean a lot:
Use Your Senses When Grading Hives...

♦ Sight
♦ Smell
♦ Sound

♦ Feel …. Maybe not this one as much
Sight

- Which one would you breed from?
Sight Cont...

Which one looks best?
Smell

♦ Foul Brood (EFB & AFB) is called ‘Foul’ for a reason

♦ Hive should have a pleasant odor – a mixture of beeswax, nasonov, and subtle spicy notes from propolis.

♦ If the odor is pungent is any way closer inspection is warranted
Sound

- Low quiet hum is good

- Loud roaring is a sign of queenlessness
KEY POINT

♦ BE AGGRESSIVE IN MITE CONTROL

Deformed Wing Virus

Chronic Bee Paralysis
Short List of Treatments

- Formic Acid (Mite Away Quick Strips)
- Hopsguard
- Apistan (Amitraz based)
- Oxalic Acid
- Thymol

Key Point: TREAT IN SPING AND LATE SUMMER
WA Queen Breeders

◊ Check out these local queen breeders:

- Olympic Wilderness Apiary
  Port Angeles, WA

- PNW Bees
  Battle Ground, WA

- Northwest Queens
  Washington

- Miller Compound HoneyBees and Agriculture
  Roy, WA
Queen Rearing Yourself

- If you’re not passionate about learning queen rearing simply support local breeders

Your time make be more valuable then trying to learn and save a few bucks

However if you’re passionate about bees and want to further your knowledge – JUMP IN!
Queen Rearing cont.

Winter loss is your friend

- It helps you select hardy bees and one’s more resistant and tolerant to your area.
Queen Rearing Cont.

- If you have a small apiary and are wanting to raise queens for your own splits – the walk-away method might be your best bet:

  Use a queen excluder to locate the queen. After three days look for eggs.

  If your hive is double deep and full of bees you can split each box into a hive.
Queen Rearing Cont.

- You only need three frames of bees, brood and honey to begin a NUC.

- *Make sure there are eggs present for the bees to rear queens from*

- The queen does not have to be located to make these splits if planning is used.

- Three frames of brood and honey can be shaken off and placed in a super above a queen excluder. Remove after at least 4 or 5hrs.

- New Nucs/Splits should be moved at least 2 miles away... unless
# Table for development times of egg to adult

<table>
<thead>
<tr>
<th>Stage</th>
<th>Drone</th>
<th>Worker</th>
<th>Queen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Larva</td>
<td>6.5</td>
<td>6</td>
<td>5.5</td>
</tr>
<tr>
<td>Pupa</td>
<td>14.5</td>
<td>12</td>
<td>7.5</td>
</tr>
<tr>
<td>Total</td>
<td><strong>24</strong></td>
<td><strong>21</strong></td>
<td><strong>16</strong></td>
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</table>

Data from *Rearing Queen Honey Bees* by Roger A. Morse
BIG THANK YOU TO DANA STALHMAN FOR THE FOLLOWING SLIDES
The Miller method is a non-grafting method. It takes advantage of the honey bees' natural ability to make queen cells under the emergency impulse to make a new queen.

**Miller Method for raising queens**

What you will need:

1. A strong hive with the mother queen.
2. A frame with new wax foundation.
3. Sugar syrup to stimulate wax production.
4. Manipulation of the frame: the mother queen lays eggs into so the bees will build queen cells on it.
5. A separate cell building hive to put the frame into.
A hive well prepared will:

1. Take the frame inserted into it and start drawing cells on the foundation provided to it.

2. Will extend some of the comb down beyond the foundation.

3. The queen will begin to lay eggs on the new comb constructed near the top bar and expand downward. These will be the older eggs.

4. The queen will follow the cell construction as soon as cells are ready to accept an egg. Notice how the bees try to fill the saw tooth pattern.

5. As soon as the first larvae are visible – three days after eggs are laid, the frame must be taken from the mother queen hive and trimmed as shown in the last photo. New larvae must be at the edge of the comb to be placed in the cell builder hive. Thus, the comb with eggs must be trimmed away so young larvae are on the edges.
Many queen cells can be built on a frame. Most of the new queen cells will be located at the point the cuts are made in the new drawn comb.

The saw tooth pattern provides more inches of comb with the proper age larvae giving the bees more opportunities to build more queen cells.

The bees prefer to build queen cells downward in the normal position rather than on the face of the comb.

Bees will continue to build wax comb as they feed the larvae selected to produce queen cells.
Advantages

1. Almost any hive will build queen cells from available larvae.
2. Not much effort on the part of the beekeeper.
3. Nothing to buy – You most likely have everything you will need already.
4. Inexpensive
5. Less Labor and special equipment involved.
6. No Grafting

Disadvantages

Limited number of queen cells can be produced.

Scheduling is not as dependable as the Hole Punch, and Doolittle Methods.

Just remember the hive that builds the queen cells is queen-less. If the hive builds 15 cells, many of them may be joined together in clusters and decisions need to be made on which cells need to be sacrificed to make the best use of the other cells.

If you do nothing, you will have a number of queens emerging from queen cells at about the same time. Only one of them will survive.

You could use the cell builder to raise one of the cells produced with this method.
Doolittle Method
(Grafting)

1. Young Larvae from a selected queen.
2. The following materials:
   A. cell cups, cell bars, and cell bar frame
   B. A grafting needle/tool
   C. Good light
   D. Good manual dexterity.
   E. A warm place to work and protection for grafted cells.
3. A strong cell building hive.

What you will need:
The process

The foundation of grafting is use of a tool to pick up a young larvae and place it in a cell cup. The tool can be as simple as a toothpick or a very fine grafting tool such as the tip of a German Grafting needle shown here.

The tasks is to select a very young larvae from the frame of young brood as shown to the left. The selection of a young larvae is important. The larvae needs to be just a day old.

A day old larvae is very small and selecting the smallest you can see is best. The young larvae will be floating on a bed of milk-like food called “bee bread”. It is the food fed to worker bees which is different from the food fed to larvae destined to become queens.
The transfer of larva from a worker cell to a queen cell cup

The first step is to slide the tool under the young larvae and lift it up out of the cell. Once out of the cell the larvae is placed in a cell cup.

The transfer process must be done quickly. If the larva dries out during the transfer the transfer will be unsuccessful. Note the paper towels. They are moist to keep the larva and moisture levels high. Cell cups that have young larva in them are covered to protect them from the sun and dry air.
Cell bars with grafted larvae

A frame with bars must be put into the cell builder hive immediately.

Honey bees will begin to feed the cells if the hive is queen-less and well fed.

The bees will build wax around the plastic cell just as well as they would around wax cell cups. The wax building indicates the bees have accepted the larvae and started to feed it.
One of the reasons commercial beekeeper use the Doolittle method is the consistency of producing large numbers of queen cells on schedule.

Each bar in a frame can produce up to 15 queens.

Queen cells almost ready to be placed into mating nucs.
Most beekeepers do not need to produce so many queens, but for those who want to raise some queens for sale, the Doolittle Method offers an advantage over other methods.

The person buying the queens will get some idea of how commercial beekeepers produce so many queens year in and year out.
Jenter System (Nicot)

Jenter Method

I have included the Jenter method because some beekeepers are looking for what they think is ideal for producing large number of queens and it does not require grafting.

The idea behind this method is to place the queen into a cage designed with openings for her to lay eggs directly into cell cups.

Cell cups are then transferred to a cell builder to produce the queen cells.

The cage allows bees to pass thru a queen excluder type cover to feed the queen and attend to her.
The system consists of a kit of special holders for the queen cell cups to be placed on the bars of a cell bar frame. To overcome the problem of varying ages of larvae, the kit includes cages that are placed over the cells once they are capped.

Backside of the cage

The back side of the queen cage has 110 cups as shown here.

Each cell cup potentially could produce a queen. However, queens in many cases do not eagerly lay eggs into each of the cups.

In addition, it is very difficult to select the cups based on the age of the young larva because the queen many not lay eggs uniformly into the cups. Eggs are often hard to see at the bottom of the cups. The cage needs to be removed, the top covering removed, and an inspection made to remove some of the cups.
You graft larvae that are of different ages.

All queens emerge in 16 days – It is not the graft date but the date the queen laid the egg that starts the clock.

What happens if:

If a young virgin queen in a cell builder hive emerges from her cell before any of the other queen cells mature, she will begin the process of cutting them down.

It doesn’t make any difference which method is used – virgin queens will hunt down any other virgin queen in the hive and attempt to kill her opponent.

Queen cells need to be moved from cell building hives into mating nucs before any virgin queen.
DO NOT LET FEAR SABOTAGE YOUR BEEKEEPING EXPERIENCE!

FEAR IS THE PATH TO THE DARK SIDE
KONA NUCS FOR SALE!

- $145 Special Club Pricing!
BEEKEEPING 101 Class!

♦ April 21st 10am til Noon

♦ Beeline Woodenware & Apiary in Rochester, WA

♦ Pre-registration is required and suggested donation of $20
THANK YOU!