

# Making Splits and Introducing queens

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Association

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## The Truth in Beekeeping

- “The only truth in beekeeping is **the science,**  
everything else is **opinion.**”

# The Life Cycle of the Honeybee Family

ILLUSTRATED BELOW ARE THE PROGRESSIVE DUTIES OF THE WORKER BEE. THE DRONE HAS NO HIVE OR FIELD DUTIES. MATING WITH NEW QUEENS IS HIS SOLE CONTRIBUTION. THE QUEEN'S ONLY DUTY IS EGG LAYING AND HIVE MORALE. THE CHART TO THE RIGHT DEPICTS THE ACTIVITIES AND THE LIFE SPAN OF THE SUMMER WORKER BEE. THE FALL BORN BEE, HAVING NO FIELD FORAGING DUTIES, LIVES THROUGH THE WINTER TO START NEW BROOD CYCLES IN THE SPRING. THE DRONE IS REJECTED IN THE FALL AND DOES NOT LIVE THROUGH THE WINTER. THE QUEEN LIVES ABOUT 3 YEARS AND IS REPLACED BY THE COLONY WHEN NECESSARY.



Queen Worker Drone

Queen	Worker	Drone
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
	17	17
	18	18
	19	19
	20	20
	21	21
	22	22
	23	23
	24	24

Queen Laying Eggs

## Days

- Period As Egg
- Period As Larvae Feeding
- Larvae Spins Cocoon and Transforms Under a Closed Cap
- Bee Emerges



Honey Cells

Pollen Cells

Worker Cells

Scaled Queen Cell

Bullet Shaped Drone Cells



## Days Worker Bee Tasks

Days	Worker Bee Tasks
1	Cleaning Cells and Keeping Brood Warm
2	
3	Feeding Older Larvae
4	
5	
6	Feeding Younger Larvae
7	
8	
9	
10	
11	
12	Producing Wax
13	Building Combs
14	Transporting Food Within the Hive
15	
16	
17	
18	Guarding Hive Entrance
19	
20	
21	
22	Visiting Flowers
23	Pollinating Them and Collecting Pollen, Nectar, Propolis, and Water
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35-45	End of Life

Hive Bee

Field Bee

# So You Want to be a Beekeeper

- To be a successful beekeeper you must understand what bees do, when they do it and why they do it. If we help the bees do what they naturally want to do we will succeed and they will thrive. If we try to make the bees do what we want them to do we will not do so well.

**honeybee**  
(*Apis mellifera*)



worker



queen



drone

# Honey bee reproduction

- Bees reproduce on an individual basis.
  - Egg to worker 21 days
  - Egg to queen 16 days
  - Egg to drone 24 days
- Bees reproduce on a colony basis.
  - Swarming is nature's way of increasing colony numbers and replacing colony losses.

# We can use our understanding of their nature to achieve a better outcome

- We use the emergency and swarm responses to graft and produce queens.
- We equalize colony population to maximize honey production.
- We reverse hive bodies to provide space above the nest for better spring growth.
- We feed as necessary.
- *We sometimes make splits.*

## The basic concept

- You take one or more strong colonies and make two or more smaller but viable colonies.
- You must make sure that each part of the split has a queen or resources to make one, brood, honey, pollen and enough bees to take care of the new colony.



## Reasons for doing a split

- A natural way to increase your colonies
- To requeen the new hive
- Lack of a queen for a short time causes a brood break for Varroa mite management
- To make nucs for sale or for queen rearing
- To maintain healthy and manageable populations and prevent swarming

## Have you considered late summer splits?

- After the harvest late July or early August
- Split nonproductive colonies
- Overwinter small colonies with new queens
- Always have extra queens and colonies to replace winter losses



# When can you do a split

- May be done as soon as queen cells, virgin queens or mated queens are available or when the recourses for producing a queen are present.
- May be done as soon as drones are flying if you want to raise your own queen. Drones are mature enough to mate in 12-15 days after emerging.



## Things to consider related to a split

- Mild winter and/or early spring
- Early pollen and nectar flow
- Presence of queen cells
- Queen is more than 1 year old
- Drone rearing is earlier than usual
- High population in the hive early in the spring
- Honey flow is about to start



[carolinahoneybees.com](http://carolinahoneybees.com)



**HIVE  
SPLITTING  
IS EASY**



## When should you *not* split a colony

- Weak colonies, with small populations (less than 6 frames of brood) or colonies that have struggled to produce adequate honey stores should never be split.



# Many different names for variations of splits

- Artificial Swarm
- The “tear’em off” split
- The vertical split
- The simple split
- The overnight split
- The Mississippi split
- The walkaway split
- The swarm control split and many other names

## Most Common Types of Splits

- A walk-away split (colony reared or purchased queen)
- Swarm-control split
  - The swarm-control split requires a higher level of skill. The beekeeper must find the queen and identify brood in various stages and other recourses.

# Walk-away Colony Raised Queen

- Day 1 Split a strong two story hive leaving each box with equal resources and *at least one frame containing eggs.*
- Day 5-6 Queen cells built and capped
- Day 12-14 Queen emerges and eliminates rivals
- Day 19-21 Queen orientation flight and mating
- Day 24-28 First eggs laid
- Day 45+ new brood emerges

## Walk-away Purchased Queen

- Day 1 Split a strong two story hive leaving each box with equal resources and at least one frame containing eggs.
  - *Must identify which box has the old queen and place the caged queen in the queenless box.*
- Day 2-5 Queen is released and starts laying
- Day 25+ new brood emerges

# Swarm Control Spilt

- Move the mother hive to the side and place an empty box in the original location.
- **Find the queen** and move the frame she is on into the empty box. If the frame she is on does not contain brood move her to a suitable frame.
- Fine another frame or two of capped brood and a frame of honey and pollen and move them to the new box.

## Swarm Control Spilt

- If the frames are not covered with bees shake 1-2 frames of bees from brood frames into the new box.
- Introduce a new queen into the mother colony.



# Do any of you have trouble finding the queen

- Let me show you a way to make a split without finding the queen
- You will initially need a queen excluder to keep the queen in mother colony but allow worker bees to populate the spilt.
- You can use a double screen board to make a split when the nights are still too cold to make small five frame nucs.



# Split Demonstration

The background features a repeating pattern of hexagons in shades of yellow, orange, and grey. A large, glowing sphere is positioned on the right side, partially overlapping the hexagonal pattern. The sphere has a bright orange-yellow glow on its right side and a darker, greyish-blue glow on its left side, suggesting a split or a gradient effect. The overall aesthetic is modern and technical.





## Variations of swarm control splits

- What if you find swarm cells in your hive but the bees have not swarmed yet.
  - Find the queen and place her with two frames of bees and brood and one frame of food in the original location
  - Use the remaining resources to make one or more nucs each containing a frame with queen cells (save only the best two queen cells on each frame)

## Variations of swarm control splits

- What if you find the bees have just swarmed but queen cells have not started emerging.
  - Divide the recourses into one or more nucs with each containing a frame of brood with queen cells (destroy all but the two best cells for each nuc)
  - Check the nucs in 21 days for eggs. At that time you can decide to keep the nucs, sell some, or keep the best looking queen and combine to make a double hive.

## Special care for your new split

- Reduce the entrance
- May consider moving the nuc to a distant location
- Confirm the presence of a laying queen
- Feed light 1:1 syrup and pollen substitute
- Add additional bees or brood if necessary
- Add additional space as needed

# Queen Bee Replacement

- Queen bee replacement is a key factor in maintaining strong & healthy, quiet & workable and productive honeybee colonies.
- The presence of a healthy, vigorous and productive queen is essential for strong & healthy colonies that can resist pests and diseases.

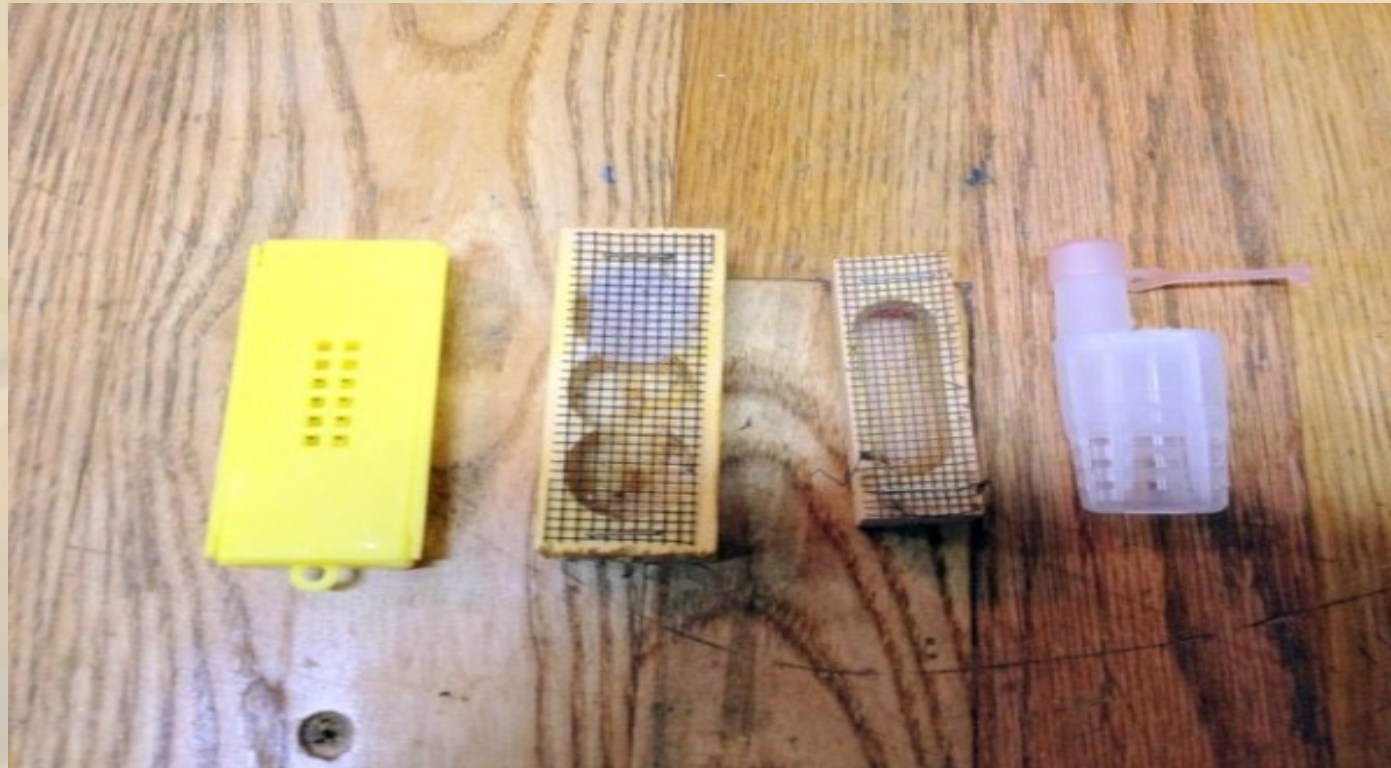
# Why replace a queen bee

- To promote favorable characteristics and qualities of the bee colony:
  - Docile bees
  - Strong & healthy bees
  - Productive bees
  - Colonies with a low urge to swarm
  - Bees with good grooming and housekeeping characteristics



# Queen introduction methods

- Several types of commercial queen cages are available with some kind of “candy release” mechanism



# Commercial shipping cages

- Cage introduction



# Introduction methods cont.

- Push in cage method



## Introduction methods cont.

- Direct introduction method
- Queen cell method



# Introducing virgin queens

- Five days before your virgin queen emerges make up a strong five frame queenless nuc
- On day five place the newly emerged queen in an introduction cage with a candy plug ( with very strong nuc cover candy with masking tape
- Examine every frame in your queenless nuc and destroy anything that looks like it could develop into a queen cell.
- Place the caged queen in the nuc and do not disturb the colony for 11 days
- The colony will readily accept the queen but she still has to make the dangerous mating flight.

## Introduction methods cont.

- Introduce queen into a small nucleus colony then newspaper combine



Questions ??