



# Swarm Control

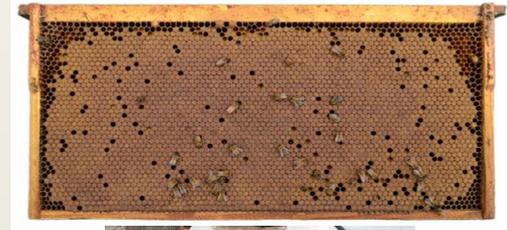
(Increasing Honey Crop)

Presenter: Doug Atkinson



# When It's Time to Perform Swarm Control

- 6 frames of brood
- 70% of the frames are filled with bees
- Plenty of drones
- Before there are swarm cells



# Who Is Swarming?

- Queen
- Approximately 30% of the foragers. The new colony will need foragers to bring in pollen and nectar.
- Approximately 70% of the nurse bees. The nurses will gorge themselves on honey prior to leaving to be able to draw new comb in the new home.

Age (Days)	Role/Task	Details
0 (Emergence)	Clean herself and warm up	Just hatched from the cell.
1-3 days	Cell cleaner	Cleans brood cells for new eggs.
4-12 days	Nurse bee	Feeds larvae royal jelly, pollen, and honey.
12-18 days	Wax producer and comb builder	Produces wax from glands and builds/repairs comb.
12-20 days	Queen attendant	Feeds and grooms the queen.
14-21 days	Honey processor	Fans nectar to evaporate moisture and cap honey.
18-21 days	Guard bee	Protects the entrance from intruders.
22+ days	Forager	Collects nectar, pollen, water, and propolis.



## Reasons and Timing for Swarming

- **Instinctively, a healthy colony will want to swarm.**
- **Mid-April through the end of May are when they are more likely to swarm.**
- **They tend to swarm most often before the main nectar flow.**



# Farrar's Law

Named after  
USDA entomologist  
C.L. Farrar

Describes the synergistic  
relationship between a  
honey bee colony's  
population and its honey  
production

- **Farrar's research (1937) established that honey production increases at a greater rate than the bee population.**
- **In other words, a large colony is far more efficient and productive than several smaller colonies with the same total number of bees.**
- **For example, if you compare one large colony to two smaller ones:**
  - Small Colony (10,000 bees ) will produce 1 lb of honey.
  - Large Colony (20,000 bees) will produce 4 lb of honey.
- **Result: Doubling the bees quadruples the honey potential.**



# Some Bee Math

## There are fixed costs for each colony

- Nurse bees
- Wax builders
- Guard bees
- Undertakers
- Fanner bee to regulate temperature

## Farrar's research (1937) established that honey production increases at a greater rate than the bee population.

- For a single large colony of 60,000 bees, about one-third (20,000) will be house bees
- For a smaller colony (30,000), about half (15,000) of the population would be house bees.

**2 smaller colonies will require 10,000 more bees to manage the hive.**



# How Much Honey Do You Lose When Your Colony Swarms?

**Conservatively, a queen will lay 1,500 eggs a day.**

- If the hive swarms, it will take the colony about 28 days to raise a new queen and have her laying eggs.
- In those 28 days, your current queen will lay 42,000 eggs.
- One bee in its lifetime makes 1/12 of a tsp of honey. 42,000 will make 52 lbs. of honey.
- The bees that leave with the swarm, roughly 10,000, will also produce 13 lbs. of honey.



# Timing

- Manipulation needs to happen *before* the colony decides to swarm.
- Generally, swarm season starts around April 15 and ends 6 weeks later.
- Once there are capped swarm cells, the chances of manipulation being successful diminishes.



# Swarm Control Methods

- **Demaree Method**
- **Snelgrove Method: Double screen board**



## Advantages to the Demaree Method

- Doesn't initially require a new hive stand.
- Good option if it's early in the season and it's still cold.
- Very little extra equipment needed.

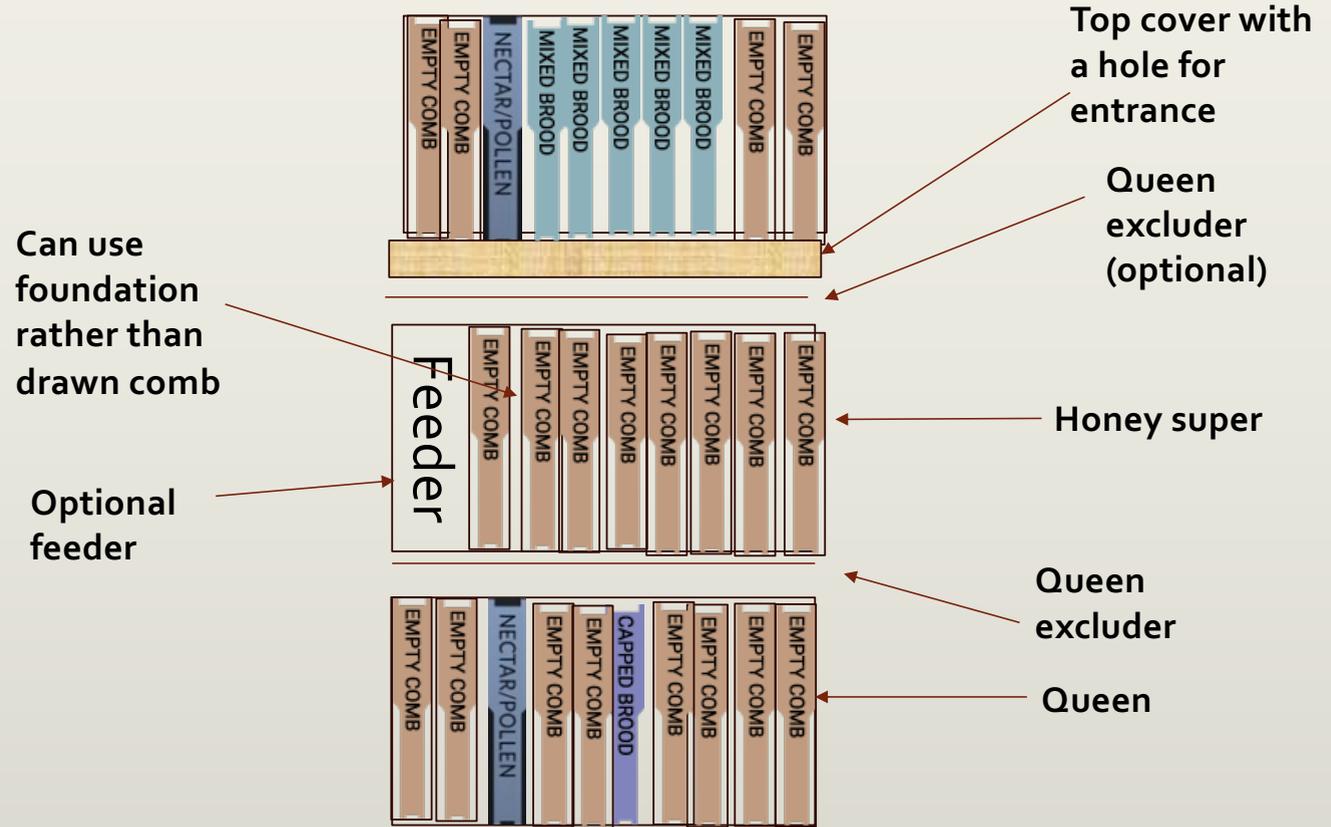


## Equipment Needed for Demaree Split

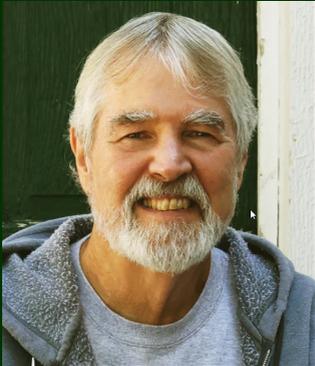
- 2 Deep boxes (Brood box)
- 1 Honey super
- 20 Deep frames of foundation
- 10 Honey super frames
- *Specialty equipment*
- 2 Queen excluders



# Diagram of Demaree



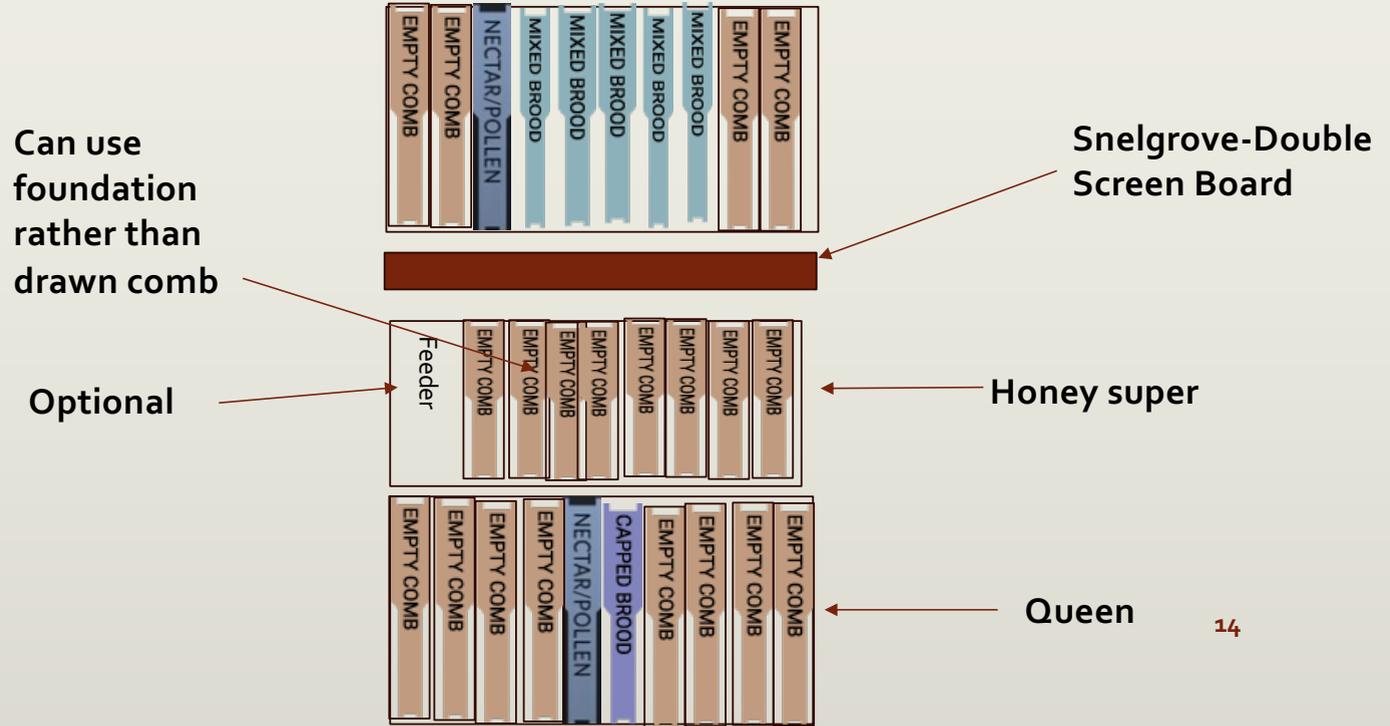
**Snelgrove,  
Double Screen  
Board  
(Bob Binnie  
method)**



- **Used for splits and swarm control.**
- **Separates the queen and the foragers from the young nurse bees.**
- **The double screen separates the queen and her pheromone from the nurse bees.**



# Diagram of Snelgrove-Double Screen Board Method



## Decision Points

- **Do you want to raise a new queen to replace the existing one?**
- **Do you want the upper brood box to raise a new queen or use the queen cells to replace a queen in another colony?**



# Use Cases for Having a Double Screen Board

- Queen introduction
- Supporting a weak colony
- Adding a swarm

