

OTS IS QUEEN REARING MUSIC PLAYED BY EAR

New Concepts Drawn By Listening To Wise Ways of Old



by Mel Disselkoen

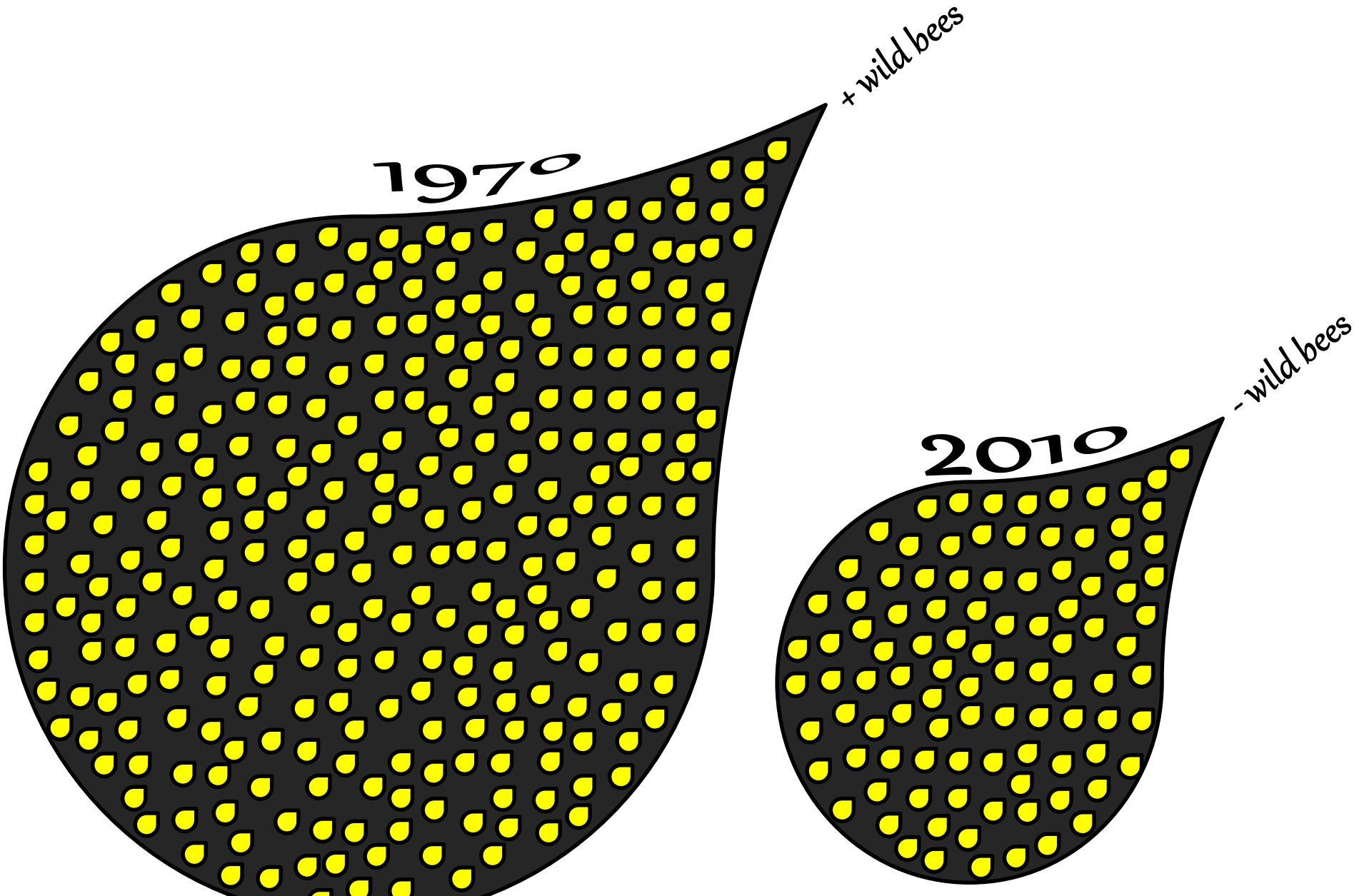
June 29th, 2013, Hendersonville, NC

KEEPING BEES ALIVE



QUEEN BREEDERS

Gene Pool Has Narrowed Significantly in 40 Years

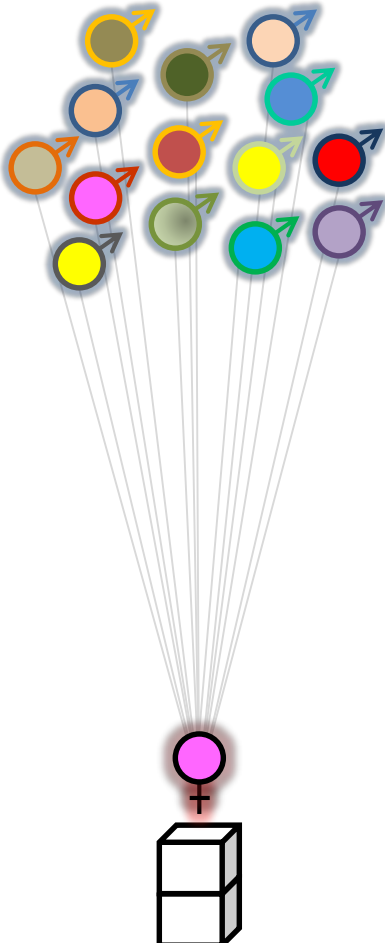
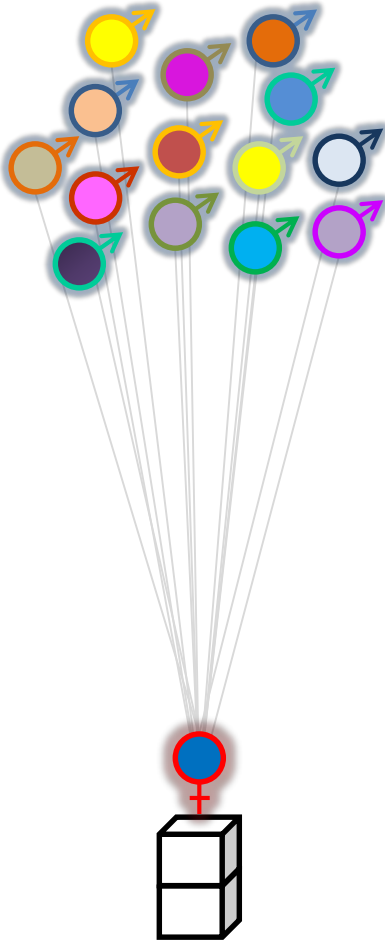
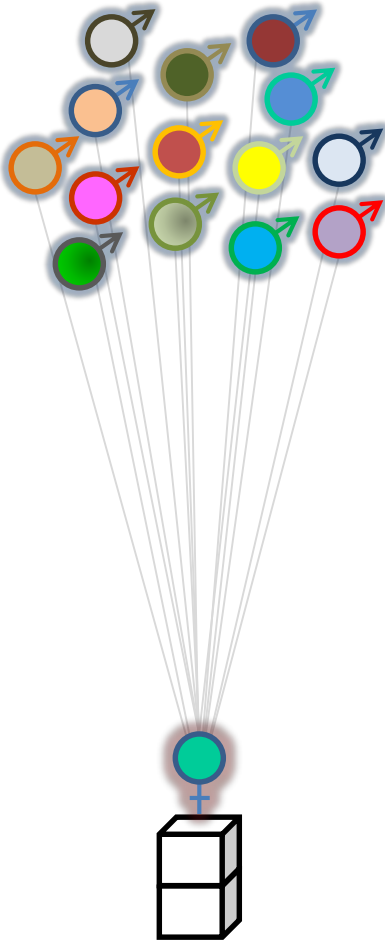
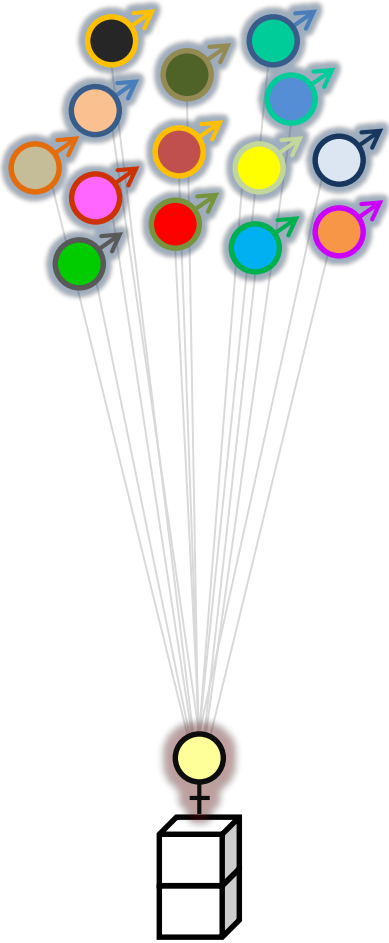


WHO'S YOUR DADDY?

There Are Fourteen Or Fifteen Fathers In Each Hive



THE ENORMITY OF THE OTS GENE POOL



HONEYBEE MATH IS A PERFECT SCIENCE

There are approx. 7,500 worker cells on a standard deep frame and if that is full of worker brood that translates to 2 lb. of bees when emerged. This frame is perfect for making a split (artificial swarm) with the old queen as there are no noticable larvae. It serves as a supportive brood frame for the old queen as it is an upcoming 2 lbs of fresh bees added to the shakes of nurse bees already given.

This can be related to how much brood should be given to a new start. If I give two brood frames that are half full of brood then that equals the 7,500 cells of sealed brood which will bring 2lbs of bees.



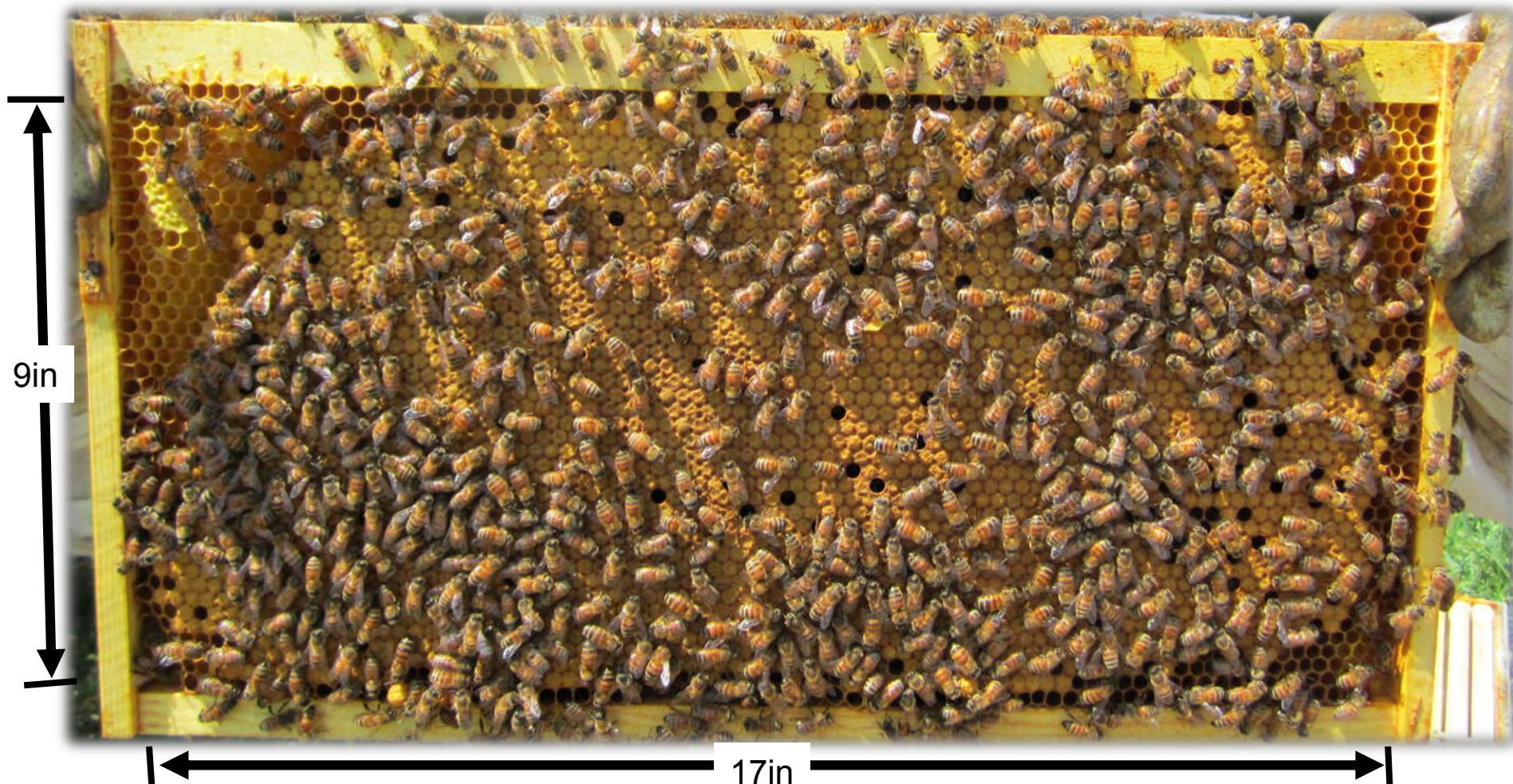
CALCULATING SEALED BROOD TO POUNDS OF BEES

Step 1: 17 inches x 9 inches = 153 square inches

Step 2: 153 square inches x 25 worker cells per square inch = 3,825 worker cells on one side of deep comb

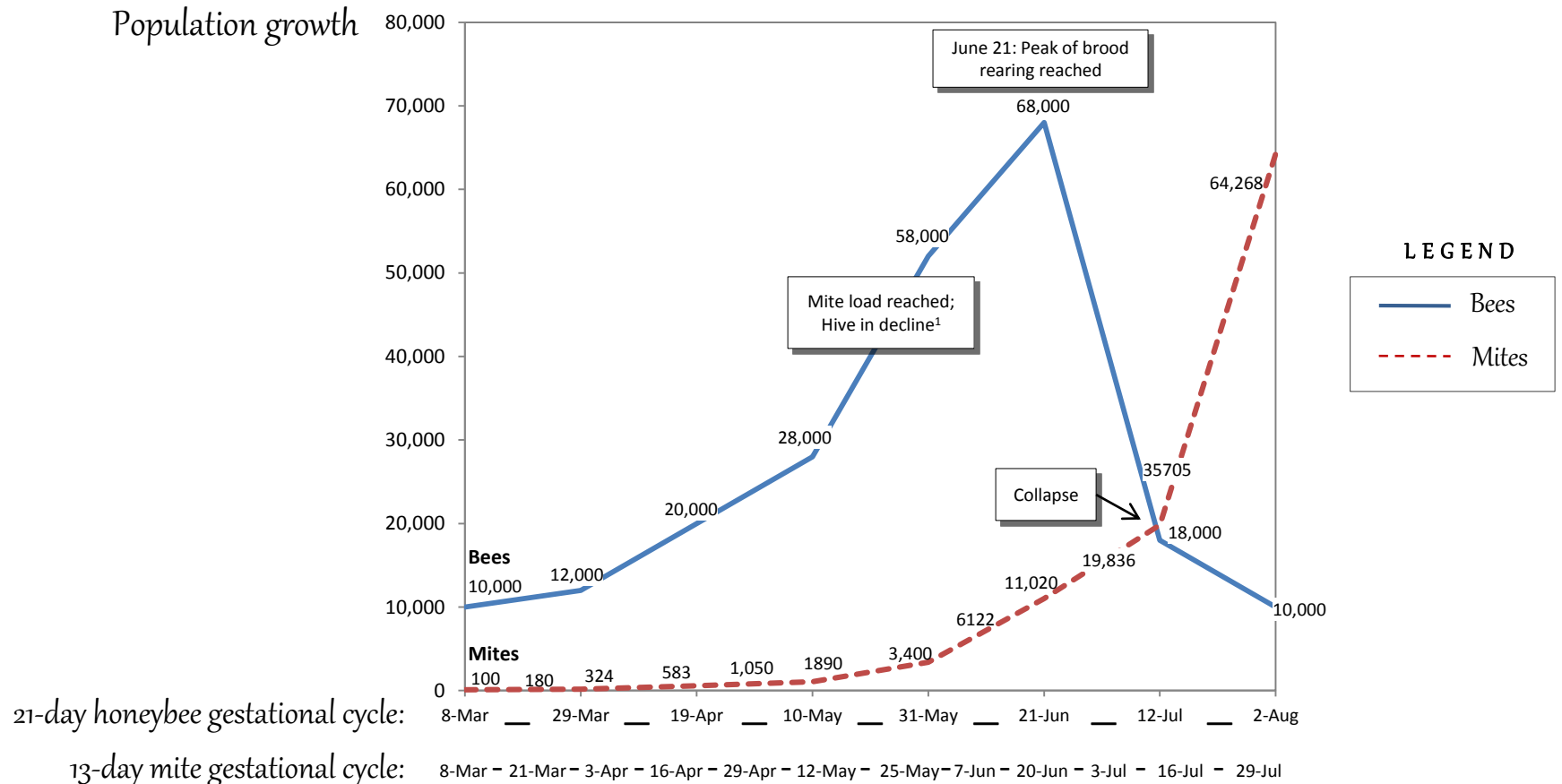
Step 3: 3,825 worker cells x 2 = 7,650 worker cells on both sides of one whole frame

Step 4: If 3,000-3,500 worker bees equals 1 lb, then one whole frame of worker brood roughly equals 2 lbs



MITE LOAD

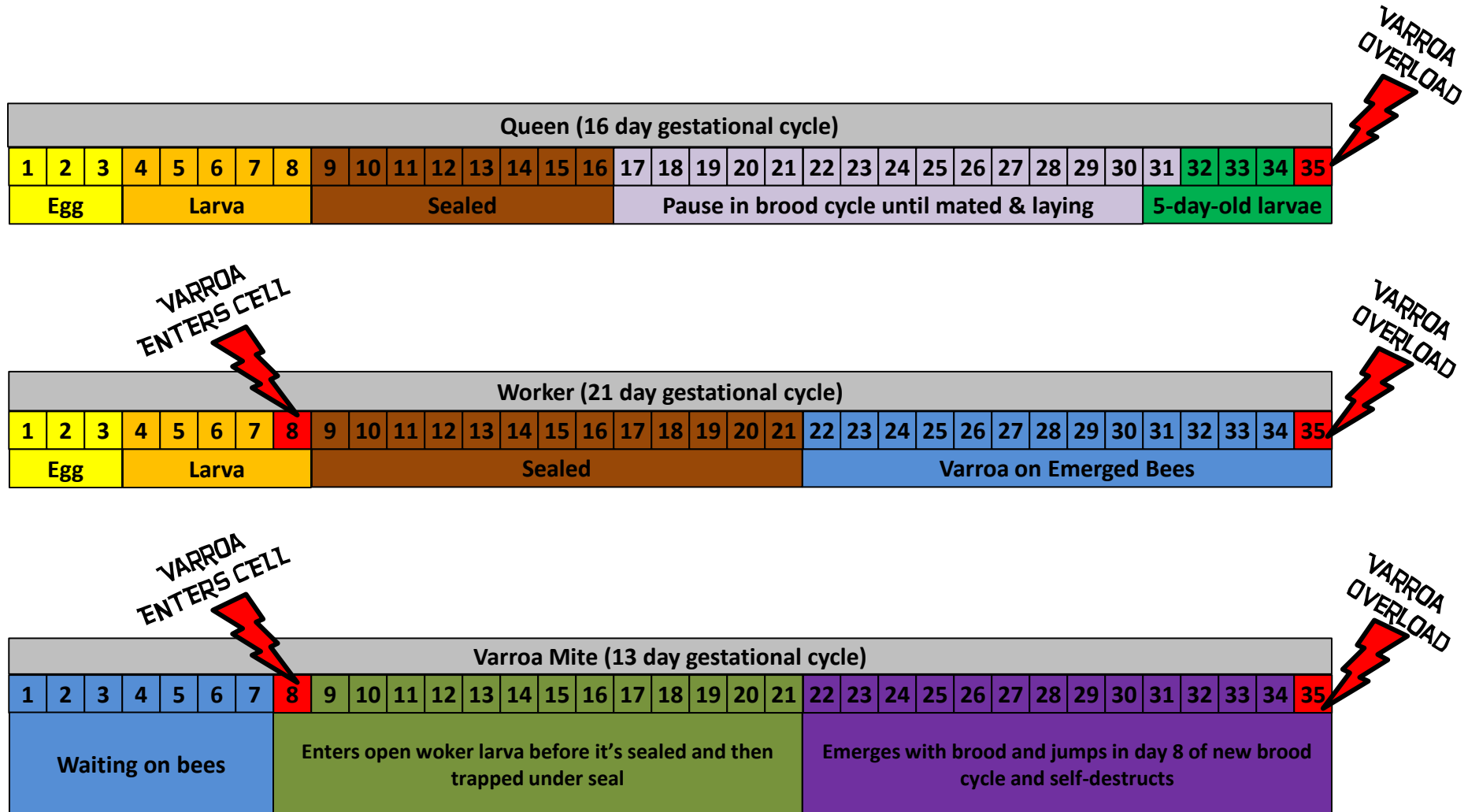
Honeybee Versus Mite Reproduction Starting With 100 Mites and 10,000 Bees on March 8th in Grand Rapids, MI (43rd Parallel)



¹ The mite load of a honeybee colony in the USA is 3200 mites (*Mites of the Honey Bee*, Dadant & Sons Inc. 2001, page 234)

HONEYBEE VS. VARROA BREEDING CYCLES

Fertile Varroa Mites Enter Cells on Day 8 of Worker Brood Cycle

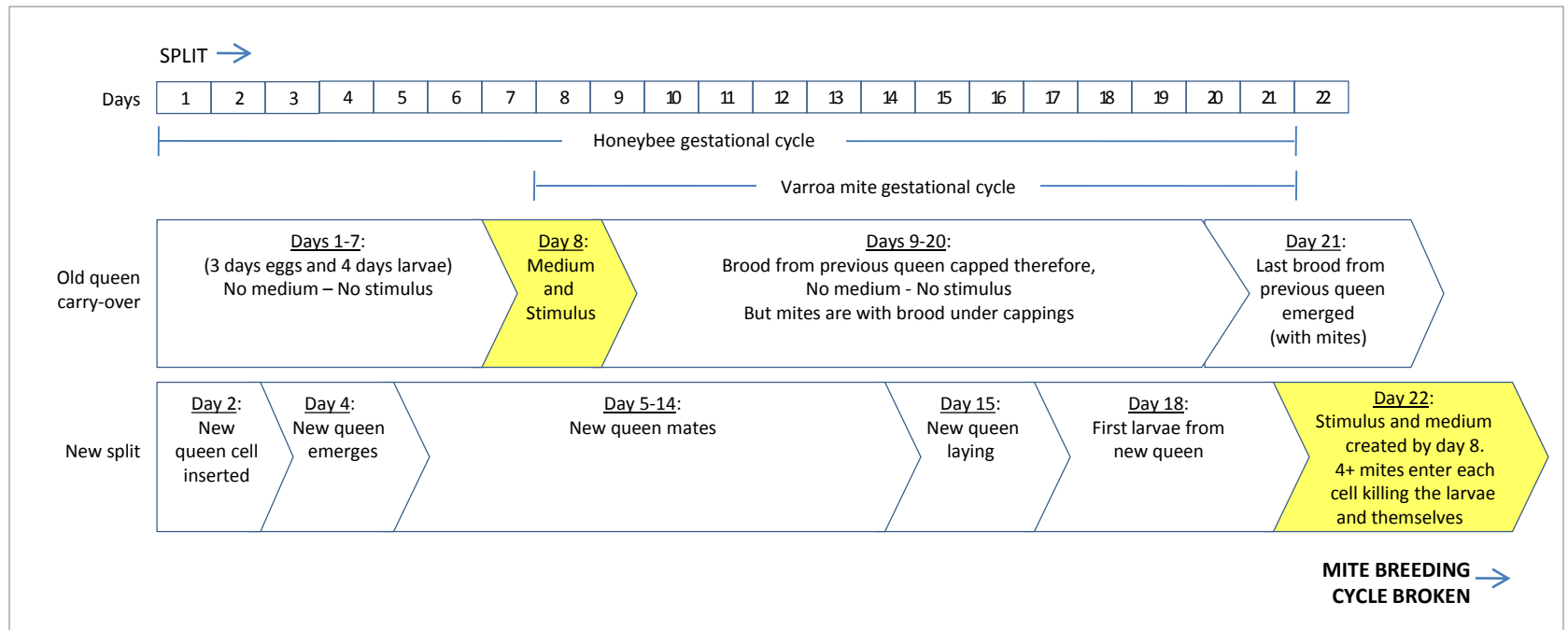


Note: Varroa also enters drone brood on day 8 of its 24-day gestational cycle. The drone gestational cycle is not included in this chart as worker brood is the primary focus when making starts

UNLOADING THE MITE

Making Starts Breaks The Normal Breeding Cycle Of The Mite By Interrupting Both The Medium And The Stimulus

A fertile mite must have a *medium* to lay her eggs and a *stimulus* to start reproducing. The medium and stimulus are always on the 5th day of the larvae, day 8, one day before capping the cell



OTS

The Ultimate, Chemical-Free Miticide



OTS

Scan Brood Frames For 36-Hour-Or-Younger Larvae To Notch



OTS

A Perfect Frame To Notch





OTS

*Notch Clean To The Foundation By Pulling Down The Bottom 1/3 Of The Cells
Without Touching The Larvae*



*Queen rearing: Mel Disselkoen method
notching & removing of the lower cell wall
© J. Schmidt photo*

OTS

Large Larvae Indicates Older Than 36 Hours







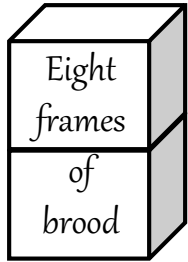
QUEEN CELLS ON PARTIALLY-DRAWN COMB



MEL'S APPROACH = OTS + DOOLITTLE'S APPROACH

Spring

Original hive

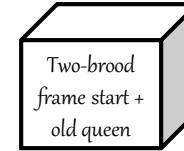


Artificial Swarm

Move two miles

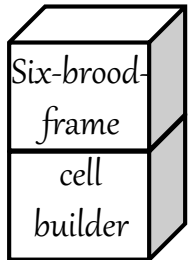
Old queen + two frames of brood

Replacement Bees



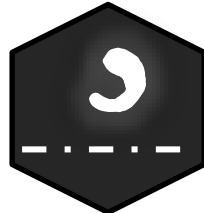
Bees stay put to seal brood

Cell Builder

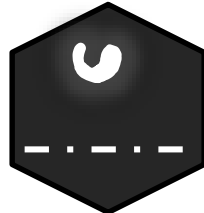


Notch

Frame 1



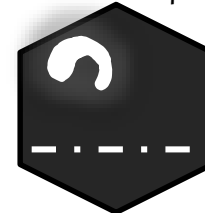
Frame 2



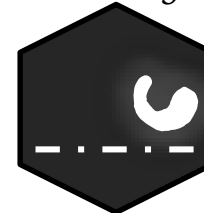
Frame 3



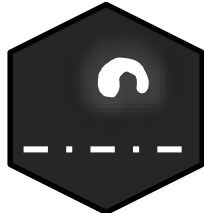
Frame 4



Frame 5



Frame 6

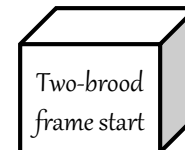
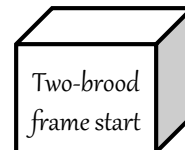
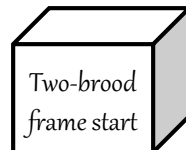


Artificial Supersedure

One week later

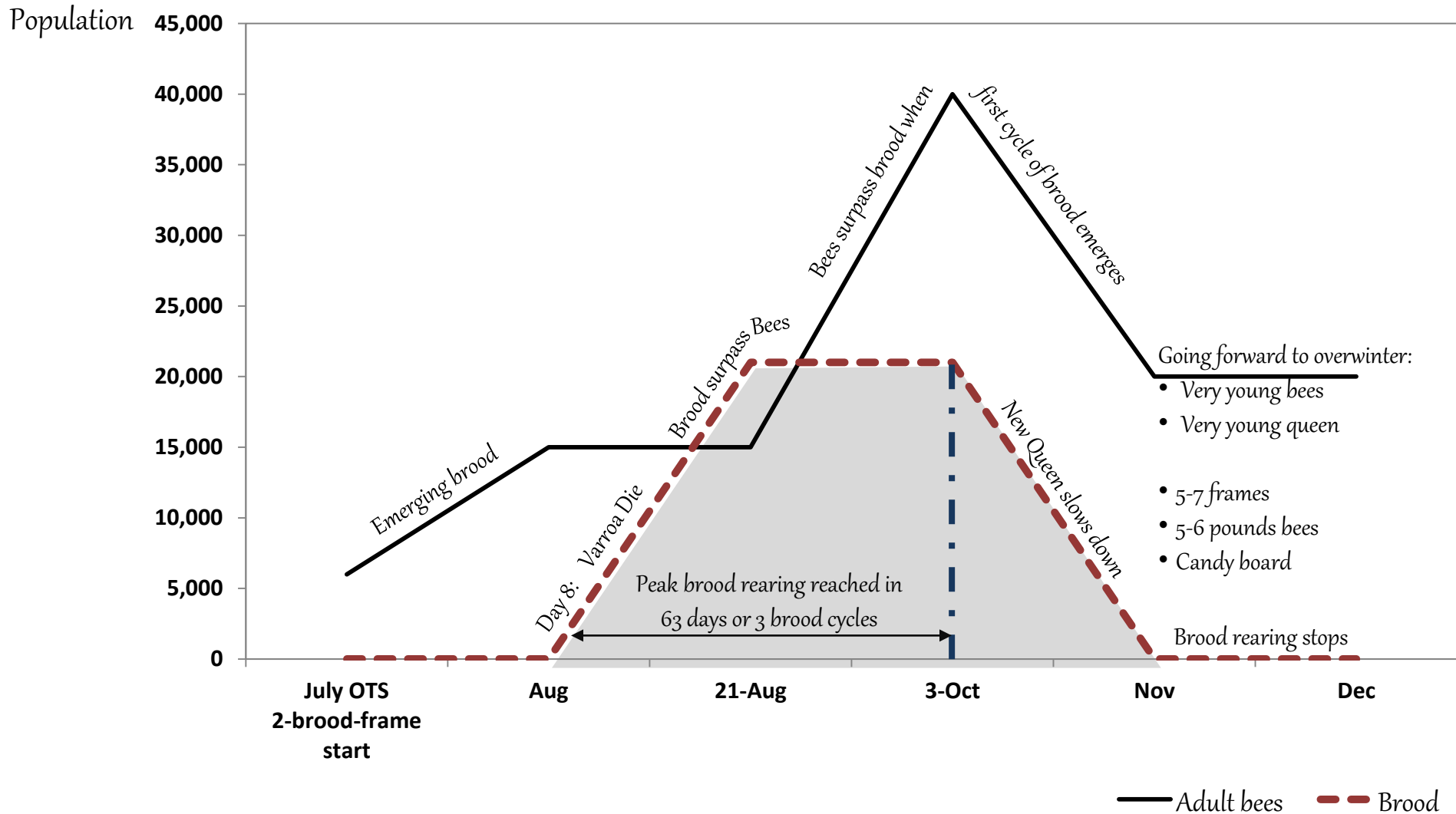
Same yard

- ✓ Queen cell raised
- ✓ Brood sealed
- ✓ No stress



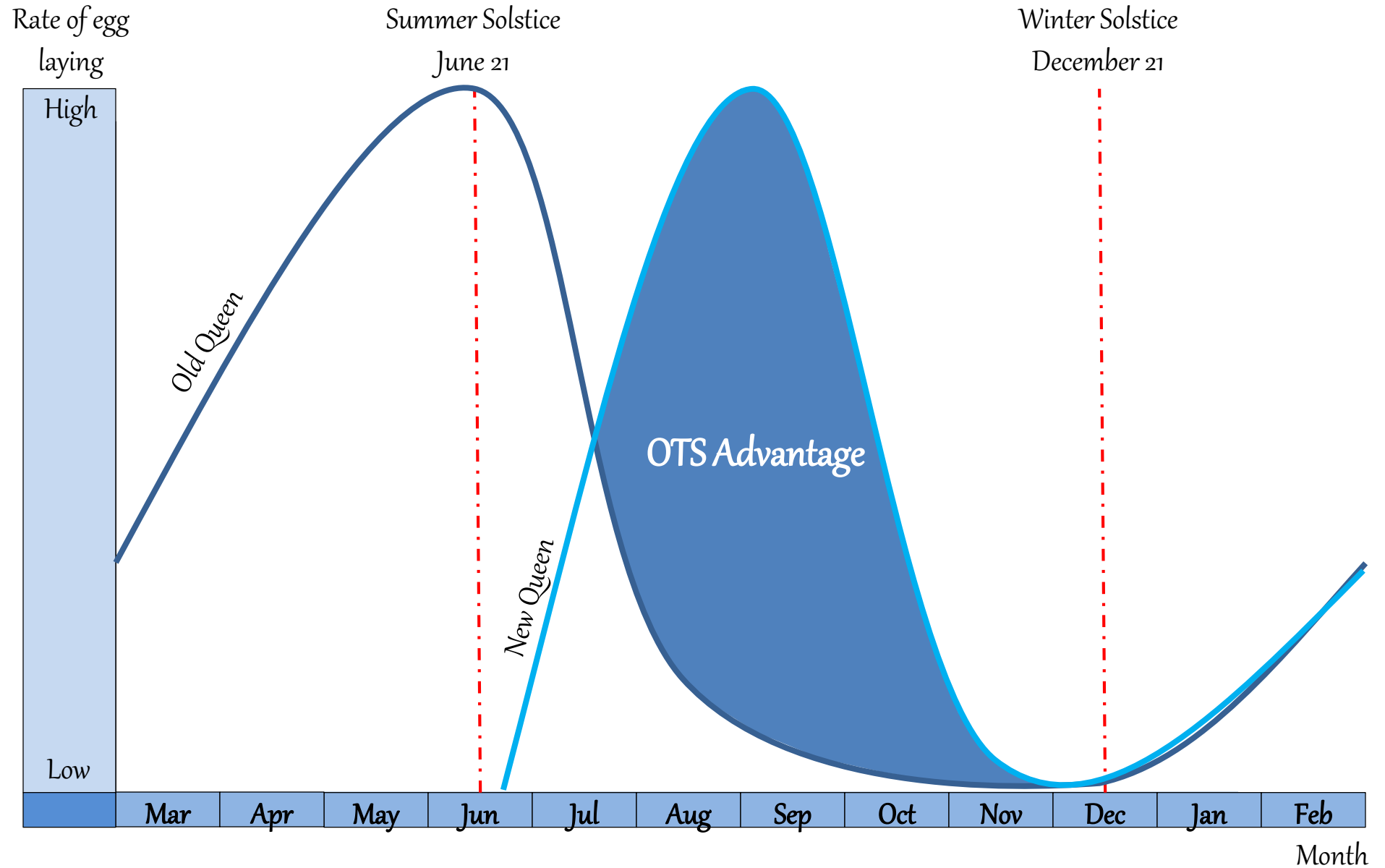
POPULATION DYNAMICS OF A JULY START ARE VERY DIFFERENT THAN A TRADITIONAL HIVE

Reaches 63,000 Bees With Queen Laying Minimum Of 1,000 Eggs/Day



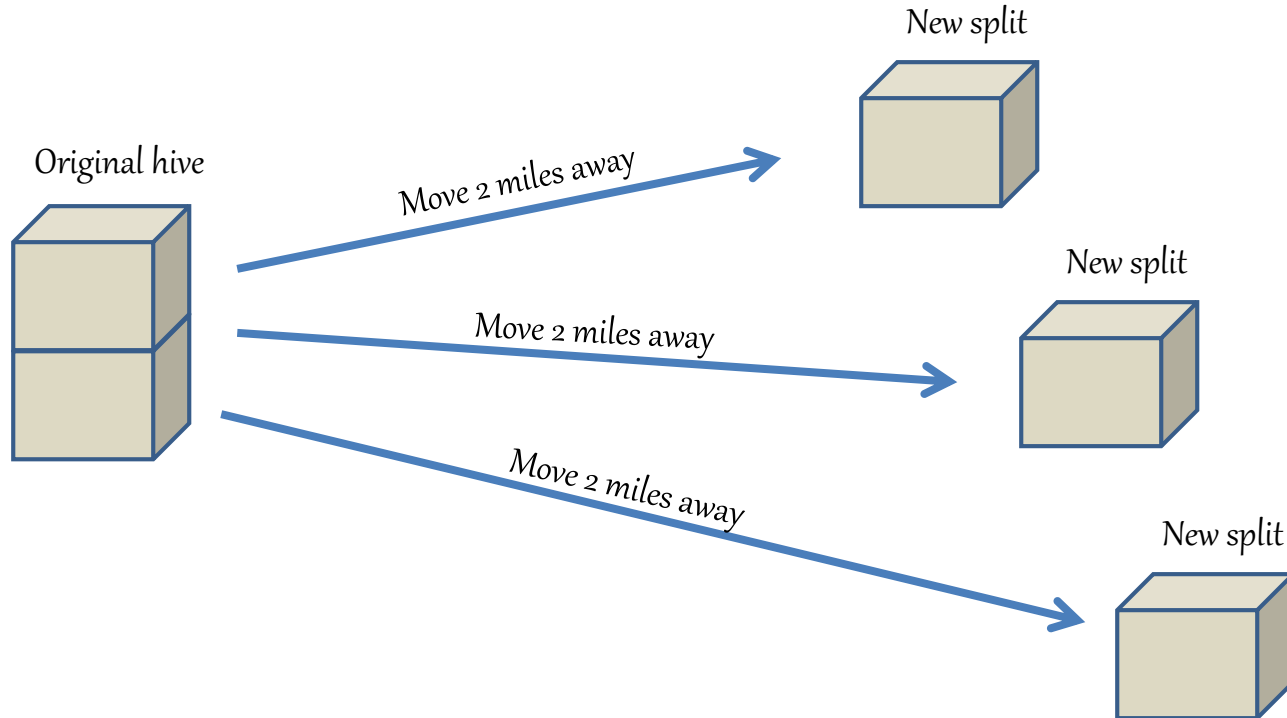
POST-SOLSTICE EGG LAYING

Old Queens Slow Down Whereas New Queens Increase Beyond Summer Solstice



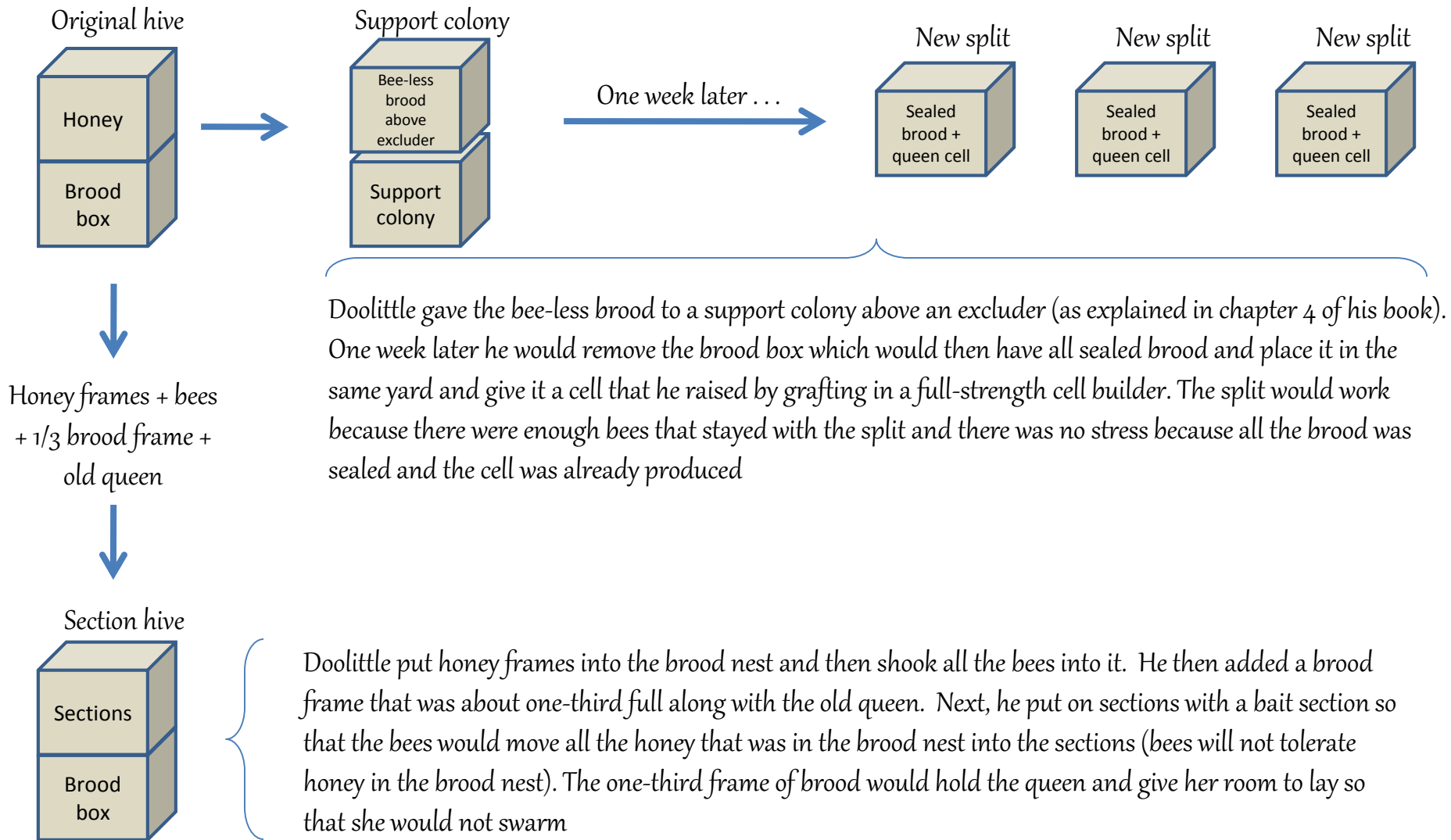
CONTEMPORARY METHOD OF SPLITTING

To make each split: Take two brood frames plus one frame of honey and give them two shakes of bees off brood combs along with old queen and then move two miles away. On queen-less splits, move two miles away and then give a cell or caged queen



You need to move these starts two miles away so that the bees stay put because there is a lot of stress on that start to seal the unsealed brood. By giving a cell or queen you have relieved that two-frame split from having to raise a queen which they would not be able to do with quality

DOOLITTLE'S APPROACH TO MAKING SPLITS

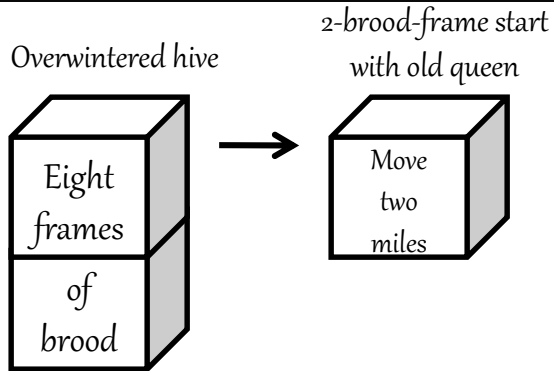


MEL'S MODULE

Healthy, Rapid, Population Expansion In 3 Easy Steps: Sealed Brood, Same Yard, Successful Queens

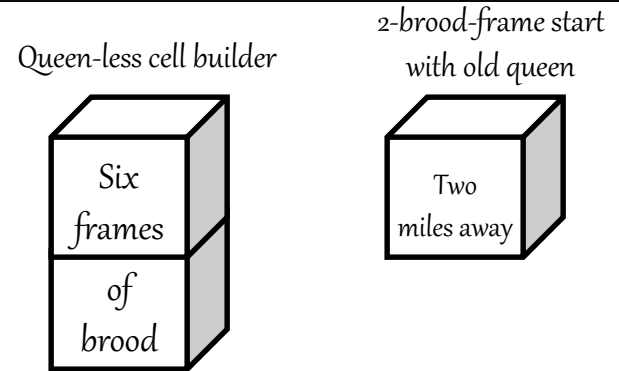
Step 1

Remove overwintered queen with 2 brood frames
(to serve as future increase)



Step 2

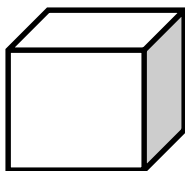
Notch 36-hour-or-younger larvae on six different frames
in queen-less cell builder



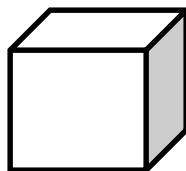
Step 3

One week later, check cell builder for sealed queen cells on notched frames and make 2-brood-frame starts utilizing queen-celled frames. Destroy excess queen cells to prevent mini-swarms

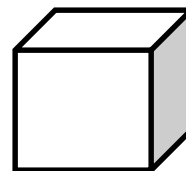
2-brood-frame start with sealed queen cell



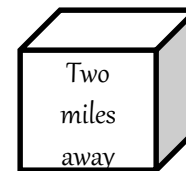
2-brood-frame start with sealed queen cell



2-brood-frame start with sealed queen cell



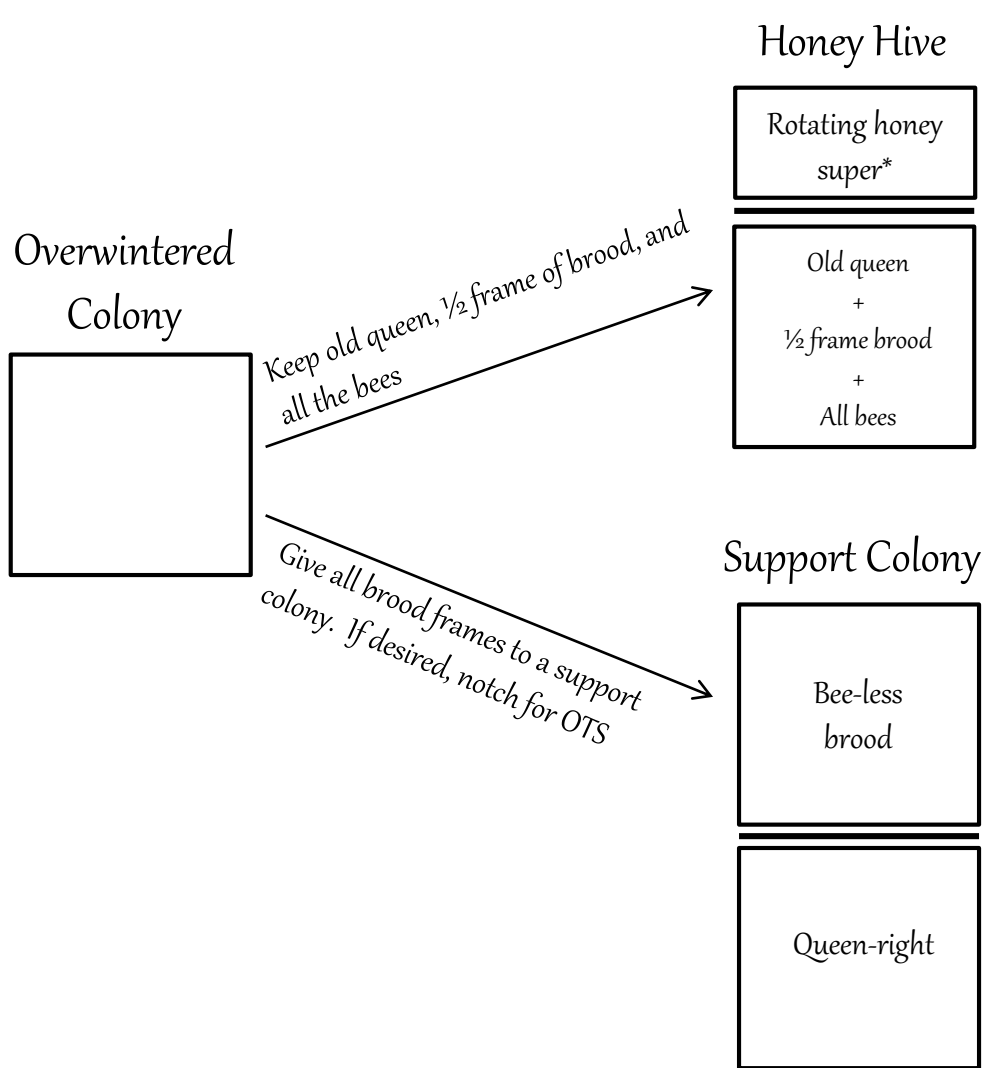
2-brood-frame start with old queen





BABYDOLL SPECIALTY HONEY (1)

Capture Local Honeyflows Using One Or Two Deeps: Lightweight, Less Dust, Selective, Easy, SHB Preventive



DOOLITTLE'S WAY (as illustrated)

Leave 1/2 frame of brood on original location with the old queen in one deep with a rotating honey super above the queen excluder. Then shake all the bees in front of this hive making an artificial swarm right during the selected honey flow. Doolittle taught me that bees can take care of more than twice as much brood as what they have, so you can give the bee-less brood to queen-right support colonies above an excluder. And I have discovered that you can notch some of these brood combs on well-fed bees by using the OTS method and make splits one week later. After the selected flow is over (~10 days) you can remove all the honey frames from the honey hive and extract. You should have 20 plus pounds of honey from the selected 10-day honey flow that you can sell at premium prices (\$7-\$10/lb)

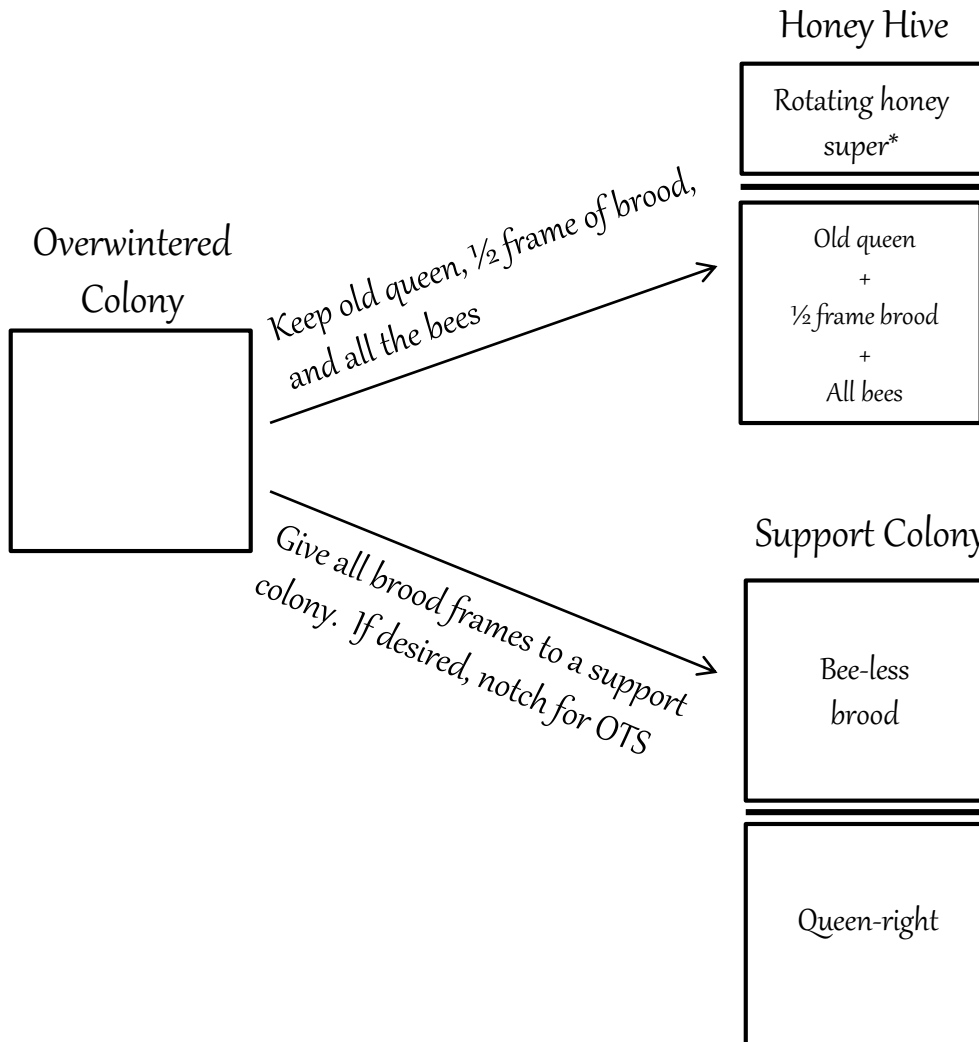
MEL'S WAY (another option)

Make a Mel's May start by removing the old queen and two frames of brood. Then only notch one frame in the original hive. One week later break down all queen cells but two and alternate the brood frames with foundation frames. In one month, harvest all the honey but one frame. Since the hive was brood-less for the whole month and not using the 100 pounds to produce brood you will have that plus around 15 new drawn out frames. You will still have the old queen to make starts after June 21

*Use one honey super at a time. Remove, extract, and replace each time it becomes full. This is more labor intensive but ensures a higher quality and less draw to SHB

BABYDOLL SPECIALTY HONEY (11)

Capture Local Honeyflows Using One Or Two Deeps: Lightweight, Less Dust, Selective, Easy, SHB Preventive



How to manage the support colony

The support colony can be managed in a few different ways:

- 1—For increase, you can notch the extra brood frames that you position above the queen excluder. One week later, check those frames for cells and make starts. If 4 out of the 8 brood frames have queen cells, you can make 4 starts and leave them in the same yard
- 2—You can run the support colony for honey production. In this case, don't notch. One week later, check and destroy any queen cells and then place new foundation between all of the brood frames (add another super to provide room for the extra frames)

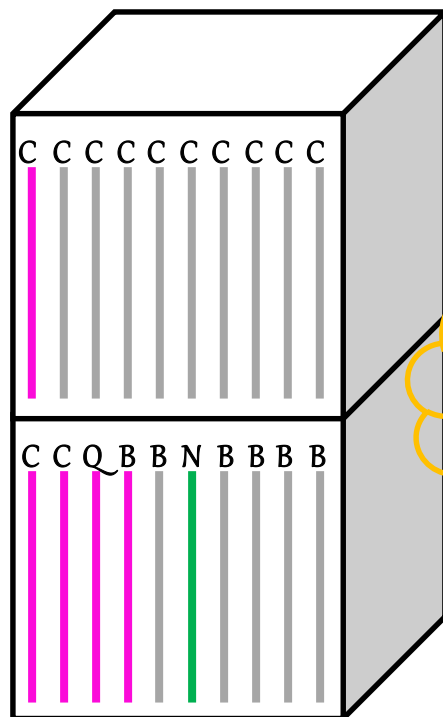
HOW TO MAKE THE MOST OUT OF YOUR HONEY FLOW

Don't Underestimate The Value Of Drawn Comb

Now Drawing Comb + Honey

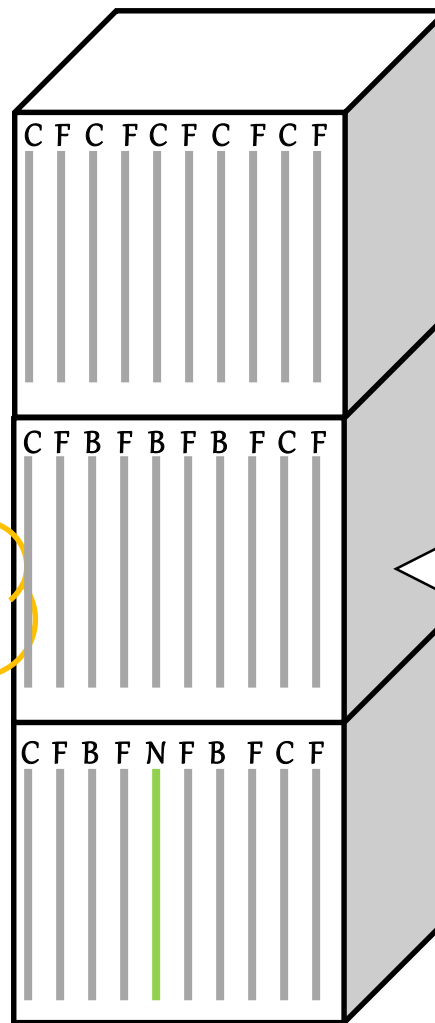
Legend
B: Brood
C: Comb
F: Foundation
N: Notched
Q: Queen

Overwintered hive with 20 drawn comb and 8 frames of brood 1 week before swarming starts in your area



Notch one comb

One week after notching, break down all queen cells except two



One week later, this is how the original hive is reassembled on the original location. (Note: the Queen cells are located on and count as a brood frame in this illustration)

Because bees have emerged in this past week and all the open brood is now sealed, the bees have extra capacity to draw comb to extend brood nest. Placing foundation between brood frames stimulates the bees to draw those combs in order to keep brood nest intact

Value of Drawn Comb

Original price of frame: ~\$1.50

Selling price: \$5-6

Profit: \$3-4 or \$45-60/hive (15 frames)

Value of Honey

Check hive in 35 days and because there are no brood to feed, the bees should store over 100 lbs of honey and you will have a newly-mated queen. If queen fails to mate, you still have the over-wintered queen as well as the surplus honey

Remove and move 2+ miles away the overwintered queen + 2 frames of brood + 3 extra frames (5 pink frames). Replace pink frames with foundation. This leaves the original hive with 15 drawn comb, 6 of which have brood. Notch one of these brood combs that has 36-hour-or-younger larvae (green frame in illustration)

THE SNELGROVE BOARD

*Invented By British Beekeeper L.E. Snelgrove In The 1940s To Mate Virgin Queens From A Parent Colony
In Different Supers*



OTS QUEEN REARING UTILIZING SNELGROVE BOARDS

*Especially Useful During Cold Spells So That Starts Can Share Heat;
Reduces Equipment Handling*



OTS QUEEN REARING IS A GENTLE ART



OTS QUEENS PACK POWER

A Solid Frame of Capped Brood Equals 2 lbs of Un-Emerged Bees



MARCH IN MICHIGAN



MARCH IN MICHIGAN







