

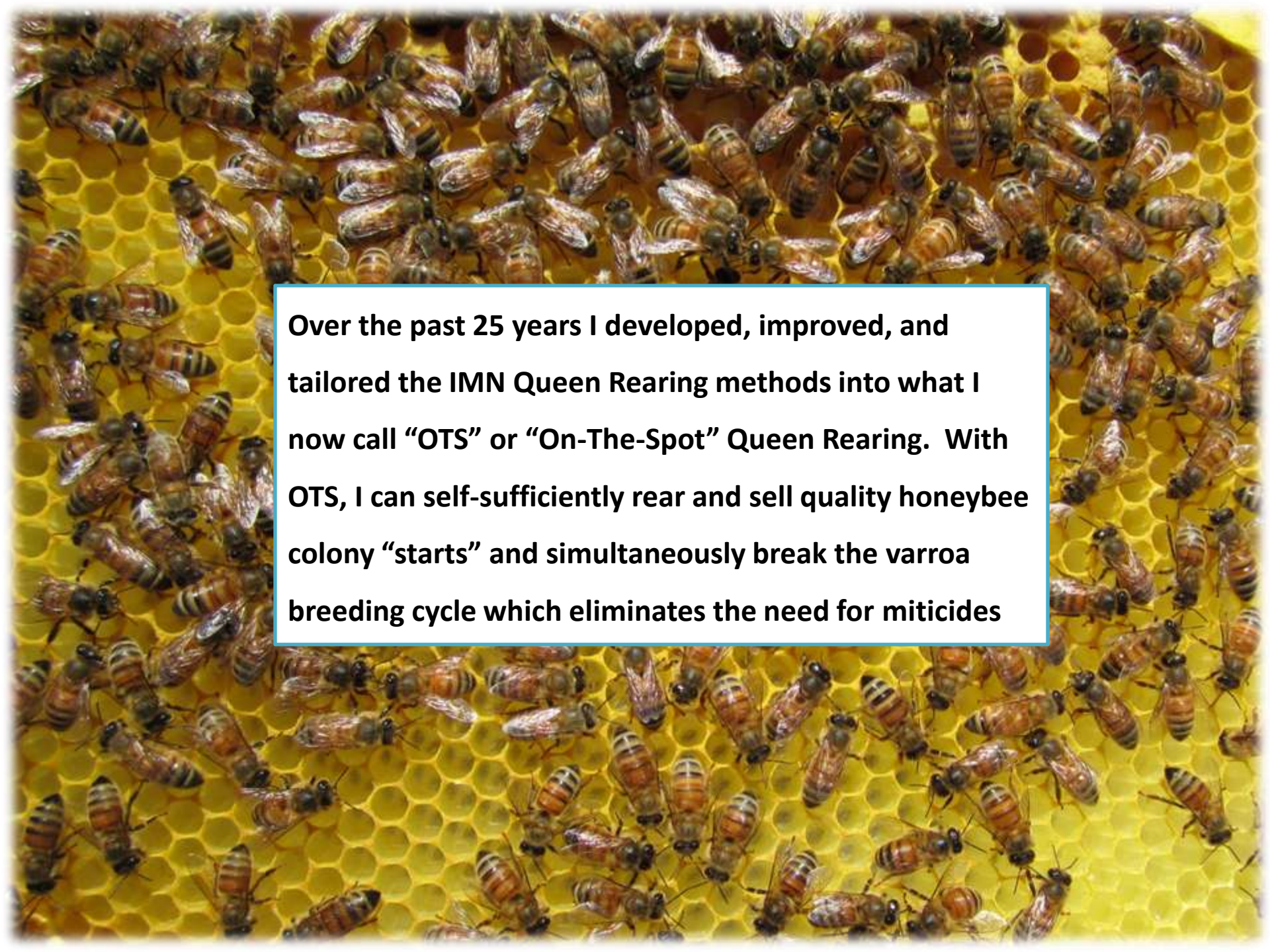
QUEEN REARING WITHOUT GRAFTING AND MITICIDE-FREE

Indiana Beekeepers Association Turkey Run Convention



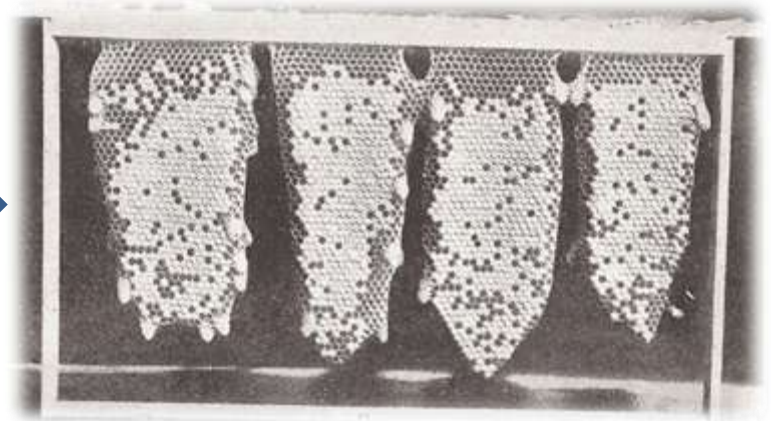
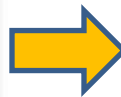
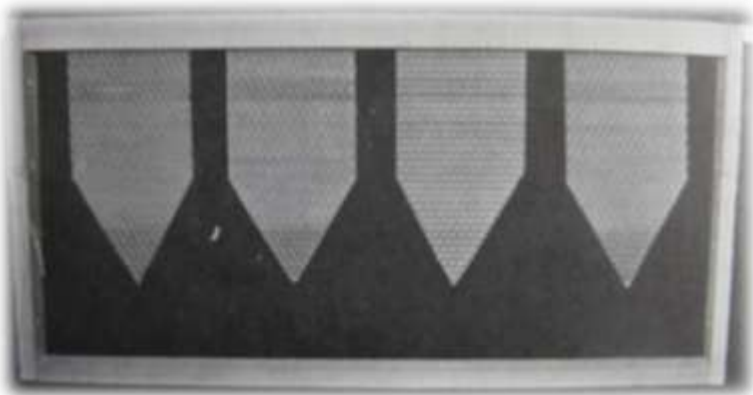
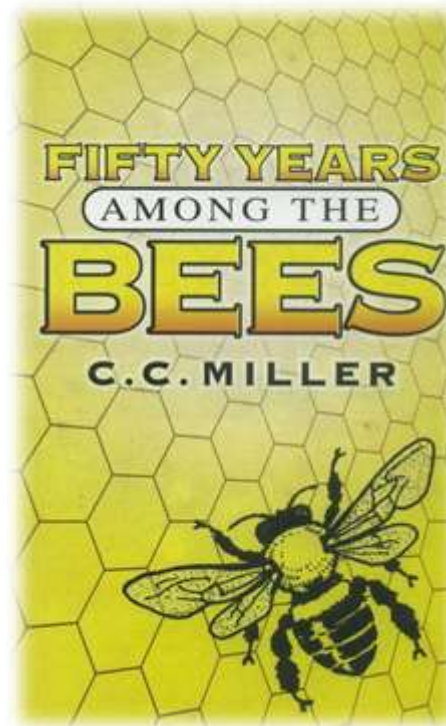
by Mel Disselkoen

Autumnal Equinox 2011

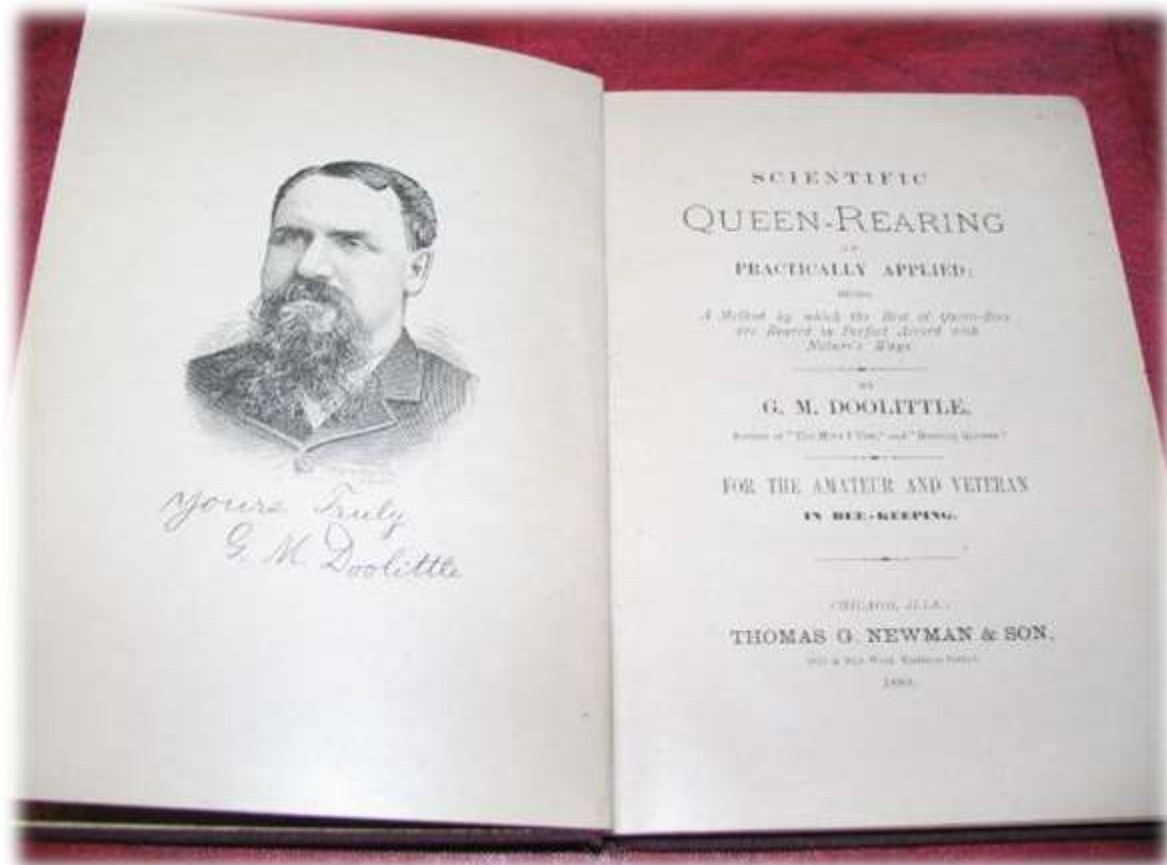


Over the past 25 years I developed, improved, and tailored the IMN Queen Rearing methods into what I now call “OTS” or “On-The-Spot” Queen Rearing. With OTS, I can self-sufficiently rear and sell quality honeybee colony “starts” and simultaneously break the varroa breeding cycle which eliminates the need for miticides

DR. C. C. MILLER



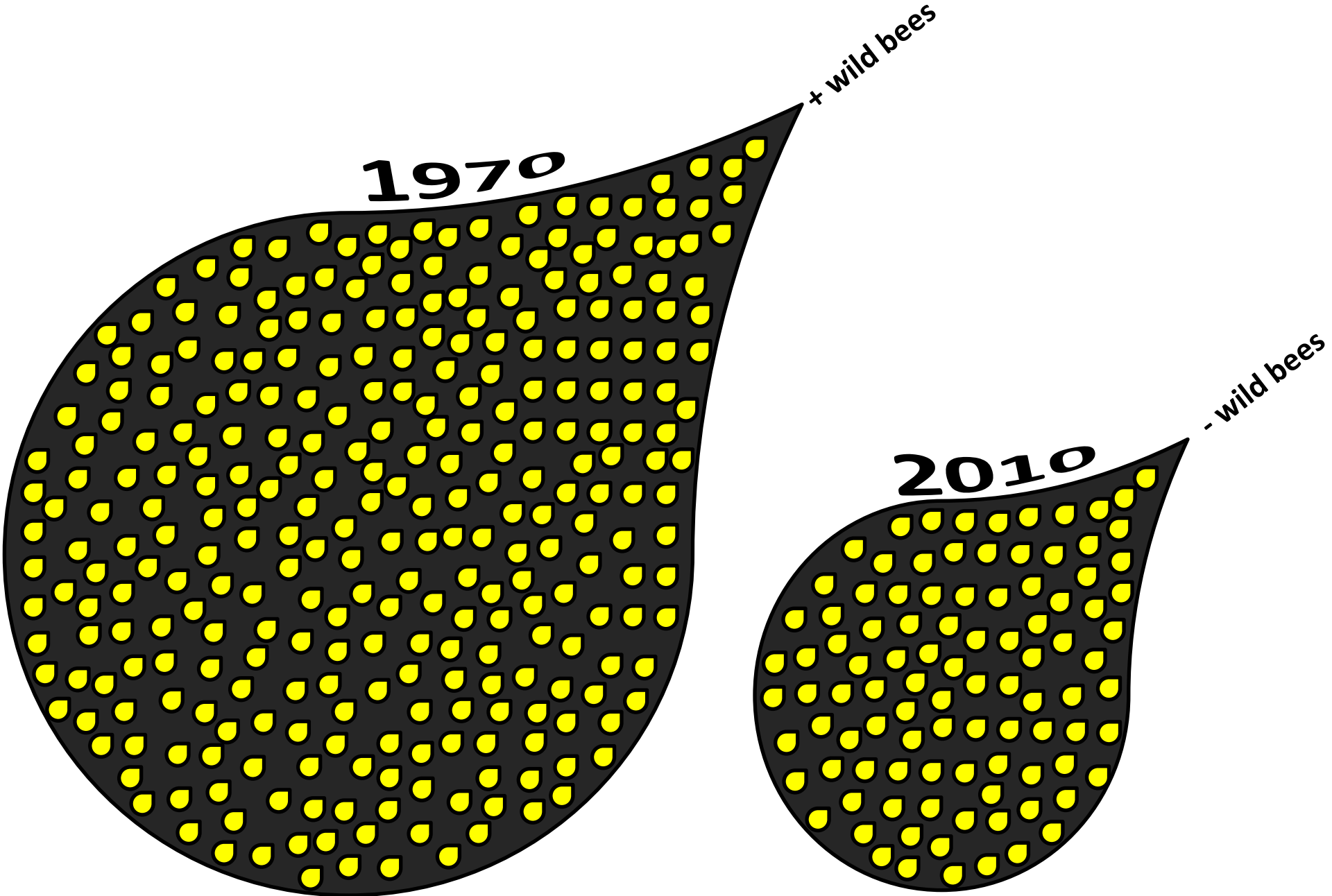
G.M. DOOLITTLE



WHY I UTILIZE OTS QUEEN REARING TO SELL BEE STOCK



QUEEN BREEDERS: GENE POOL HAS NARROWED SIGNIFICANTLY IN 40 YEARS

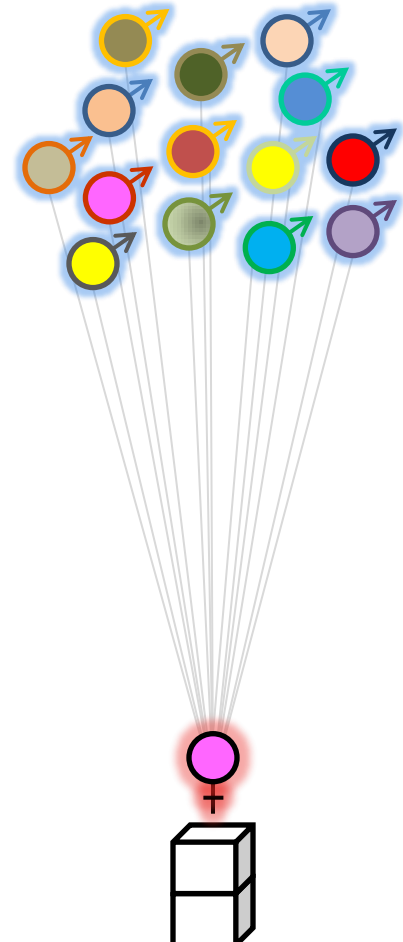
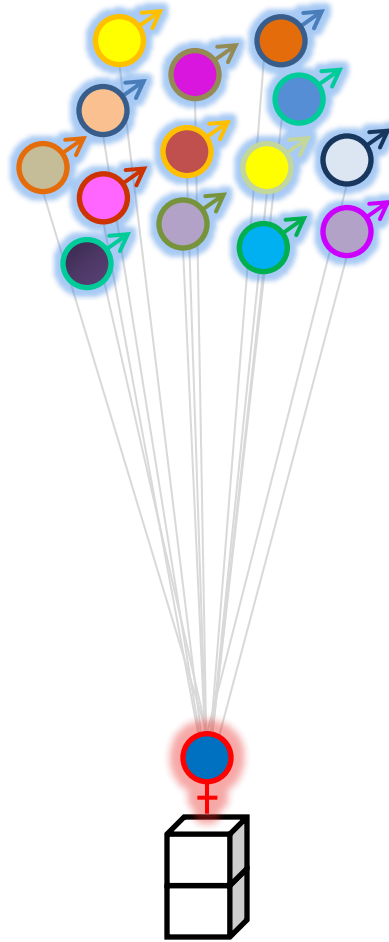
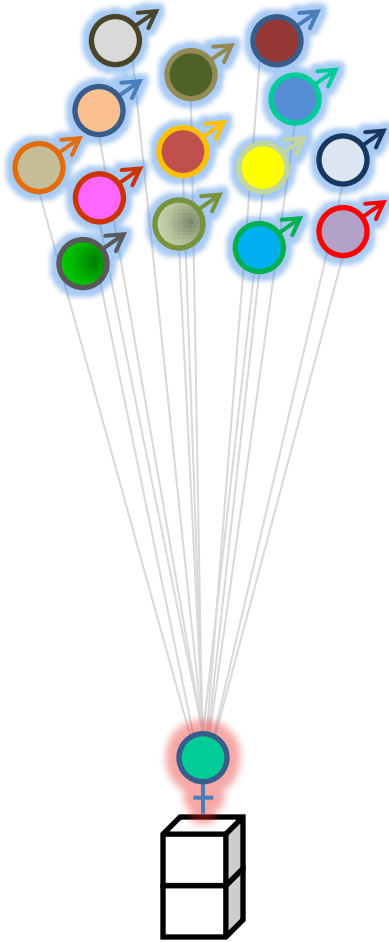
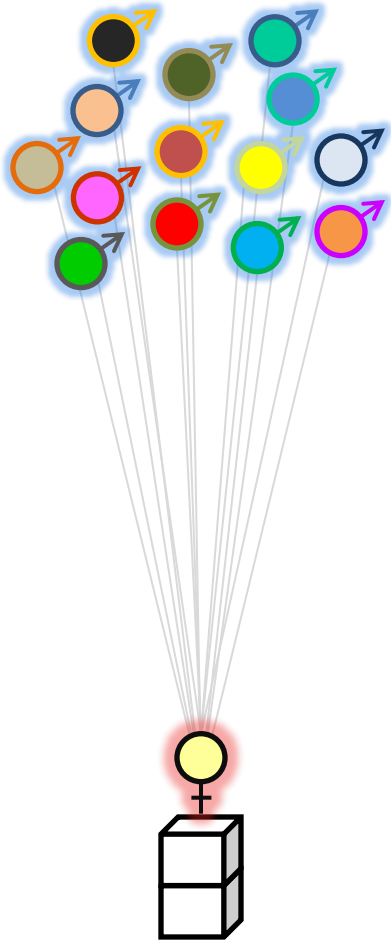


WHO'S YOUR DADDY?

There Are Fourteen Or Fifteen Fathers In Each Hive



THE ENORMITY OF THE OTS GENE POOL



FROM GRAFTING TO NOTCHING

Hands-On Wins Hands-Down

1973-1987



1980s-PRESENT



HONEYBEE GESTATION CYCLE: JULY-AUGUST 2011 (EXAMPLE)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1. Egg laid	2.
3. Egg hatches into larva	4. Open larva	5. Open larva NOTCH larvae	6. Open larva Bees build Queen Cells	7. Open larva Bees build Queen Cells	8. All cells are sealed including Queen Cell Fertile mite enters cell just before sealing	9.
10.	11.	12. <u>Make Starts</u> : You have 3 days to do this as virgin emerges on day 16			15.	16. Virgin emerges
17.	18.	19.	20.	21. All worker brood now emerges	22.	23.
24. All brood, including drones, have emerged	25.	26.	27.	28.	29.	30. Queen Mated (~14 days after emergence)
31. All brood, including drones, have emerged	1.	2.	3.	4.	5.	6.
7. Day 38: All fertile varroa mites enter day 8 of new queen's brood, killing the larvae and themselves	8.	9.	10.	11.	12.	13.

HONEYBEE GESTATION CYCLE: POINTS TO REMEMBER

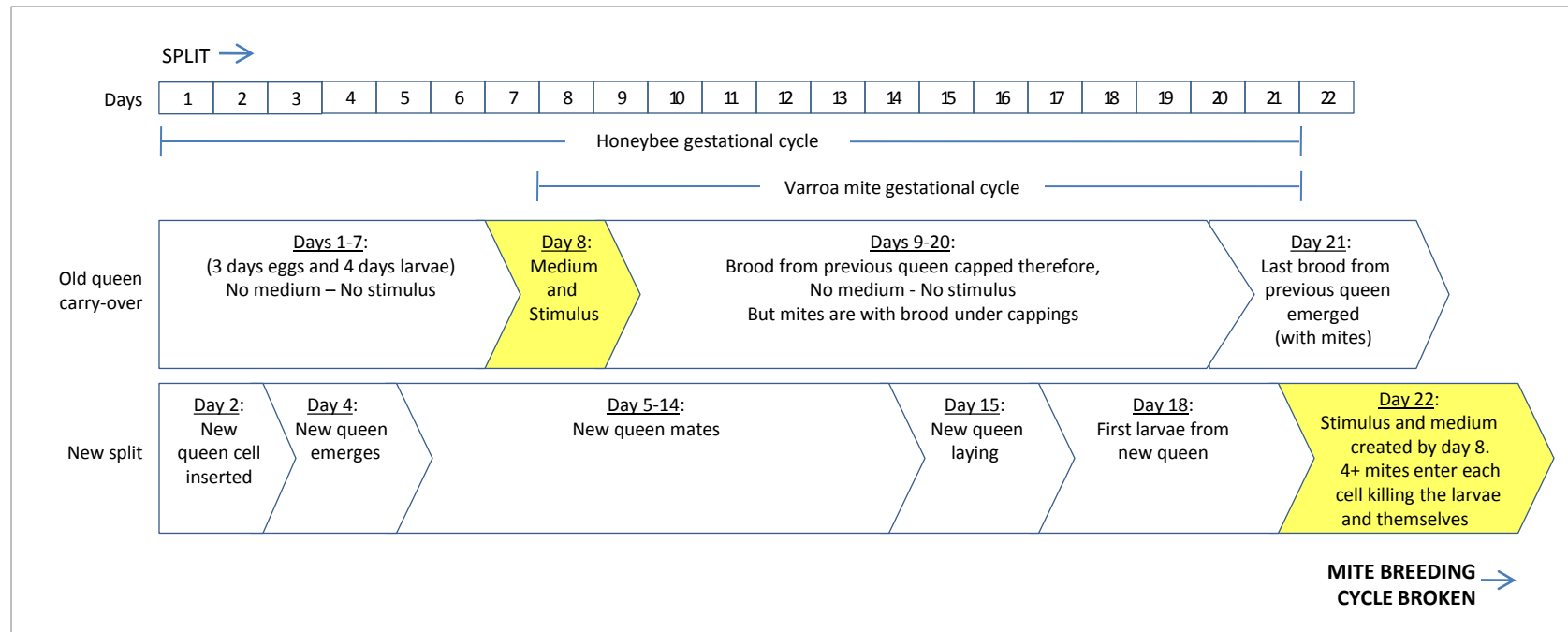
- It is possible for the bees to still raise queens 5 days after notching so allow another week for new queen to start laying
- The 2-brood-frame starts should have 3 solid frames of honey on day 38
- A 1-frame notched honey hive should have close to 100 pounds of honey on day 38

Gestation Summary

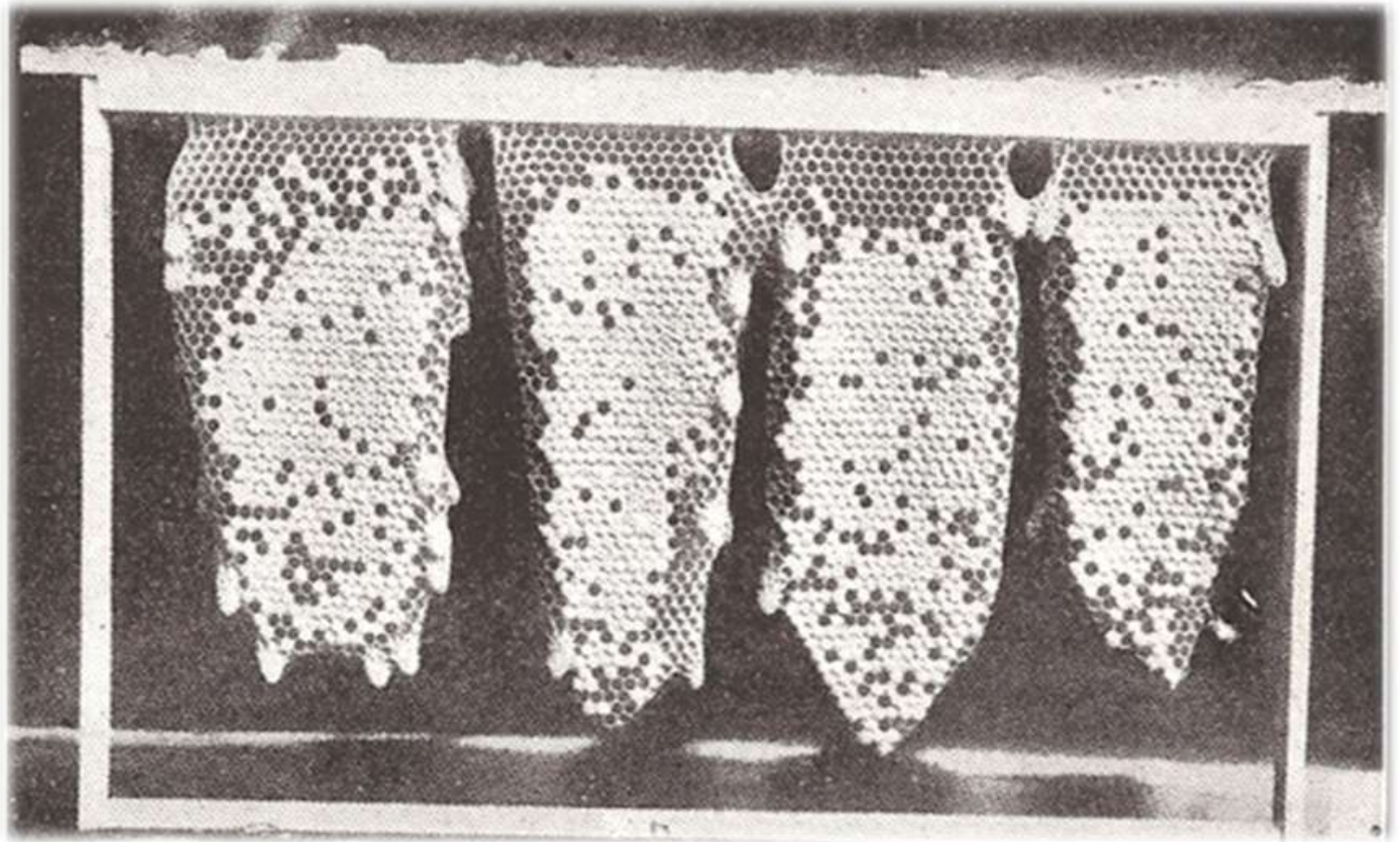
- Worker: 21 days
 - Queen: 16 days
 - All eggs hatch on the 3rd day
 - All larvae is sealed on the 8th day
- } = 5 days of open larvae

UNLOADING THE MITE: MAKING STARTS BREAKS THE NORMAL BREEDING CYCLE OF THE MITE BY INTERRUPTING BOTH THE MEDIUM AND THE STIMULUS

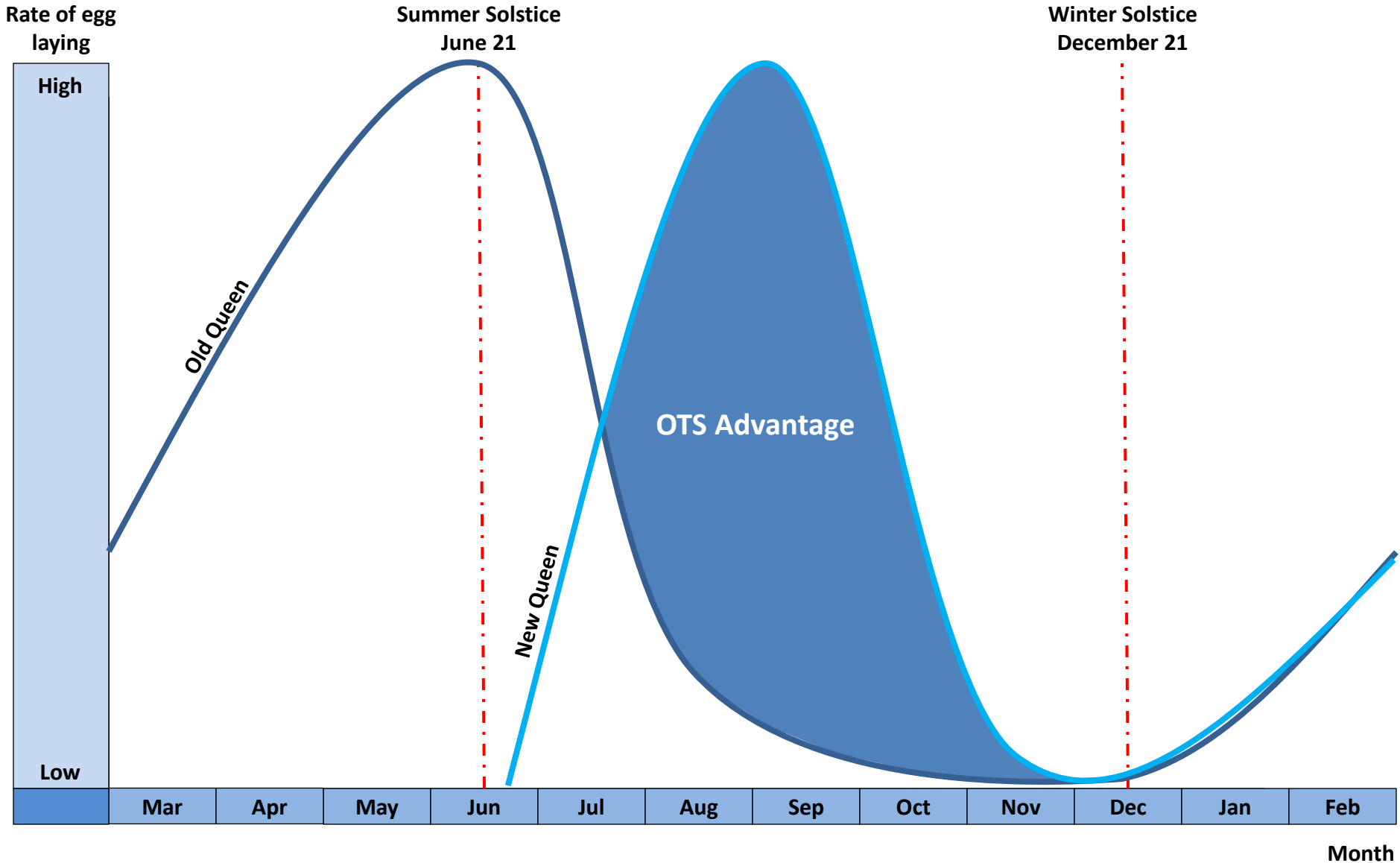
A fertile mite must have a *medium* to lay her eggs and a *stimulus* to start reproducing. The medium and stimulus are always on the 5th day of the larvae, day 8, one day before capping the cell



DR. C. C. MILLER: “Give them larvae of all ages from which to select, and they always choose that which is two days old, or younger I have never known bees to start a cell after the larvae were too old.”

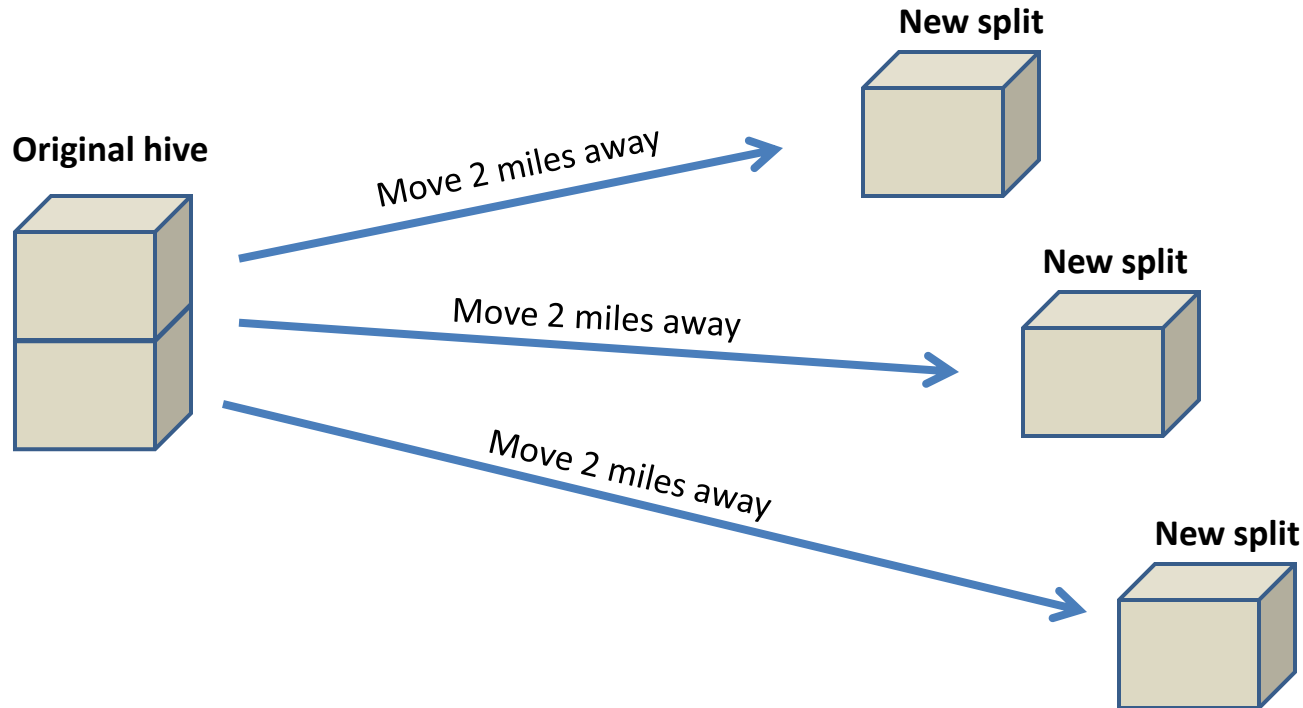


POST-SOLSTICE EGG LAYING: OLD QUEENS SHUT DOWN BUT NEW QUEENS MAINTAIN PEAK BEYOND SUMMER SOLSTICE



CONTEMPORARY METHOD OF SPLITTING

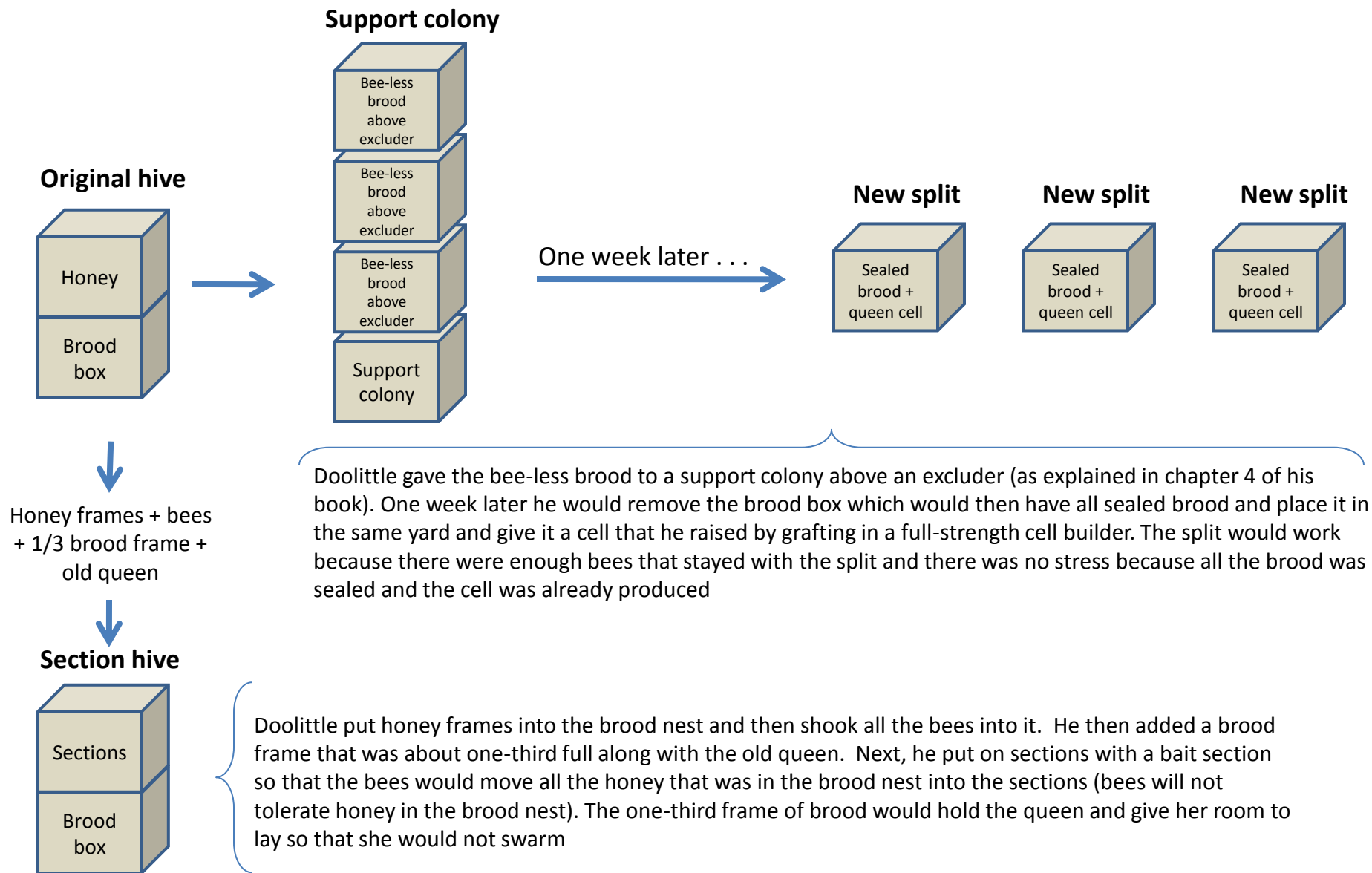
To make each split: Take two brood frames plus one frame of honey and give them two shakes of bees off brood combs along with old queen and then move two miles away. On queen-less splits, move two miles away and then give a cell or caged queen



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 100 YEARS AGO

"Bees Can Take Care of Twice the Amount of Brood That They Have"

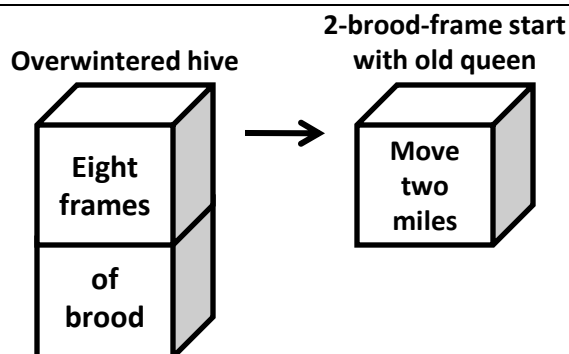


MEL'S MODULE: HEALTHY, RAPID, POPULATION EXPANSION IN 3 EASY STEPS

Sealed Brood, Same Yard, Successful Queens

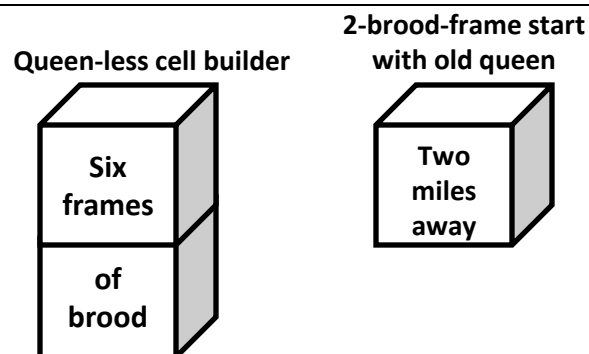
Step 1

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



Step 2

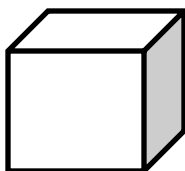
Notch 36-hour-or-younger larvae on six different frames
in queen-less cell builder



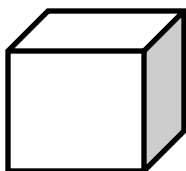
Step 3

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

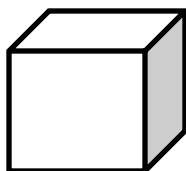
2-brood-frame
start with sealed
queen cell



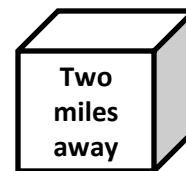
2-brood-frame
start with sealed
queen cell



2-brood-frame
start with sealed
queen cell

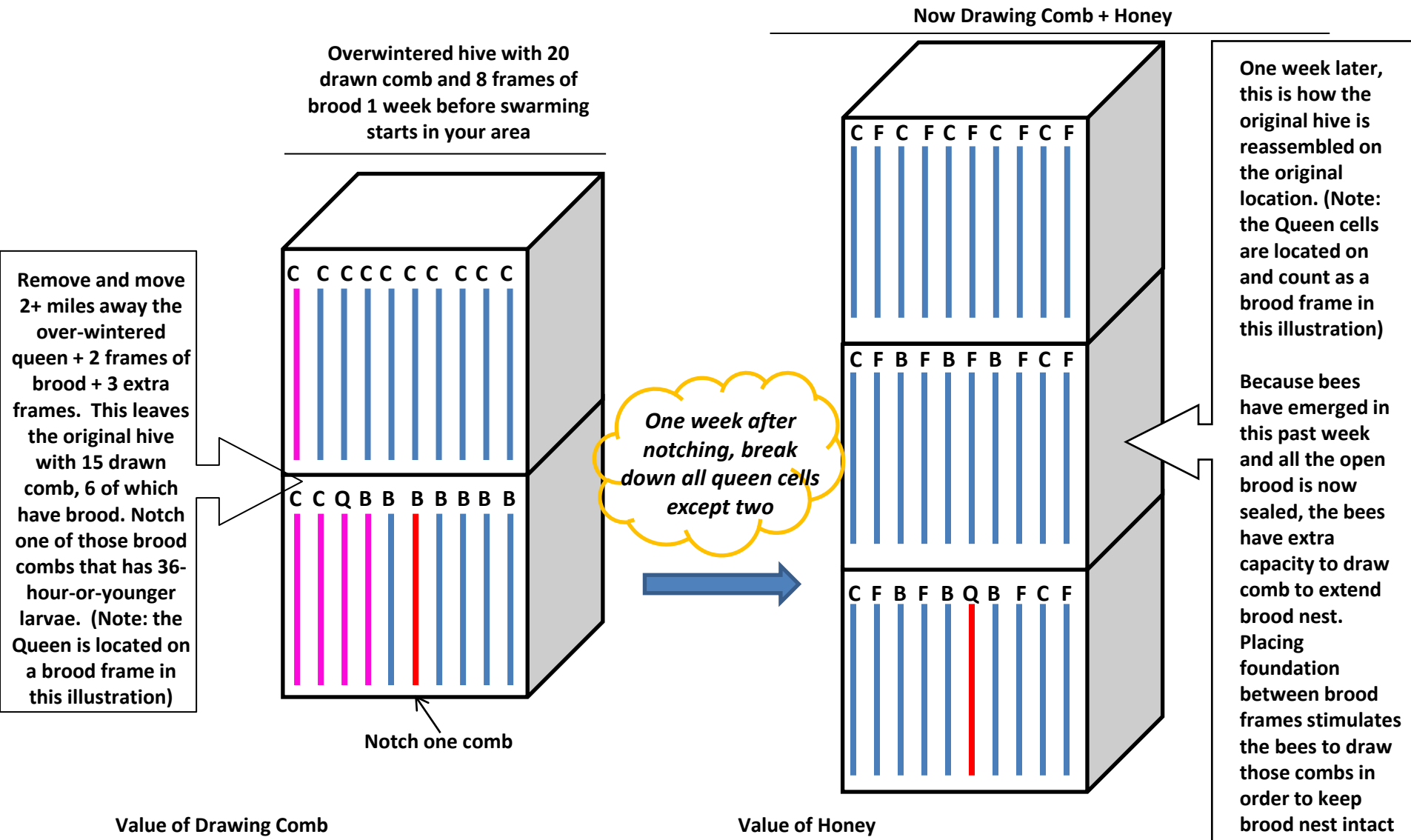


2-brood-frame start
with old queen



HOW TO MAKE THE MOST OUT OF YOUR HONEY FLOW

Don't Underestimate the Value of Drawn Comb



Original price of frame: ~\$1.50

Selling price: \$5-6

Profit: \$3-4 or \$24-32/hive

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

EXAMPLES OF YOUNG LARVAE (MARKED IN RED)



AN EXAMPLE OF LARVAE THAT ARE TOO OLD



ROYAL JELLY IS A GOOD CLUE THAT THE LARVAE ARE VERY YOUNG



SPRING 2011: ENTERING THE HIVES FOR THE FIRST TIME



SPRING 2011: ENTERING THE HIVES FOR THE FIRST TIME





**OTS BIOLOGICALLY DESTROYS VARROA MITES LIKE THE ONE SEEN
HERE BY STARVING NEW MITES WITHIN THEIR BREEDING CYCLE**





**OVERWINTERED, SPRING QUEENS ARE MORE THAN WORTH
THEIR WEIGHT IN GOLD**



REMOVING OVERWINTERED QUEENS WITH 2 FRAMES OF BROOD AND 2 SHAKES OF BEES



NOTCHING 36-HOUR-OR-YOUNGER LARVAE TO START CELLBUILDER OF QUEEN CELLS TO MAKE STARTS THE NEXT WEEK



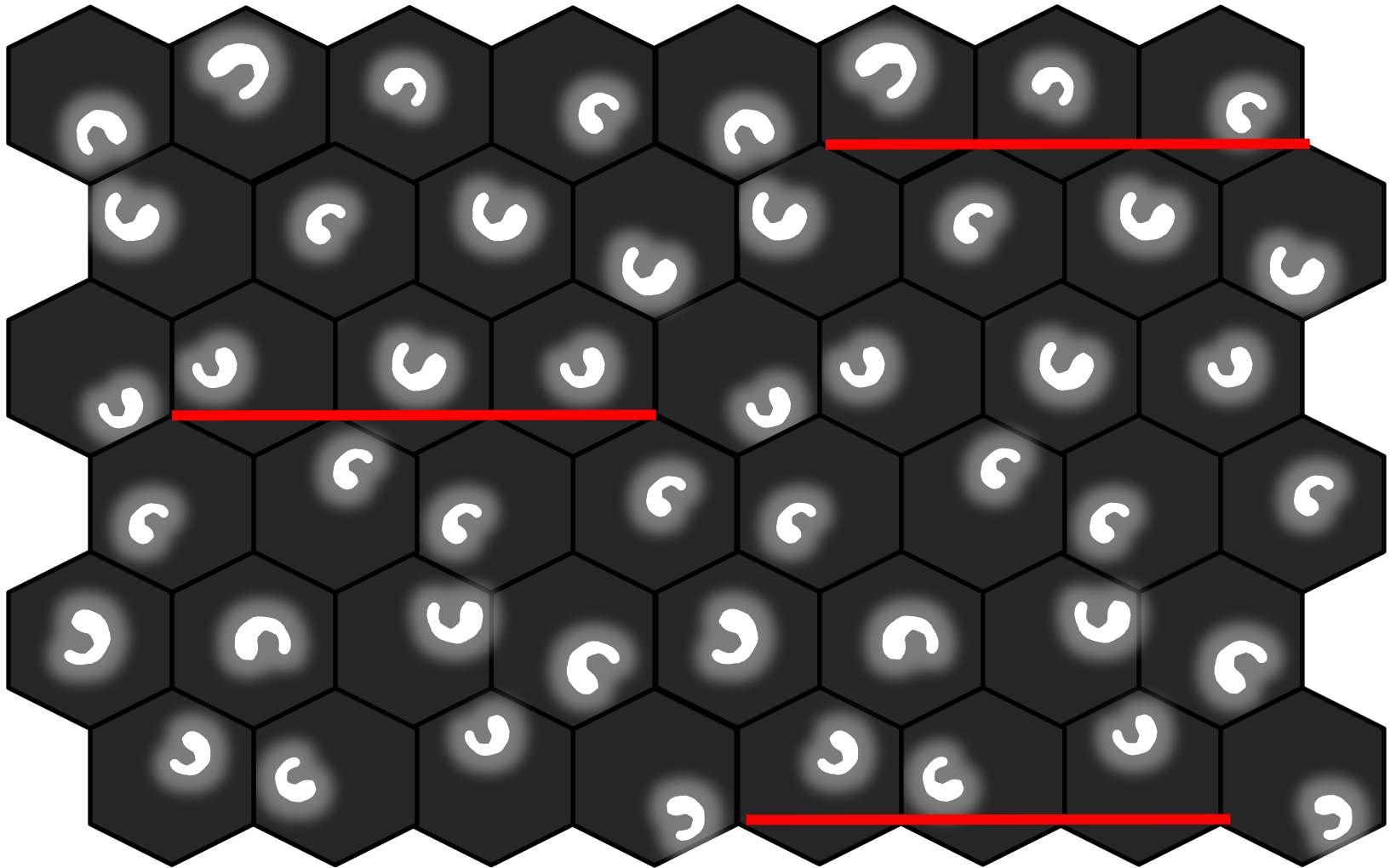
SEVEN DAYS LATER: SEALED QUEEN CELLS



QUEENS ARE MOVED OVER 2 MILES AWAY. BEES ARE LEFT TO RE-ORIENTATE BEFORE TRANSFERRING TO NEW EQUIPMENT



**OTS: CHOOSE ONE OR MORE 36-HOUR-OR-YOUNGER LARVAE AND
BREAK CELL WALL BENEATH IT**



30 DAYS LATER: HONEYBEE STARTS GOING TO MARKET

