



Reading Frames The stories they tell...

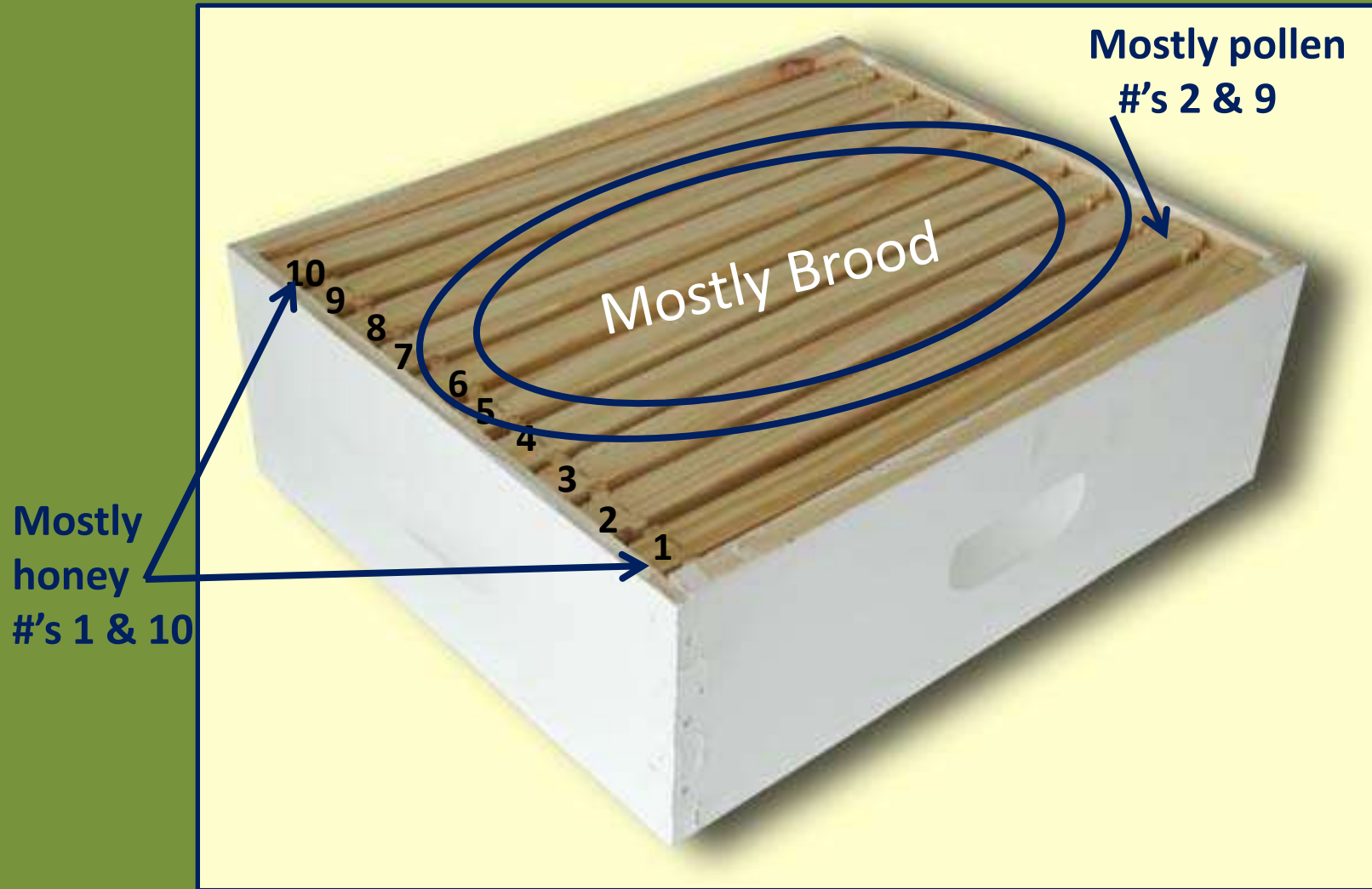
Prepared for LCBA
5/19/2015
Morris Ostrofsky

If we number the frames, it is easier
to keep everything organized



Chapter 1:
Where things should be

There is also a table of contents



Number 1 Frame

Q. What is the number of this frame's mirror image?



Number 1 Frame

#1 frame New Hive



#1 frame
Established Hive



Reading the frame top to bottom

Why are some cells at the top of the frame being capped while those on the bottom are not?





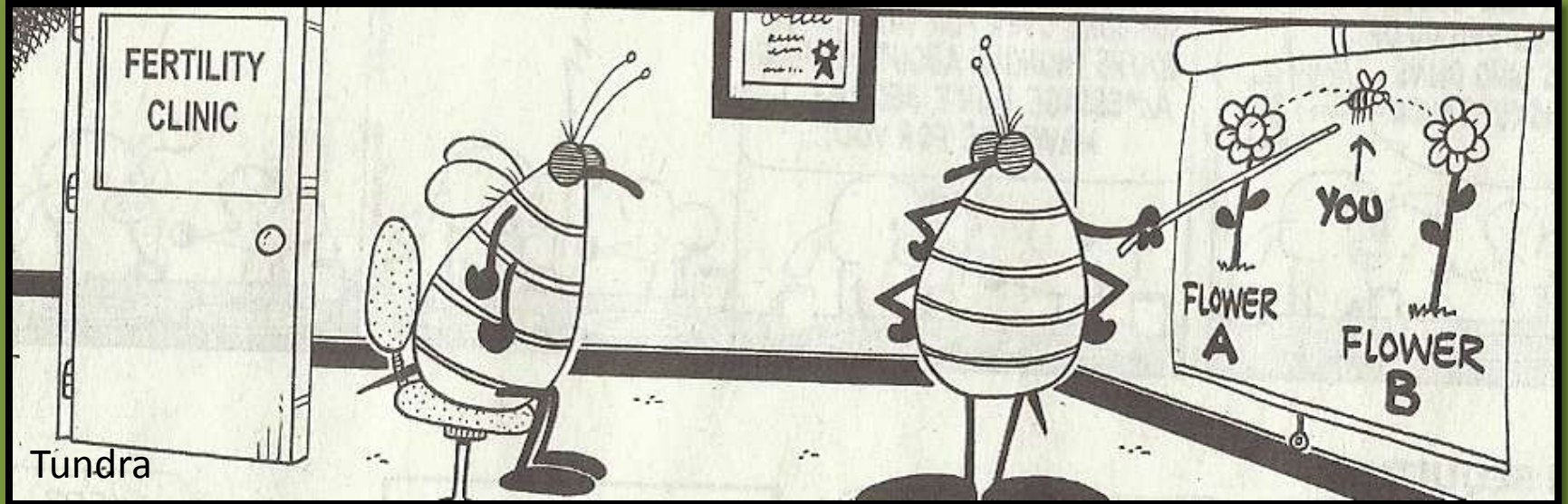
Number 2 Frame

Number 2 Frame

Q. Why is the stored pollen different colors?



Refresher course in flower constancy





Number 3 Frame

Number 3 Frame: Your Barometer

Established Hive



#3 frame reflects changing conditions in the colony

Extreme Example: Bay of Fundi Canada



What do the changing positions of the sun and moon have to do with the #3 frame?

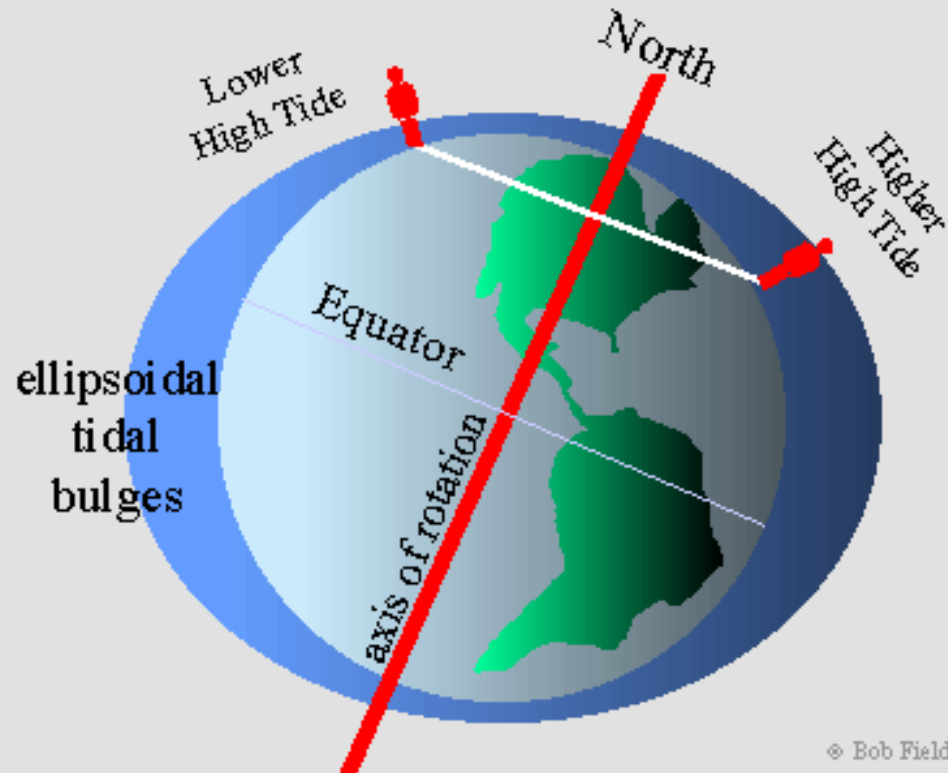
Equilibrium Tide Model



Sun



New Moon on
Winter Solstice



© Bob Field 2000

Honey

Open nectar

Pollen/beebread

Brood

Number 4 Frame



Number 4 frame

Established hive

How does the proportion of brood on this frame compare to the #3 frame?





Number 5 Frame

Number 5 Frame: Center



Q. Why is there a difference in the color of wax on this frame?

Plot Twist: Number 1 Frame in Number 5 Position

Q. What happens in **early spring** if you accidentally place the #1 frame in the #5 position?



**Next Chapter:
The Honey flow is on**



**When you see the Blackberry blossom in early
June, the nectar flow has started!**



What's the story
with the white wax
on the top bars?

Why is this wax white?



How is the wax production effect similar to feeding sugar water to a package you just installed?



Debbie Krape

What should you do when 70% of frames on the top brood box are being used?

Is there anything else you might consider doing with the position of cluster in this box?





Add a second
brood box

When is it time to add a honey super?



Should the queen excluder be left on year round?

Continue to add honey supers following the 70% Rule



The swarm season is upon us



**Chapter:
Staying ahead
of the bees**

Why try to anticipate and prevent swarms?



- Depletes population
- Ruins your chance of a good honey harvest
- May cause neighbor problems or a visit from municipal employee

Swarm indicator: drone production

Where would you find this frame?



- Bees are thinking about raising queens
- There is plentiful food in the environment
- Hive population is growing with lots of young bees

Why does drone brood precede queen cells?

Swarm indicator: not enough room for the bees



Overcrowded or
overheated?

Wow! This hive is really congested or
maybe it's just my compound eyes.



Swarm Indicator: Backfilling



Swarm indicator: queen cells



Wade's Bees

Young queen cells
indicate that the
bees are in the mood

Time of year bees think
about propagating

Queen cells and wanabes



How do you distinguish between queen cups and queen cells?

Do queen cups represent an imminent swarm?



Queen cups



Queen cells

Swarm Queen Cell



- Occur during swarm season
- Various stages/ages
- Generally found on the bottom of the frame

Supercedure Queen Cell



- Colony is weak
- Brood area reduced to center of the frame
- Supercedure cells will be found in the center of the frame
- Usually one or two cells
- Can be found any time other than winter

Emergency Queen Cell



- Colony is SUDDENLY queenless
- Bees need to modify existing worker cell NOW
- Cell looks like fused to comb
- Cells found any place with appropriate aged larvae (1 day old larvae)

Q. Why is the color of the wax on the queen cell different from the other worker cells' wax?



Plot Twist: Honey super added 3 weeks ago when 70% frames filled. This is what you find today.

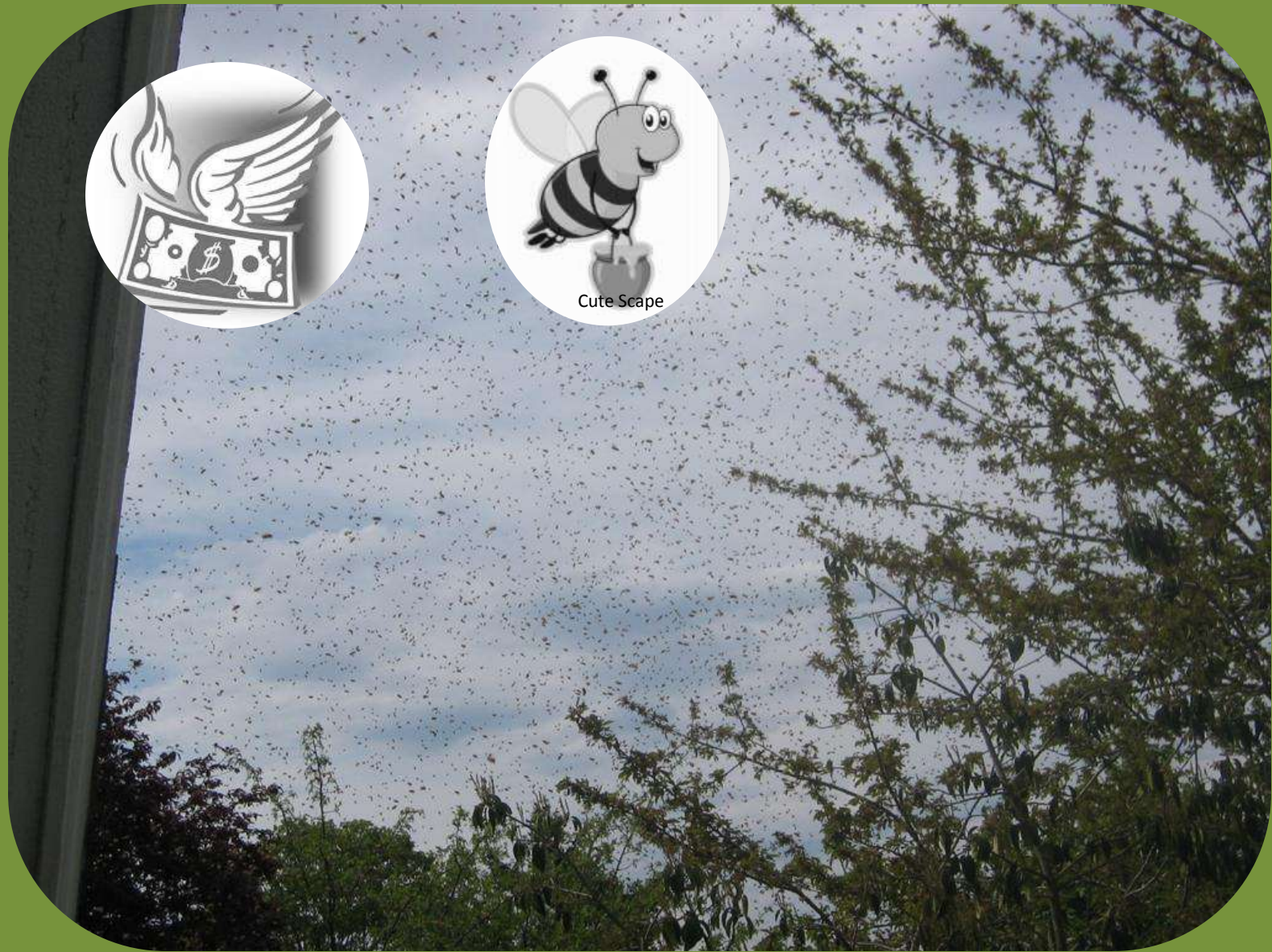
What happened here?



Plot twist: Homicide

Q. How do you know it has been <21 days since the bees swarmed?





She was doing a great job last year!

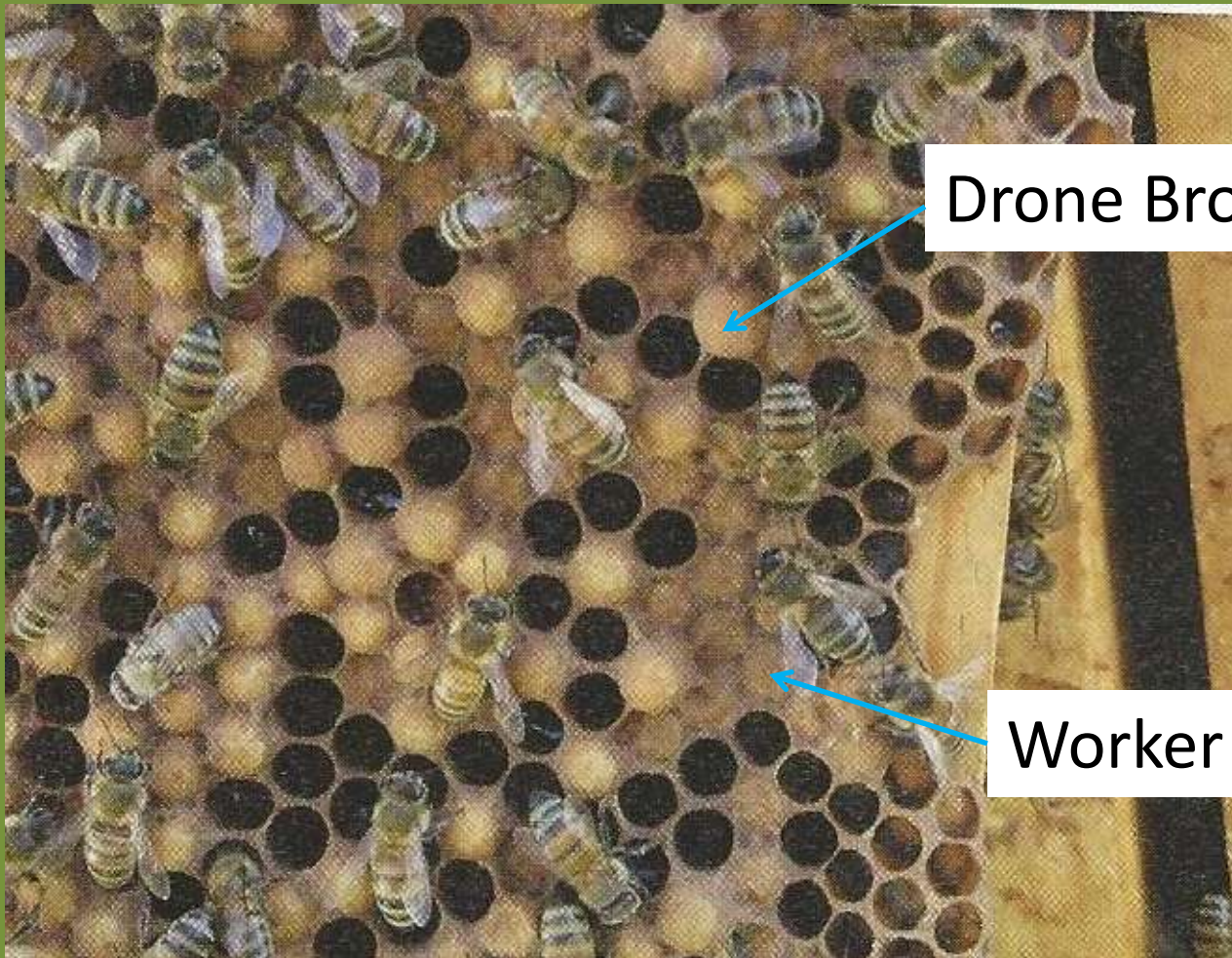


With all those billions of offspring, you'd think at least one would come to visit.

Aging Queen



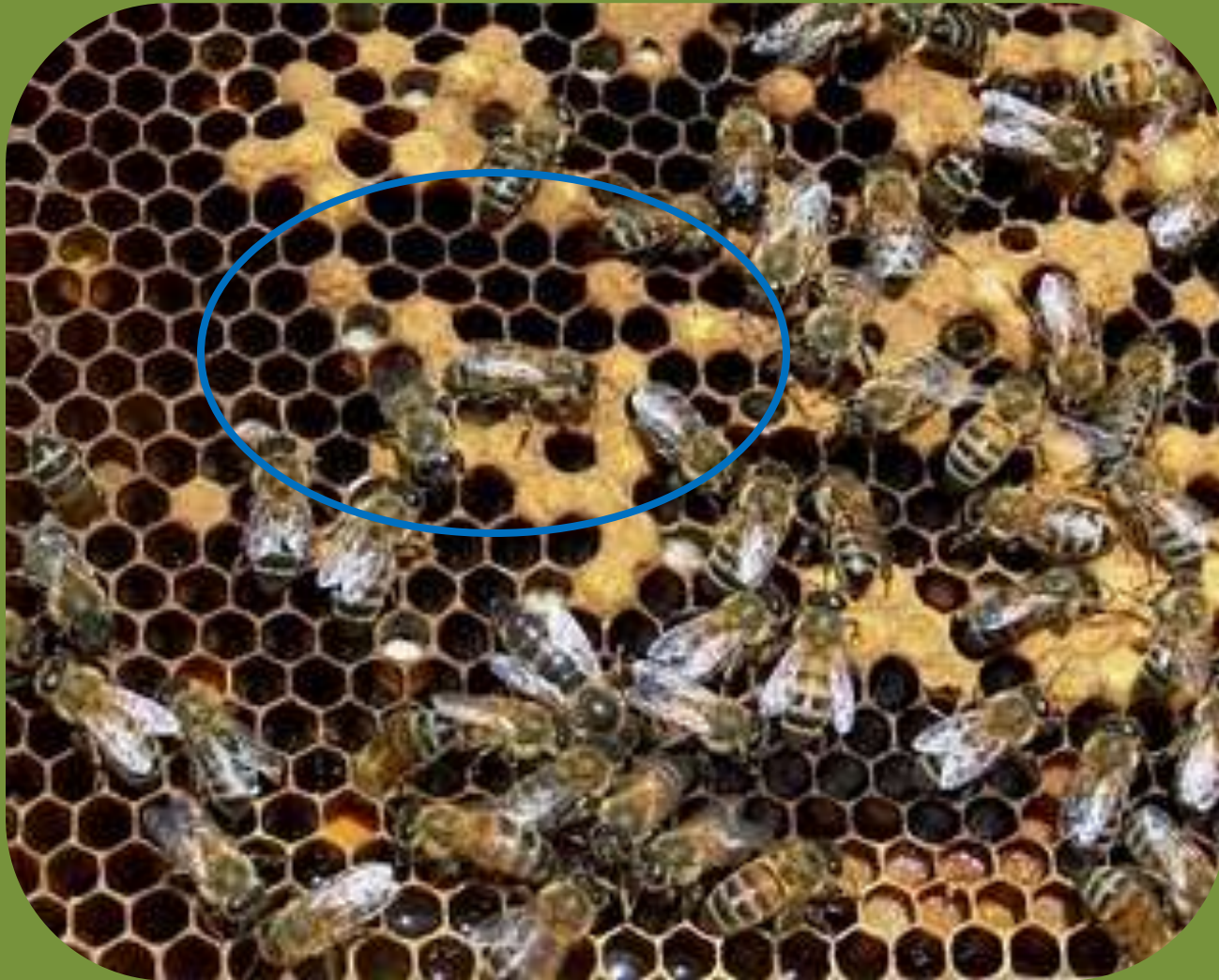
Spotty/mixed worker and drone brood



Drone Brood

Worker Brood

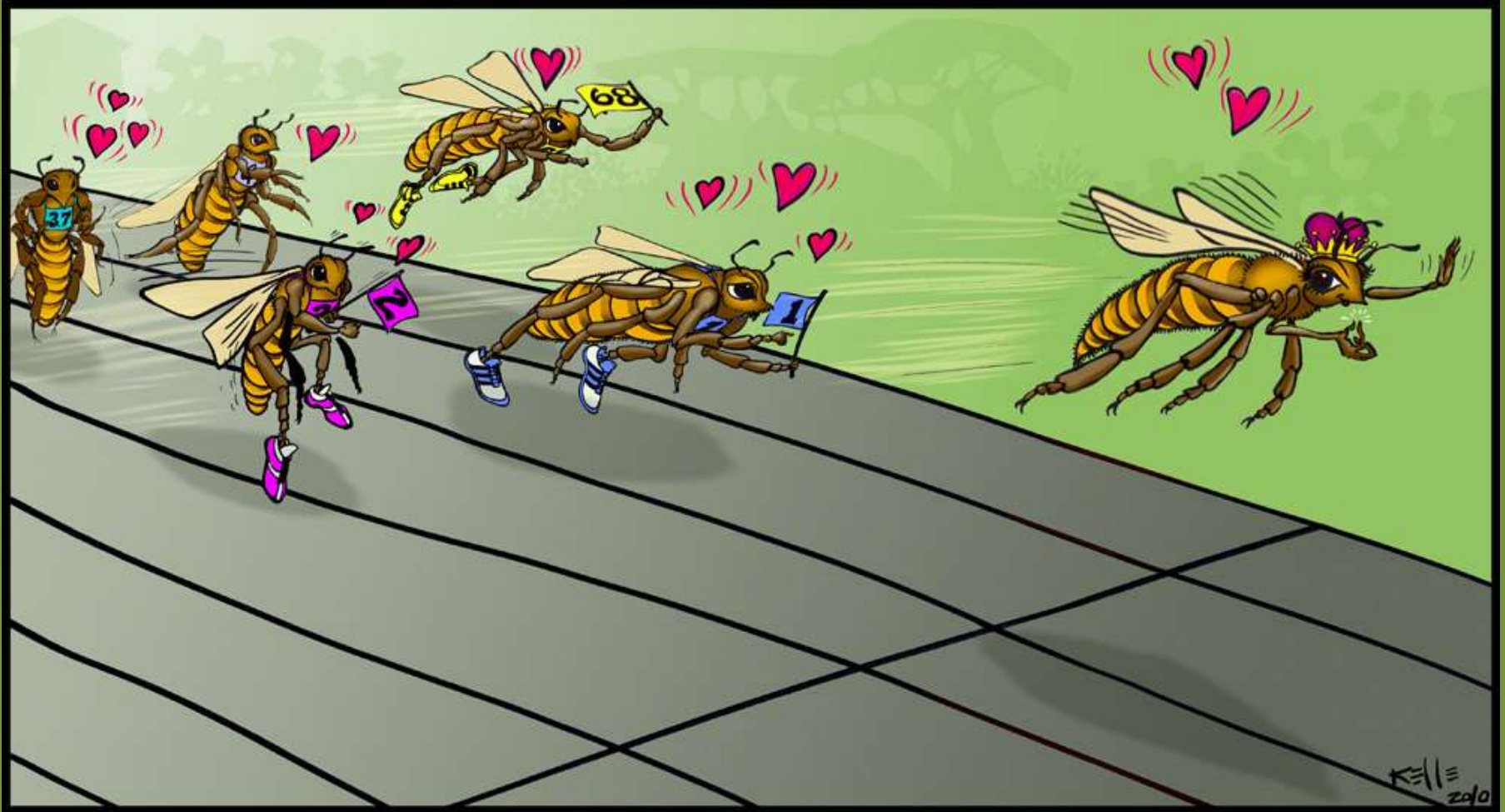
What more can you
read into this brood frame?



This is what the development
should look like



Poorly Mated Queen



Poorly Mated Queen

Poor or no retinue



What does her blue thorax mean?



Poorly Mated Queen



Spotty Brood Pattern

Supercedure cell

Where should you find
drone brood?



On the edges of the frame

What position number is this frame?



Missing Queen



No queen. Emergency!
You will see emergency queen cells



The emergency reared queen goes on her mating flight



Enter the Villain!



Queenless and hopeless

How do you solve this problem?



Queenless and hopeless

Why do you only see small drone cells?

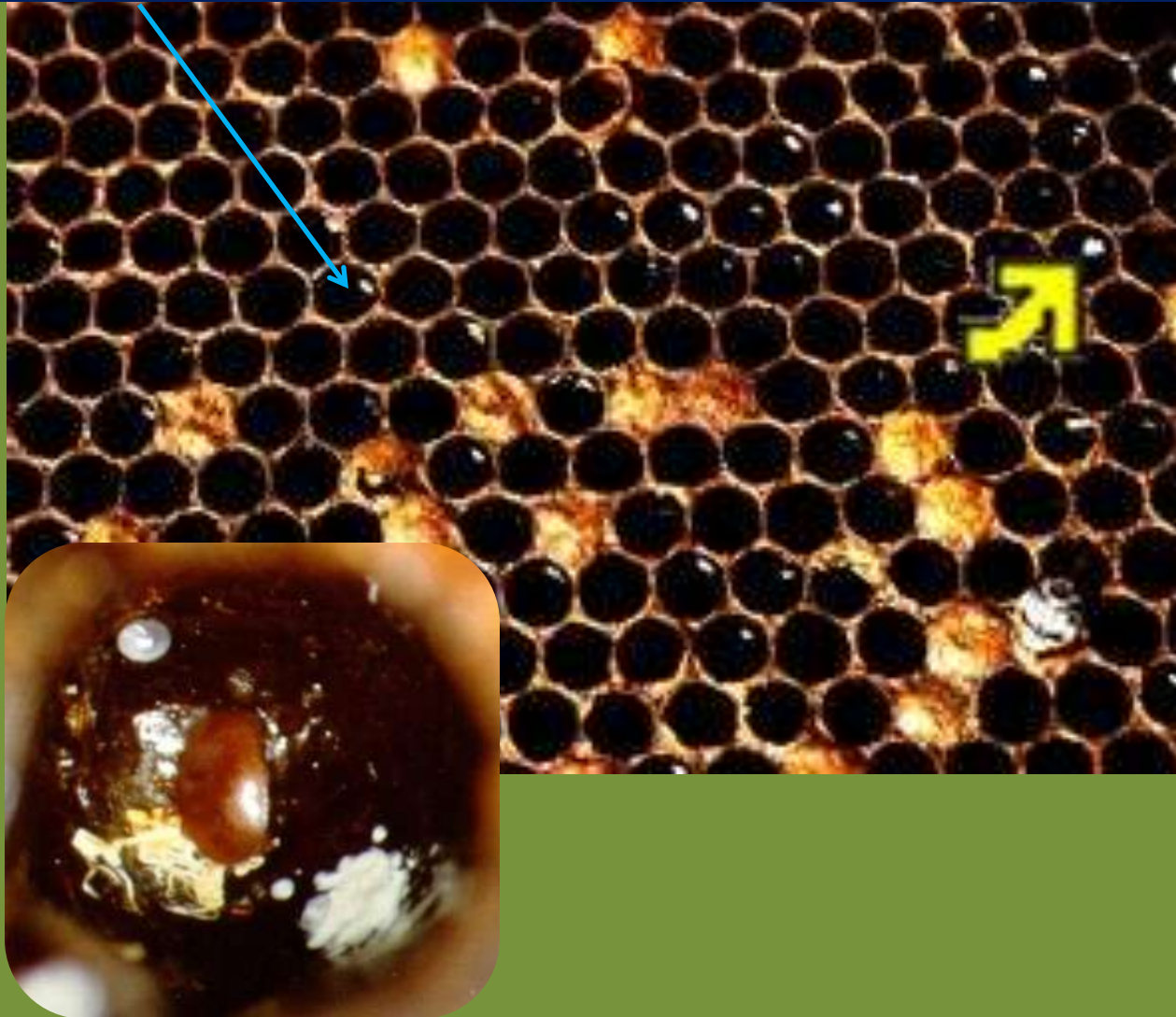


What is that white thing on the cell wall?



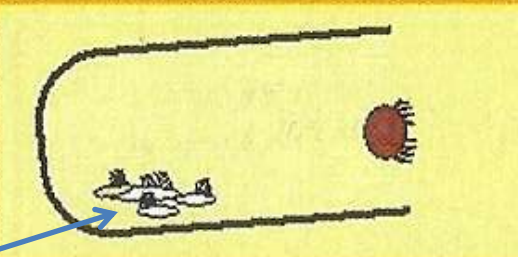
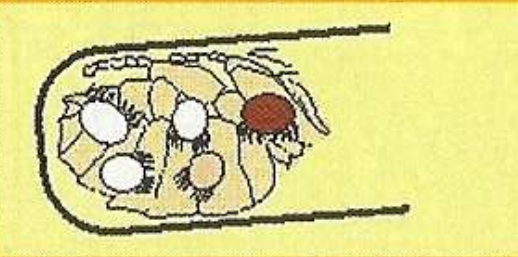
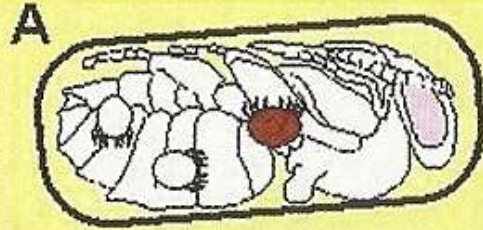
Mellifera Mysteries

What is the connection between the white spots and the missing bees?

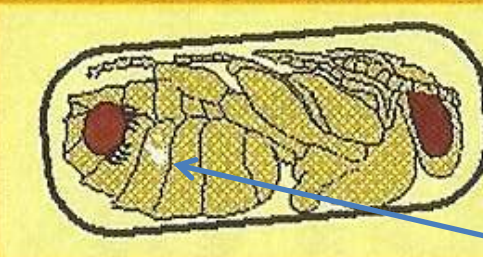
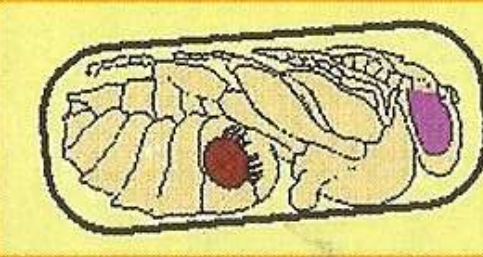
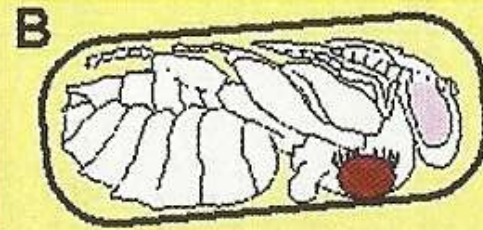


Q. Why do some Varroa mites reproduce and others don't?

Reproductive Mites



Non-reproductive Mites



Guanine
on cell
wall

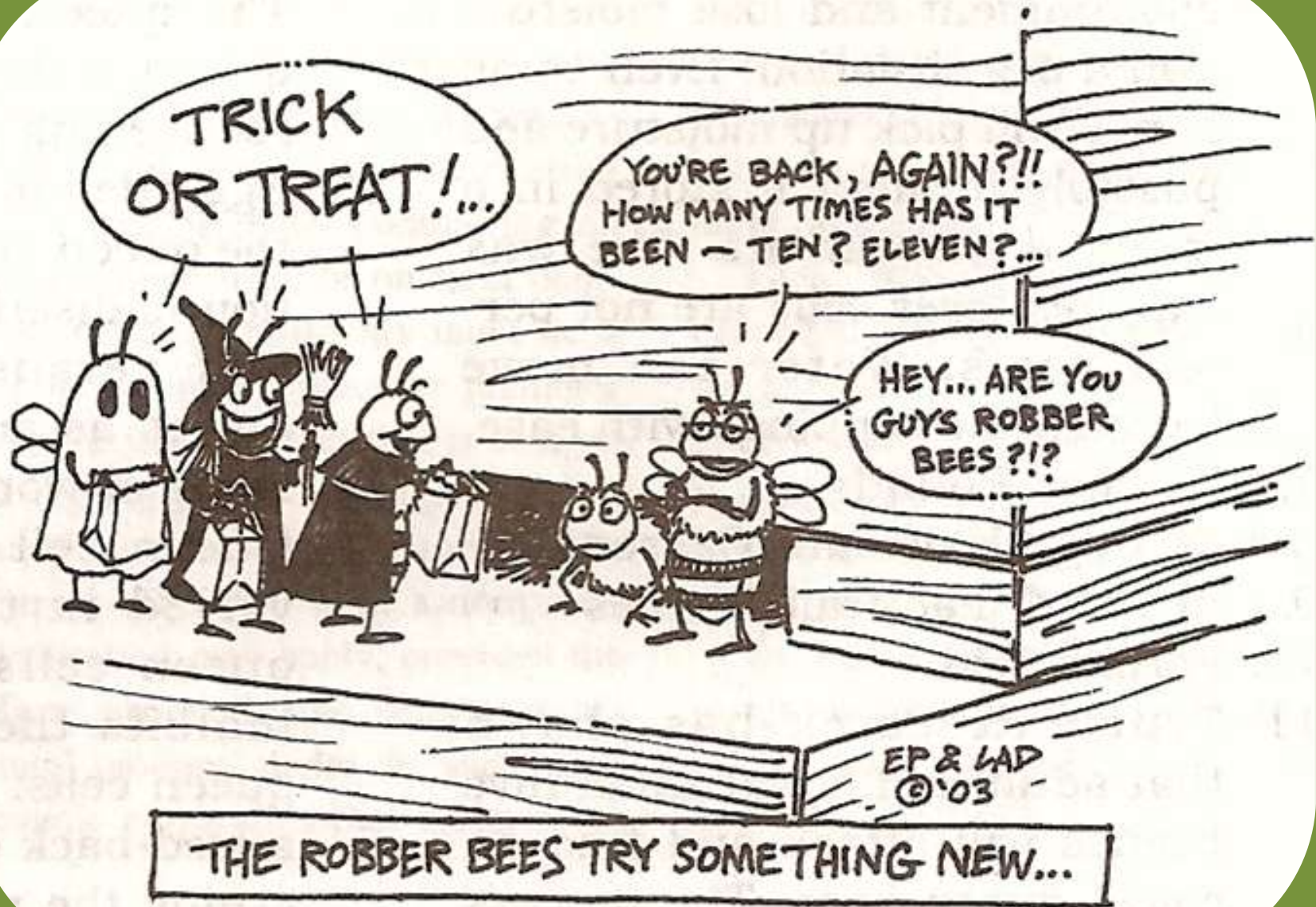
Guanine
on pupa

Larry Connor

A fall *Mellifera* mystery

Where is the missing honey?







“Free” bees

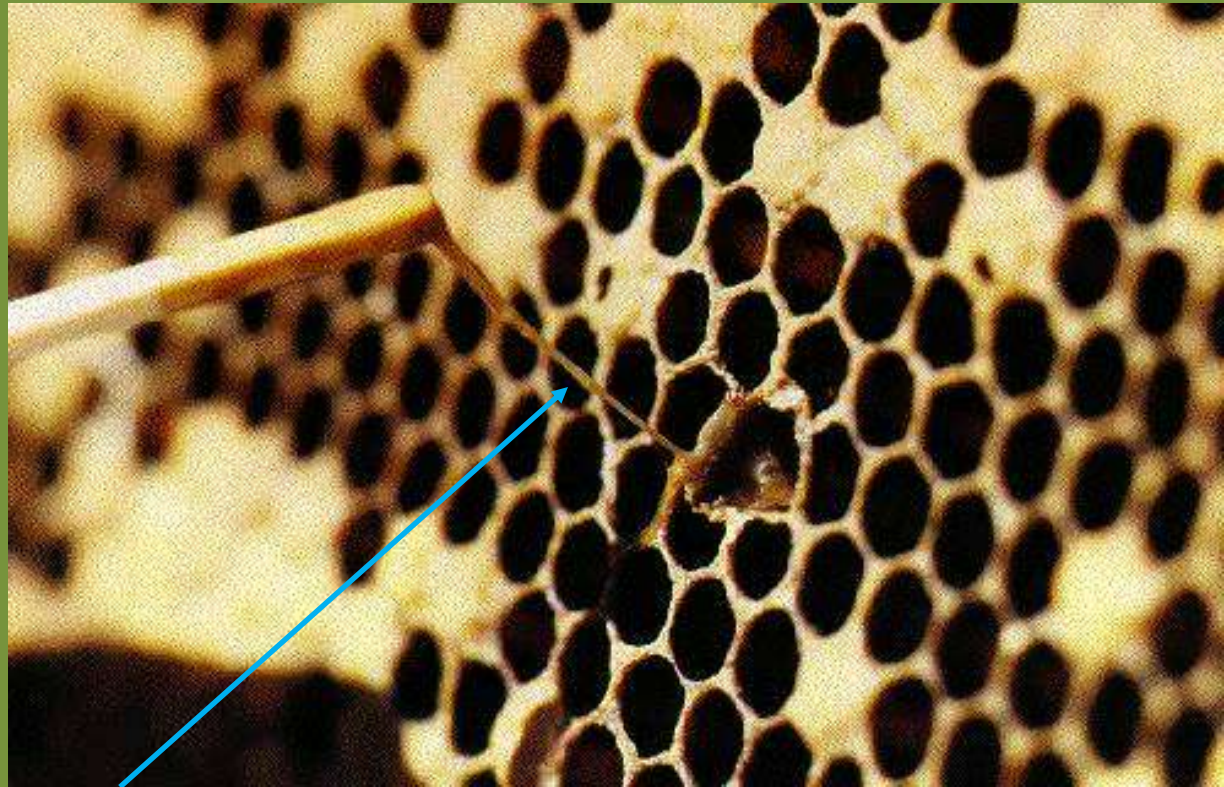
“Free” bees – are they worth it?

“Free” bees: Close up of #5 frame

What would you do with this frame?



“Ropiness” test for field testing for AFB



Rope or string of
mucus-like material

“Free” Bees

- A avoid
- F free
- B bees

What if no Foulbrood;
just old frames

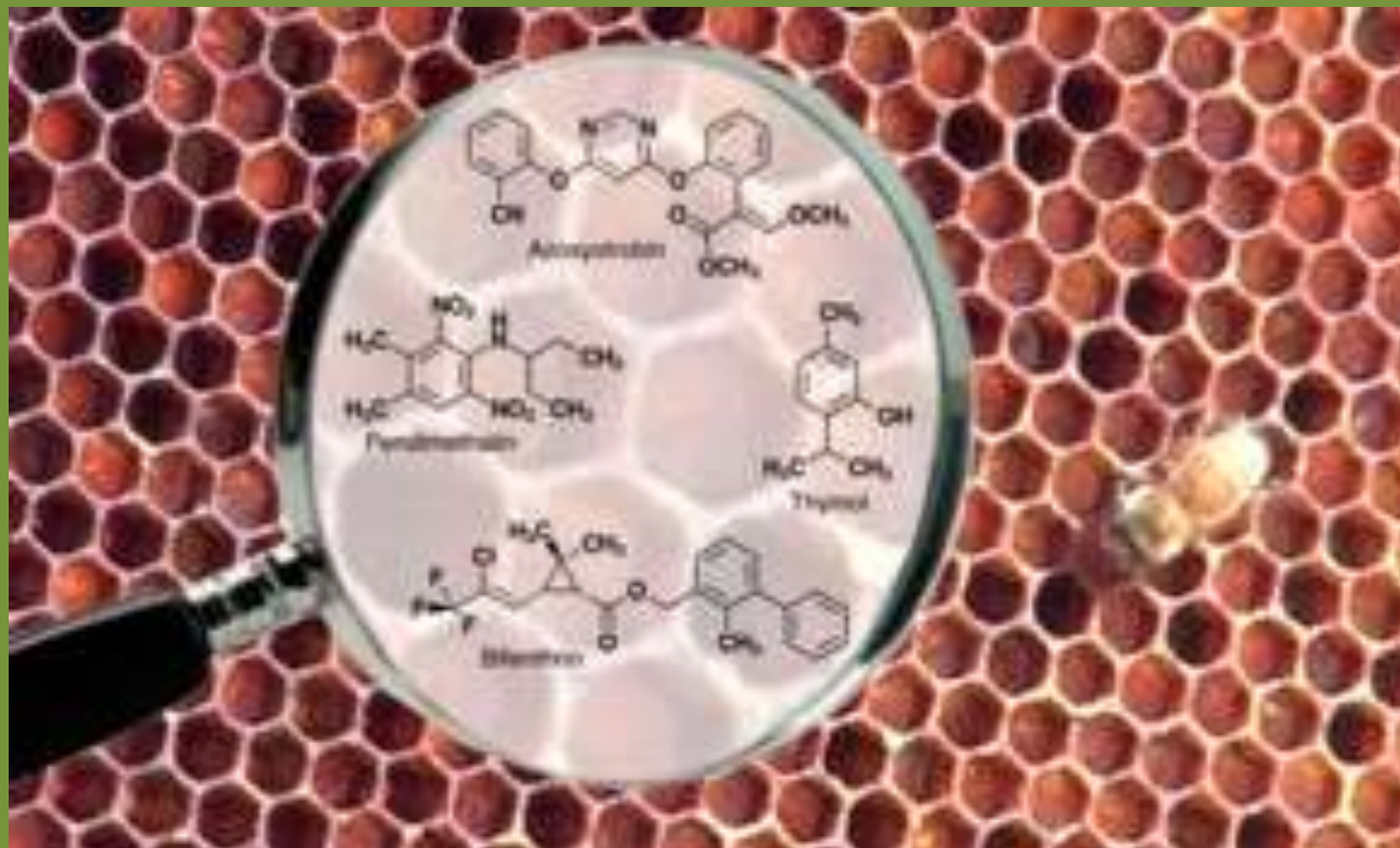


“Free” bees: #1 Frame

Why should you change 1/5th of the frames each year?



How would you change out all the frames rather than 1/5th of the frames per year?



Example of good frame management



#5 frame in first brood box



**When is too much
honey
not a good thing**

What's your read here?

Example of honey bound frame

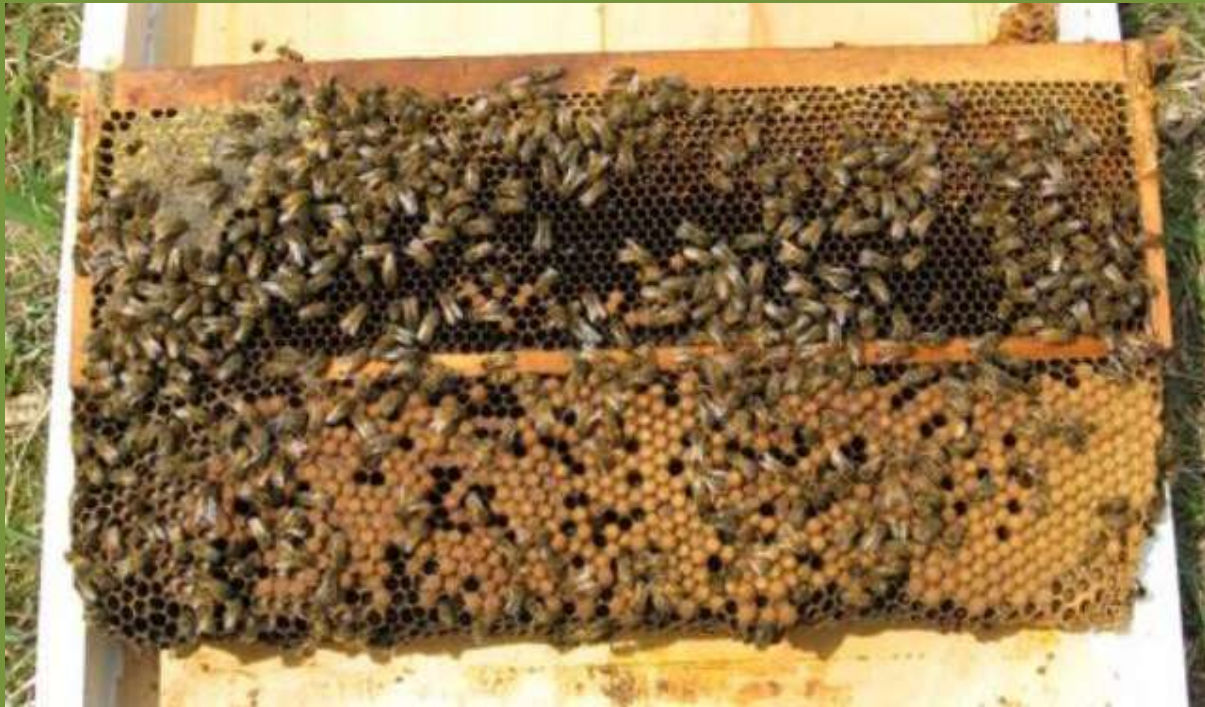




What to do when honey bound?

- Give the bees another brood box; place this frame in the #3 position
- Give this frame to a weaker hive
- Use this frame in a nuc
- Expand the brood nest by inserting drawn frames into the brood area

Q. How do I know this frame came from the #3 or #8 position?



One size doesn't fit all

Q. Why put a western frame in a full depth box?



Q. How could you use this configuration to control Varroa mites?



**Resources are plentiful;
it's time to raise brood**



Honey Bee Suite

The pollen chapter



Honey

Open nectar

Pollen/bee bread

Brood



**"Wet" brood occurs when
pollen is available**



wet brood

Randy Oliver



Honey

What happened to the pollen band?

Brood



Pollen dearth



"Dry" brood indicates pollen dearth

Randy Oliver

A close-up photograph of a honeycomb frame. The cells are dark, almost black, and appear to be capped with a thin layer of wax. A bee is visible at the top left, partially obscured by the frame. The background is a light brown, textured surface.

Dry brood

Randy Oliver



Q. Where is the young brood?

Cannibalism: an extreme example of pollen dearth



Broodnest
expanding
into stores

Q. What should you do?

Randy Oliver



**Fresh
nectar**

**Why are some cappings
lighter than others?**

**Why is there nectar
where there should be
pollen?**

Happy Ending



The End



Photo: Roger Ledbetter

Questions?



(c) Kathy Keatley Garvey