

Spring Management



Divisions of Spring Management

- February 14 - Mid March
- Mid – Late March
- Late March – Mid April

Ask for each Division

- What are the Bees doing?
- What is the Beekeeper Doing?

Winter Bees - Review

- do not hibernate - keep cluster warm by vibrating wing muscles
- cluster in large ball around the queen when temperature < 45 degrees F.
- need honey stores close to - touching - the cluster.
- Cluster moves UP over the winter.
- Winter bees are “fat bees”
 - Stored nutrients in their fat bodies
 - Stay alive for up to 6 months to rear new brood for Spring

February 14 - Mid March

What are the Bees doing?

- Continuing to cluster during cold and rain
- Cleansing Flights
- Starting to build up. Queen increases laying.
- Consuming honey and pollen
- Bringing in pollen when they can fly



February 14 - Mid March

What are the Bees doing?



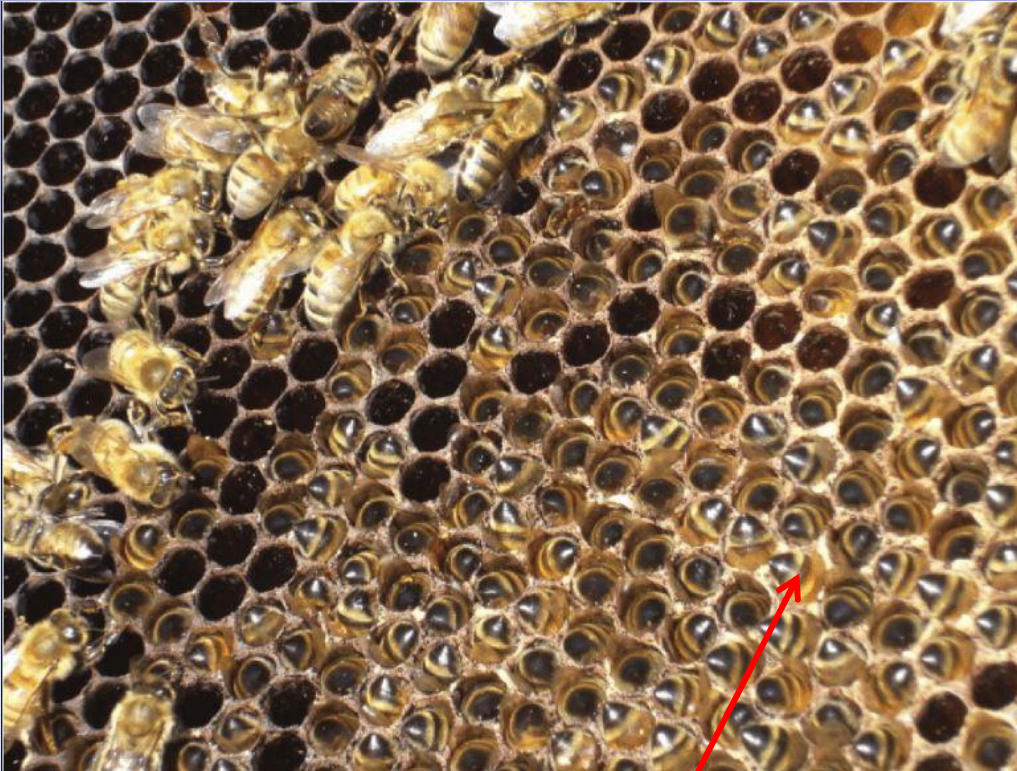
Cleansing Flight

February 14 - Mid March

What is the Beekeeper doing?

- Check Stores of Honey
- Emergency Feeding
- Interpreting Collection Board
- Treatment for Varroa Mites
- Preventing Mouse Damage

Early Spring Enemy # 1 is STARVATION

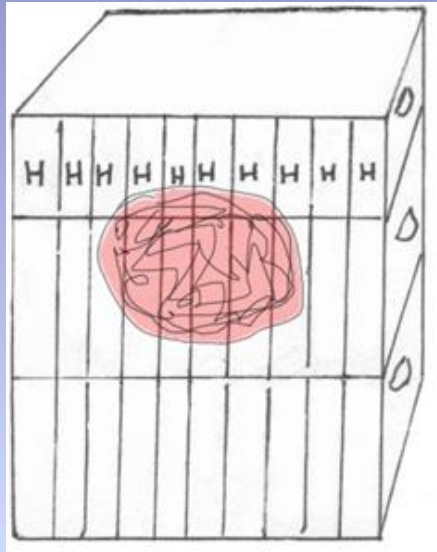


Frame of starved bees

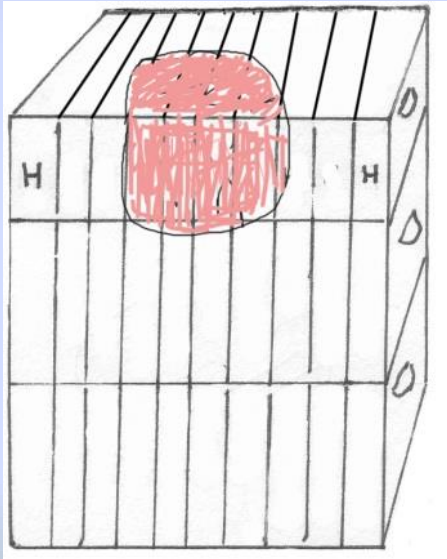


Bees out of nearby honey

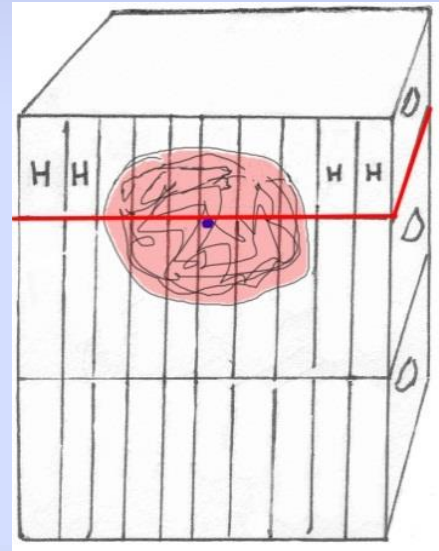
Spring Starvation



Healthy cluster



Nearby food stores consumed

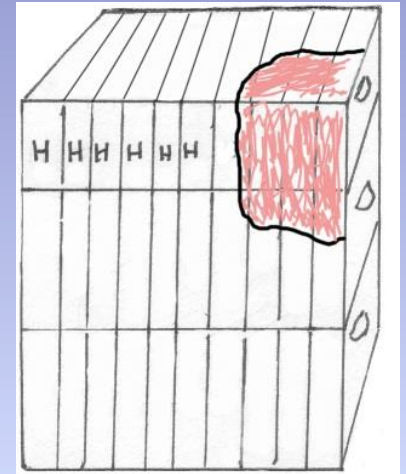
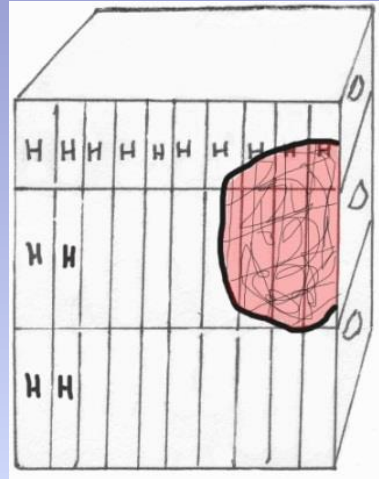


Queen excluder left in

Spring Starvation



Un-centered cluster



Bees migrated to edge of hive

This is an emergency

Feed hive above cluster if cold,
Recenter when above 50 degees F.
and bees are flying.

February 14 - Mid March

What is the Beekeeper Doing?

Check Food Stores

- Heft hive from bottom to check if enough honey stores
- Open hive very briefly for emergency feeding
- Use sugar patties, candy board or fondant if still cold
sugar syrup 2:1 for feeding if day time temperature consistently $> 50^{\circ}$



Image from Scientificbeekeeping.com



Cane Sugar Patties

Emergency Food

Too cold during the winter/early spring with the low temperatures for them to process the syrup.

Give dry feed - they don't have to evaporate off the water.

Sugar Patties

Fondant

Candy board

Dry sugar

Emergency Food Winter

Easy Sugar Patties



or



Use only table sugar – pure sucrose

Add a little water

Mix to consistency of wet sand. Place on waxed paper

Let harden overnight

Place directly above frames or top of inner cover (under moisture box).

Reading Collection Board

Use sticky board under screen bottom board
(or dry board over solid bottom board)

- Assess strength of hive
- Observe Varroa mite drop
- Evidence of Wax Moths
- Evidence of Mice
- Observe cluster area – centered?



Collection Board Challenge

- Reading sticky board is tricky between winter and early spring:
- Accumulation of moldy dead bees, old cappings, wax moth feces is normal unless bees have had opportunity to clean out.

View from bottom with flash light



Photo from Beaver Creek Bees

If lots of moldy dead bees, etc. put board above screen or clean out if weather permits.



Photo from Lane Honey Bee Farms

Reading Collection Board

Hive Strength



Strong Hive



Weak Hive

Reading Collection Board

Check to see if brood is centered

If not centered, move honey frames from opposite side of cluster and relocate next to cluster side so cluster is centered.

Do this on a dry day at least 50 degrees F when bees are flying



Un-centered cluster

Reading Collection Board

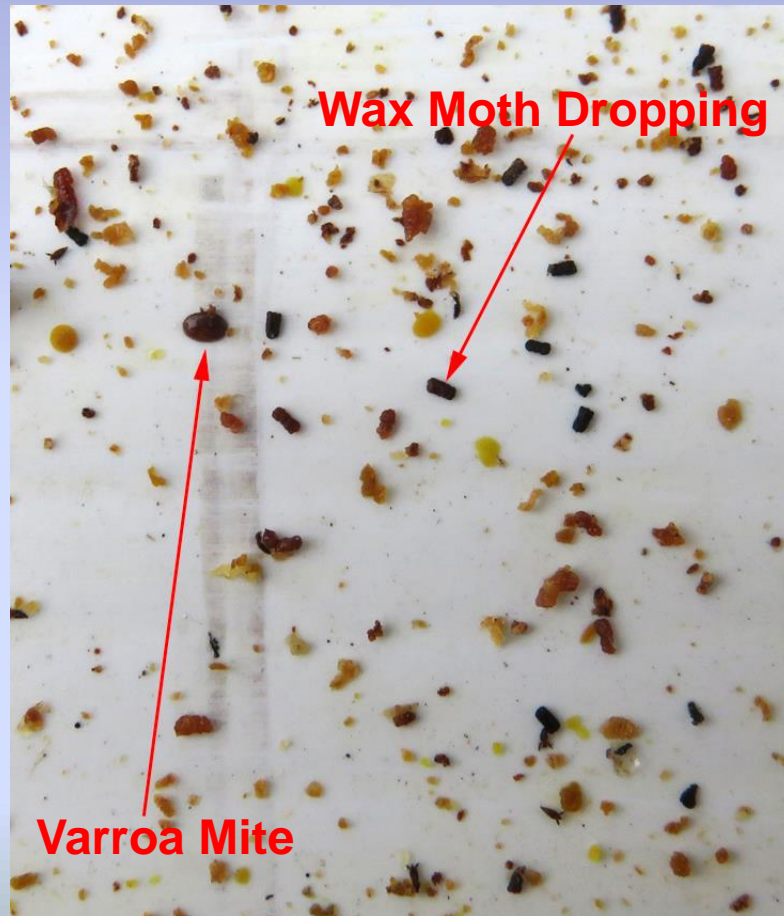
Signs of Mice



Use Entrance Reducer!

Reading Collection Board

Varroa and Wax Moths



February 14 - Mid March

Monitoring Varroa Mites

- Mites should be below 5 per day on sticky board.
- Can treat now if mite count high



ApiVar

- Synthetic
- Use when bees are active (not clustered)
- Wait 2 full weeks AFTER treatment before adding honey supers



Formic acid (Formic Pro)

Use when daytime temps are 50-85 °F

February 14 - Mid March

Monitoring Varroa Mites

Oxalic Acid Vaporization

- Kills ONLY phoretic mites
- Needs to be used once/week over 4 weeks
as adult bees emerge and release mature varroa
- Each vaporization tool has it's own set of directions



OSU: Using an Oxalic Acid Vaporizer

https://media.oregonstate.edu/media/t/1_cvjcsrtq/163332232

LCBA Website Varroa Info

www.lcbaor.org

IMPORTANT VARROA INFORMATION

[Tools For Varroa Management - Honey Bee Health Coalition](#) - (p. 12 contains Videos on Treatment and Management)

[Varroa Management Decision Tool](#) -when and how to treat for Varroa

[Best Management Practices for Bee Health](#) Click on Download Hive Health.BMP Guide

[Why Did My Bees Die?](#) Michagan State University

Continue To Use Top Insulation and Mouse Guards



Top Insulation Box



Entrance Reducer as Mouse Guard

February 14 - Mid March

What are the Blooms Doing?

MANY microclimates in Lane County!

Pollen Sources (examples)

Red Dead Nettle

Cherries

Dandelions

- what else??

Nectar sources (example):

Rosemary

Pussy Willow

Red sunset maple

Produces minor nectar flow!



In My Neighborhood



Crocus with bee



Forsythia



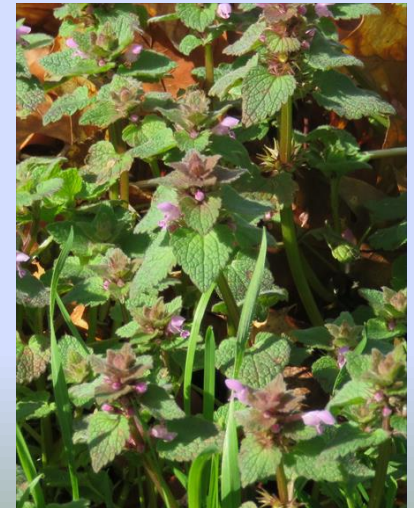
Sunset Maple Tree



Rosemary



Magnolia in Bud



Red Nettle

Keep a bloom log

Correlate blooms with what bees are doing

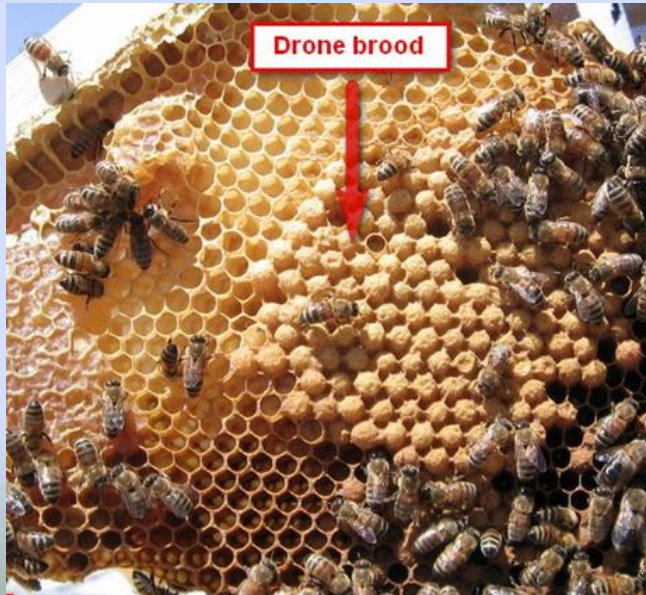


BLOOM LOG IN TOWN - 10th - Van Buren neighborhood		
Year <u>2021</u>		
DATE	BLOOMS	CORRELATION
1-5-2021	Hazelnut pollen	All <u>Honey</u> bees bringing it in!
2-15-2021	Pandanus Daffodils starting to bloom Forsythia in bud - yellow Hellebore in bloom	To add for bees to be out otherwise bringing in pollen
3-1-2021	<u>Forsythia in bloom</u> Daphne in bud Crocus in full bloom	<u>Done drone starting</u> <u>Some drones</u> on top frame (in 2 weeks)
3-3-2021	Maples - Sunset in full bloom!	
3-18-2021	Sunset maples nearly done <u>(Red leaf nettles)</u> Magnolias full bloom Daffodils still in bloom	
3-24-2021	<u>Bigger maple popping buds</u> <u>Ornamental cherry buds</u> 2-3 weeks	<u>Piles of drone brood</u> in w. 10th hive Not much nectar
3-26-2021	Lilacs leafing out - see tiny buds Big leaf maples buds starting to open Tulips blooming	<u>adult drones</u> w. 10th no nectar Q cups - small
4-7-21	All maples blooming for <u>5</u> days Lilacs in big buds	1st bumble bee queens ~ 5 days
4-14-21	<u>Lilacs blooming</u> Big leaf maples leafing out <u>start to green</u> Magnolias, Forsythia, Hellebore	<u>SWARMS IN</u> the neighborhood!
4-25-21	<u>Horse chestnuts in full bloom</u> <u>Lilacs - full bloom for > a week</u>	<u>Honey - 2 boxes</u> in big hive <u>Swarms in town</u>
5-13-21	Horse chestnuts still in bloom Lilacs done Oak blooms done	
5-19-21	Poplars in bloom Blackberries in Big bud! (town)	

Mid – Late March

What are the Bees doing?

- Continuing to build up population.
- Bringing in nectar and pollen
- See drone brood and maybe mature drones flying.



Mid – Late March

What is the Beekeeper Doing?

First Full Inspection - on dry day over ~55 degrees F

Scenario # 1 - Dead outs:

**** accept it and have a glass of mead ****

Determine why hive died

- Large mite load last fall
- Weak hive in fall
Cold and moisture will kill
- Starvation

“Why Did My Bees Die?”

LCBA web site

Reference Section – Mike France
talk 2/20/2018



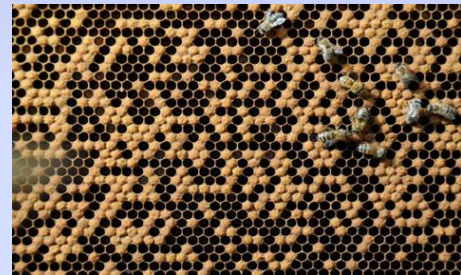
Mid – Late March

Scenario # 2 - Hive Survived!!

****have a glass of mead****

Check for:

- 1) Presence of queen
Eggs and young brood present
Bees bringing in lots of pollen
- 2) Brood Pattern
Should be tight
- 3) Hive Strength
At least 5 frames of bees
- 4) Honey and pollen stores
- 5) Signs of - chalk brood



Mid – Late March

Chalk Brood



- Caused by the fungal pathogen *Ascosphaera apis*.
- Weak hives in damp areas prone to chalk brood.
- Also if brood is neglected (low number of nurse bees).
- Larva fed spores in food, fungus kills brood after it is capped.
- Workers uncap cells, remove mummies.
- Relocate hive to sunny area, re-queening may help, remove as much chalk brood as possible

Other Reason For Hive Loss



Drone Laying Queen

Mid – Late March

First Full Inspection

To Do:

- 1) Clean or swap out bottom board for clean one
- 2) Reverse boxes
If brood is near top of hive
- 3) Stimulate weak colonies with
protein patty (Bee Pro)
1:1 sugar syrup

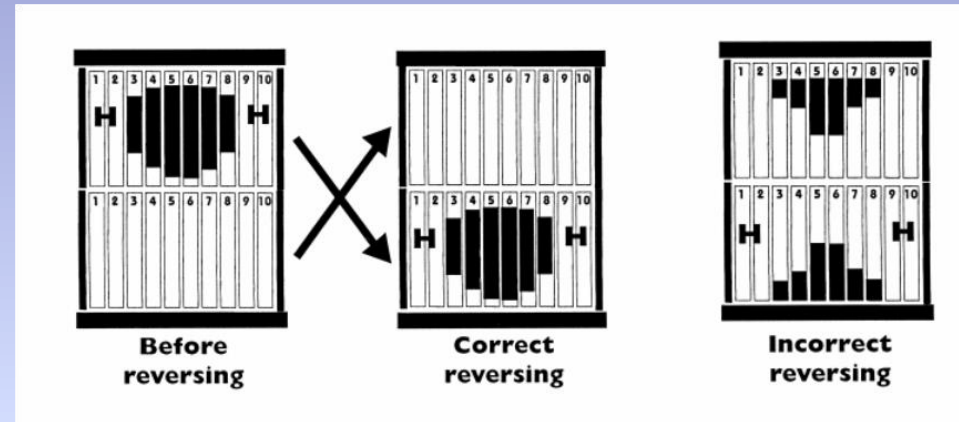


Photo: Wade's Bees: Notes From the Bee yard

Mid – Late March Monitor Varroa Mites



ApiVar

- Synthetic
- Use when bees are active (not clustered)
- Wait 2 full weeks AFTER treatment before adding honey supers



Formic acid (Formic Pro)
Daytime temps 50-85 °F



ApiGuard

59°F - 105°F
Will taint the taste of honey

Mid – Late March

- Varroa mite count with alcohol or sugar shake
Treat if necessary (pick your poison)
- May remove top insulation box
- Note presence of drone brood
- Keep good notes!



Late March – Early April

What are the Blooms doing?



Nectar flow timing different for micro climates

Big leaf maples – important minor nectar flow for Lane county
Honey will get bees through dearth in May
Don't harvest!

Late March – Mid April

What are the Bees doing?

Rearing Brood!

To coincide with nectar flow

Early preparation for swarm - this is natural!



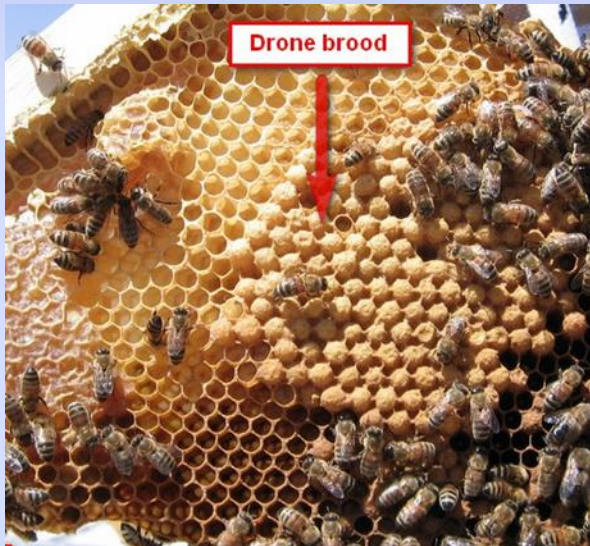
Late March – Mid April

See drone production increasing

See adult drones

Hive naturally wants many adult drones by
the time virgin queens emerge in the neighborhood

May see queen cups on edge of frame



See adult drones



Late March – Mid April

What is the Beekeeper Doing?

Equalize hives

- Combine frames from strong hive with weaker hive
- Frames should contain lots of bees, brood of all ages
- Frames should NOT contain Queen – check 3 times!!!
- Combine using the newspaper method

Don't let bees starve!!

- Heft hives and feed 1:1 sugar syrup if necessary
- If constant rain during this time – bees consume capped honey even during nectar flow.
- In constant rain may see bees ejecting drone brood and adult drones. This is normal - to conserve honey and pollen

Continue to monitor and control Varroa mites

Replace frames older than 4 years

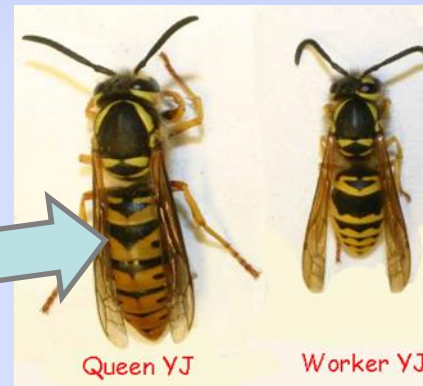


Trap Yellow Jacket Queens

Every yellow jacket queen = 1 nest = *hundreds of* yellow jacket workers in the late summer.



Install when temps are ≥ 60 degrees F



Late March – Mid April

Swarm control:

Watch space for brood expansion

Super if necessary (7 out of 10 frames full)

Do hive reversal if bottom box is free of brood

Make Splits

Late March – Mid April

Back Filling: No more room for brood expansion!



Photo source - Shady Grove Farm, Corinth, KY.

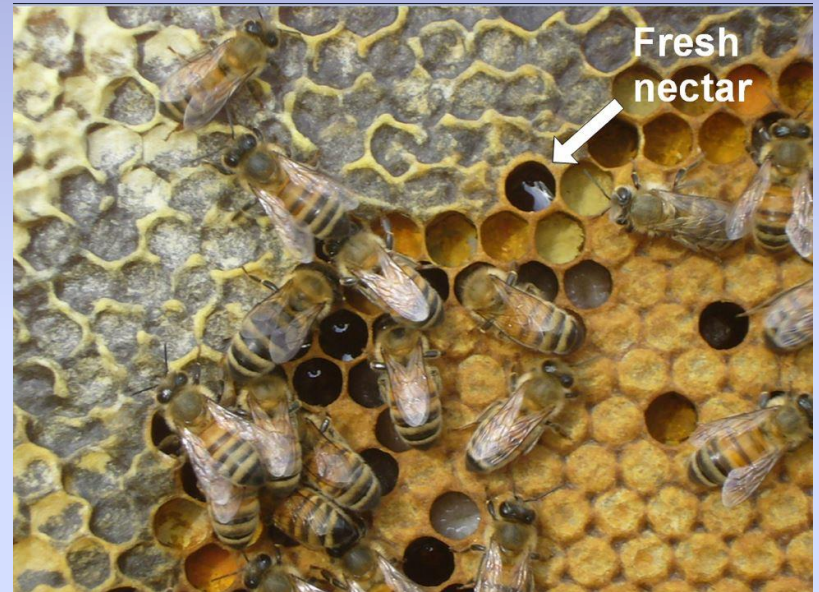


Photo source – Scientific Beekeeping

In Spring ... queen cells appear!!!



Definite sign of irreversible swarm decision



PREVIEW for later talks....
...stay tuned!