

Colony inspections and record keeping



Zachary Huang, Michigan State U.

1

Veil/bee suite, smoker, hive tool



2



3

What do you look for when inspecting a hive?

This depends on the season.

4

1. Early Spring (Jan to Feb):

Is the cluster near the top?

If you see bees under the inner cover then they need food.

Do not take brood frames out unless it is 60F+

5

Bee-cluster near top



6



7

1. Early Spring (Jan to Feb):

Too cold to feed liquid food

So what do you do?

1. Sugar board
(sugar+vinegar+water, heated up & pour)

2. Mountain camp method

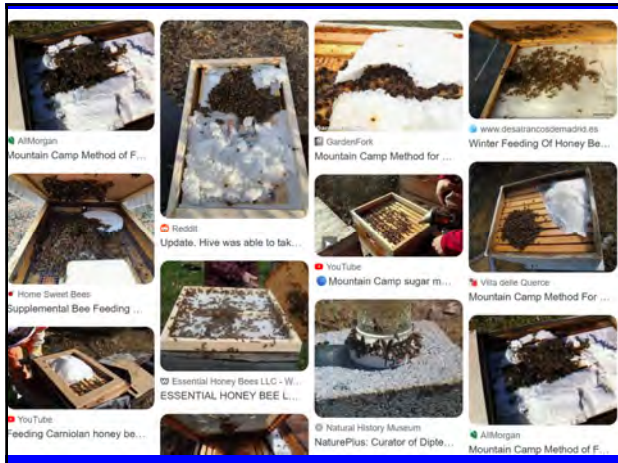
8

- 1) heat up 4 cups of water (=940 ml), till boil
- 2) add 15 lbs of sugar (7=kg), mix well with water
- 3) add 4.5 tea spoonful of vinegar (-22 ml)
- 4) Boil to 234 (110 C) degrees, Put the lid on for 3 minutes.
- 5) Let it cool to 200 degree (90), then whipped no more than 2 minutes you will see white bubbles.
- 6) Pour sugar to the tray, Let it cool for one day or overnight, Then is ready.



<https://bees.msu.edu/feeding-bees-in-the-snow/>

9



10

2. Spring (late March to April):

Three things to check:

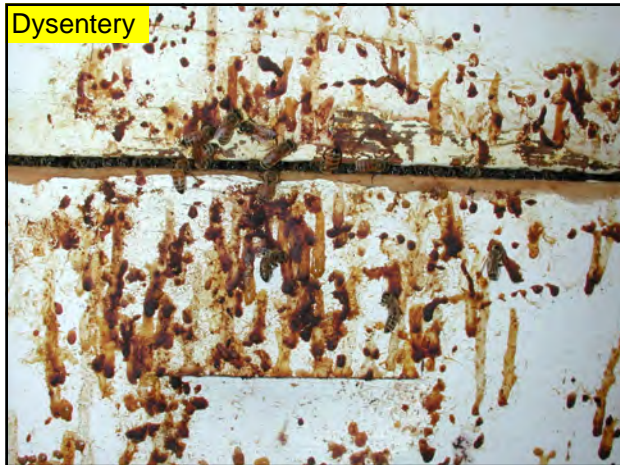
1. Dead colonies? Figure out why
Usually mites, dead queen, or low food
2. Chalk brood?
3. Weak colonies: beetle larvae or mouse nests.

11

What is the cause of death?



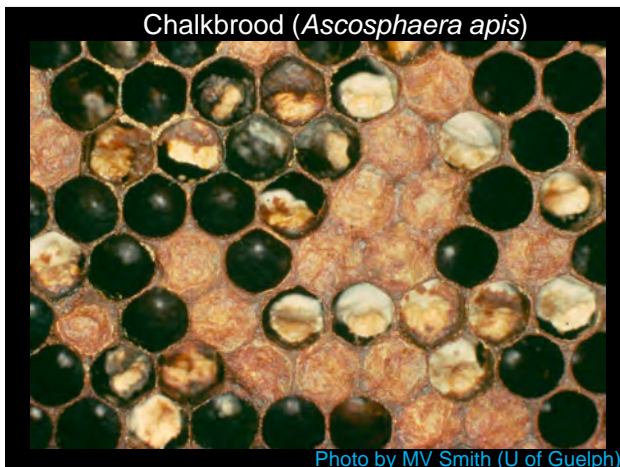
12



13



14



15



16



17

3. Summer (May to July):

Check these things:

1. Queen status
2. Queen cells? (what are the 3 types?)
3. Brood nest congested? Too many bees?
4. Enough super for honey?
5. Brood disease?
 1. EFB
 2. AFB

18

Queen status



1. If you do not find her, it is fine, as long as
You see larvae and no Q cells
2. Are all capped cells workers?
3. Mixed cells suggest low sperm
4. Too many empty cells: inbreeding or
brood disease

19

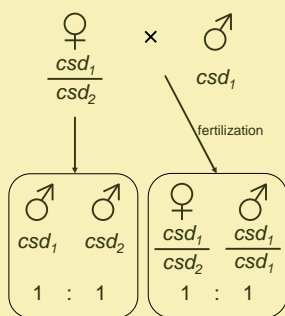
Mixed drone and workers: (drone capping on worker cells)

Queen not mated well or chilled during mailing or
package installation

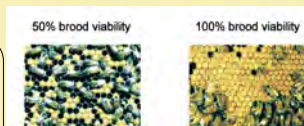


20

Inbreeding causes brood mortality



Inbreeding causes a
decrease in work force
and reduces the fitness
of the hive.



Picture from Beye *et al.* Cell 114 : 419-429

21

Swarm cells: bottom bars, corners and crevices



Emergency cells: converted from workers
Supercedure cells: near center of brood nest

22

1. What is "hopelessly queenless"?



2. What happens to such a colony?

23

Laying workers



24

Why are workers surrounding another worker?



25

Is the colony too crowded?



Enough empty honey supers?
Enough ventilation?

26



27



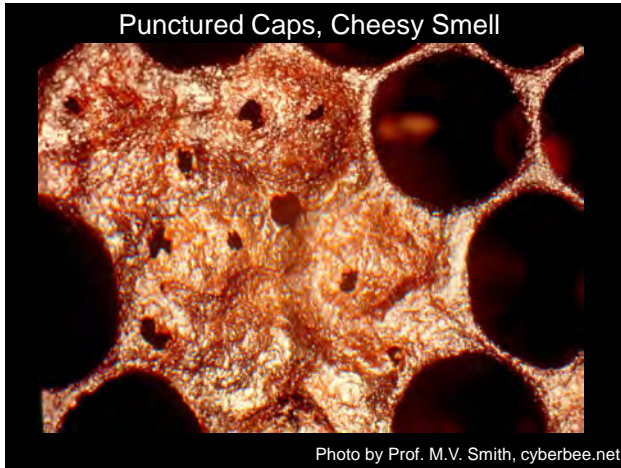
28



29



30



31



32



33



34



35

4. Fall (Aug to Oct):
Three things to check:

1. Check bees have enough food
 (if extracted in July)
2. Queen status again
3. Mite levels and treat (3 times/year)
 sugar dusting, EtOH wash
 screen bottom board.

36



37

5. Wintering (~mid October)

Three things to check:

1. Check bees have enough food for winter
2. Remove queen excluders!
3. Add mouse-guard.

38

Record keeping

Necessary because each colony will be different!

Each colony must be _____

Queenless? Brood disease? Needs a super?

Mite numbers? Strong enough to winter without uniting?

39

Record keeping

Using a brick on top of the hive
sharpie marking "afb, Q-"



40



41

Record keeping






Voice recording on a recorder/cell phone
"Colony #5 has spotted brood, suspected of EFB"

Small notebook

Software tracking

42

Phone Apps (needs clean hands!)

<p>Hivekeepers for Beekeepers</p> <p>Smartphone App for Beekeepers</p>  <p>Search on  </p>	<p>Beekeeper Lite</p> <p>This app is a great inspection assistant. It allows you to record the details of each colony.</p> <p>Without having to type out any words, you can quickly record the temperament of the girls, the presence of brood, and the presence of the queen, either evidenced by eggs or by seeing her.</p> <p>You just need to tap your screen, and you have a very comprehensive record of your inspection.</p> <p>The records tab will act as a checklist, reminding you to check for all the vital signs of your colony's health and wellbeing.</p>
<p>HiveTracks Mobile App</p>  <p>ON THE FARM</p>	<p>Hivetool Mobile</p> 

<https://beekeeping101.com/best-beekeeping-apps/>

43

What to record?
(anything important to you)

For me:

1. Weak or strong? Food status
2. No queen? Brood pattern? Brood disease?
3. need supers? (when supered?)
4. Defensiveness, queen cells
5. Mite levels (how many deformed winged bees)
6. Food levels, need uniting? (**Sept**)

44

Thank you for your time!



beetography.com
bees.msu.edu cyberbee.net

45

Evaluation Survey



After *Each* Break Out Session:

1. *Scan* QR Code for Brief Survey
2. *Select* Break Out Session

Thanks in Advance for your feedback!!
