

Ashe County Beekeeping Association
Regular Meeting Minutes
June 8, 2017

1. Visitors: Ray and Lee Golds, Fleetwood community. Have just started with keeping bees.
2. Introductions.
3. Bee reports?
4. Announcements:
 - a) 2017 dues can be paid tonight.
 - b) Bee Buzz magazine has article on Bob Coles...nominated by Watauga and Ashe County Beekeeping Associations.
 - c) February - sked time to come to Baldwin bee yard for practical portion of test.
5. Greg Fariss, NCDA&CS is our guest speaker - Ashe, Mecklenburg and Gaston county are his areas...
 - a. What do you want to know about re: pests and diseases? (Slide presentation...)
 1. Diseases, parasites and pests - identification and controls
 - a) Bacteria
 - b) Fungi
 - c) Pests
 - b. Bacteria
 1. American Foulbrood Disease
 - a) Most serious honey bee disease
 - b) As cell cleaning bees remove dead larvae and scale, spores are spread.
 - c) Very rare disease, but it is so contagious, infected larvae die, collapse and dry into scale.
 - d) Symptoms:
 1. Capped cells appear sunken with one or more perforations.
 2. Dead larvae
 3. Odor is distinctive.
 4. Stick stirred in remains ropes-out as stick is removed, then snaps back.
 - e) Laboratory confirmation:
 1. Visual under a microscope
 2. Modified milk drop test
 3. Culture in petri dish
 - f) Also a honeybee foulbrood test kit
 - g) Dog can be trained to detect...
 - h) Treatment:
 1. Duramycin/Terramycin (oxytetracycline HCL) or Tylan (Tylosine)
 2. FDA requires a prescription from a veterinarian
 3. More than a few diseased cells: kill bees and burn equipment
 4. Kill bees and treat equipment with ethylene oxide (ETO).
 5. So dangerous because spores can exist for years!
 6. Very distinctive odor...sample passed around with a section of comb that was diseased.

2. European Foulbrood
 - a) Bacteria disease, non spore forming
 - b) Dead or dying larvae is in twisted position, sometimes white/yellow tracheae are visible.
 - c) Dead larvae easy to remove and not "ropy"
 - d) Duramycin/Terramycin treatment recommended.
3. Fungi: Chalkbrood
 - a) Mummies can be found in cells, on the bottom board and outside the hive entrance.
 - b) Treatment - No medications available.
 - c) More common with cold, wet spring. Move to a dryer location will help to clear up.
- c. Fungi: *Nosema apis* and *Nosema ceranae*
 - a) Attacks the epithelial cells of the bee's digestive tract. Competes for nutrition with the bee...apis is worse during the winter, ceranae is bad all year round but at it's worst during the summer.
 - b) Symptoms
 1. Subtle, not distinctive symptoms
 2. Extreme infection: swollen, creamy gut
 3. Worker life span is 20 - 40% shorter
 4. Colonies rear less brood
 5. Higher supersedure rate of queens
 6. Heavier winter losses
 7. Honey production reduced by up to 50%
 - c) DX with a microscope
 - d) *Nosema apis* does not equate to dysentery
 - e) Medication - preventative treatment...only accepted TX and there is no alternative
 1. Fumagilin (Fumidil B, Fumagilin-B) in 2:1 syrup...feed two gallons/colony in the fall (summer too?)
 2. Requeening (colonies vary in susceptibility), relocate hives to better wintering location
 3. May stop selling in US!
 4. Does not require veterinarian approval.
- d. Pests: wax moths, greater and lesser
 - a) Greater wax moth - *Galleria mellonella*
 - a) Lesser wax moth -
 - b) Worldwide and attacks all Apis
 - c) Do not kill a colony...female wax moths fly into a weakened colony and lay eggs.
 - d) Weakened colony does not remove the caterpillars who are able to grow in numbers and reduce the comb to debris.
 - e) Control
 1. Freezing temps kill all stages of wax moths

2. Paradichlorobenzene crystals (moth balls) - one tablespoon on a sheet of paper for each four or five boxes. Fumes kill all stages except for the eggs. Tx must be continuous
 3. Any formula with naphtha should be avoided as it will kill bees.
2. Small hive beetle
 - a) *Aethina tumida*
 - b) From southern regions of Africa. SHB acts as a scavenger of weak colonies.
 - c) First detected in '96. End of '98 established in many counties in NC.
 - d) About 1/3 size of honeybee
 - e) Watch for SHB when you first take the cover off the hive...club shaped antennae, shield shaped thorax and short wing covers.
 - f) Run from light...congregate in corners. Adults don't do damage, but lay eggs in hive cracks and crevices and larvae prefer to eat bee eggs and brood. Burrow through brood nest. After 10-14 days, larvae measure 10-14 mm long.
 - g) Adults can disperse 5-10 miles to find a hive...adults attracted by odor from the hive, bees, brood, other adult beetles and fermenting honey and pollen.
 - h) Can survive and move with swarms...
 - i) Control the adults so they don't lay eggs that become larvae.
 - j) Freezing kill all stages of the SHB.
 - k) Extract honey immediately after removal to avoid SHB.
 - l) Control:
 1. Ideally: genetic solution
 2. Hygienic/defensive/confinement/seal cracks
 3. Chemical control - CheckMite (coumaphos)
 - a. GuardStar - Permethrin
 4. Non-chemical control
 - a. Keep hives in full sun - beetles have trouble with low humidity/high heat
 - b. Change locations
 - c. Maintain strong colonies
 - d. Use traps
 - m) Future control? Pheromone Lures. Use in traps around the apiary.
 1. Nematodes: microscopic "roundworms" that attack developing pupae/adults in the soil.
 2. Micro-fiber cloth/pads Swiffer pads) - cut into quarters and put in upper corners of hive.
3. Varroa
 - a) *Varroa destructor*
 - b) World's most destructive pest
 - c) Large mite can be seen with naked eye.
 - d) Mites on backs of hives = HEAVY infestation
 - e) Everybody has mites!
 - f) Worldwide distribution, except Australia
 - g) Originally found in Asia
 - h) Native to Korea, Japan and Thailand

- i) Only reproduce on honey bees.
- j) Honey bees live in high density colonies, thus produce high density of mites
- k) Mites pass easily from bee to bee and spread quickly between colonies by drifting drones and workers.
- l) Spread?
 1. Take bees/brood from strong colonies and give them to weak colonies
 2. Transport colonies to other locations
 3. Swarms spread mites to other locations
 4. Strong colonies rob weaker ones when a weaker colony is dying.
- m. Life cycle
 1. Phoretic phase - ride on back
 2. Reproductive phase - before a cell is capped, female mite leaves the adult bee it was feeding on and crawls down the side of the cell to the larva at the bottom
 3. Crawls under the larva and submerges itself in the brood food left by the nurse bees.
 4. After cell is capped, the larva eats the rest of the brood food.
 5. Egg to adult mite - 7-8 days for females
 6. In 4 months, 5 mites can produce 15K + mites...treat!!
 7. Varroa population peaks right when winter bees are being formed. Mite population follows behind the bee population. In August, bees start raising winter bees. That's when you have the maximum # of mites. Treat your bees in July.
 8. The things that kill the bees are the viruses that are being passed by mites...most viruses don't show symptoms, but shorten the bee's life. Most bees are infected with multiple viruses.
- n. Sampling:
 1. Sticky board. Place under colony, wait, count mites. Poor method to decide when to take action!
 2. Ether roll, used back in '90s.
 3. Sugar roll or sugar shake...completely coat bees and mites fall off. Place screen lid on jar and shake over a thin layer of water in a pan...mites and sugar come off, sugar dissolves, count mites. In a sample of 300 bees, 5 or more mites, treat!
 4. Tools for varroa management - honey bee health coalition.
- o. Medications for Varroa control...
 1. Soft vs. hard...
 2. Soft are water soluble - Mite-Away Quick Strips, Api Life Var, Apiguard (thymol), HopGuard II, Oxalic Acid

6. Find methods and control products by going to the Internet to <http://honeybeehealthcoalition.org/varroa/>...PDF documents with TX and methods.

TOOLS FOR VARROA MANAGEMENT

A GUIDE TO EFFECTIVE VARROA SAMPLING & CONTROL

HEALTHY BEES • HEALTHY PEOPLE • HEALTHY PLANET™



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7. Also, Randy Oliver - <http://scientificbeekeeping.com>

Q&A:

1. Has anybody done any studies with use of oxalic acid, treating 3X? No reports of queen being killed by using oxalic acid when used according to label.
2. Always do a sugar shake prior to Tx.

Door prizes:

1. Hidden Happiness Bee Farm donated a frame lifter - Ima Golds
2. Hidden Happiness Bee Farm donated fuel - Josh Branam
3. Bee balm plant - Jim Rash
4. Honey dipper - Ben Ray
5. Purple cone flower plant - Doug Hart