

Beekeeping



Session Four:
Products of the Hive,
Africanized Bees,
Diseases/Pests of the
Honeybee

Agenda

- Products of the hive
- Diseases – treatments
- Pests – control measures
- Africanized bees
- Resources for further study
- Q & A



Products of the Hive

- Honey – food
- Pollen – dietary supplement
- Propolis – medicinal
- Bee venom – medicinal
- Royal Jelly – food
- Beeswax – candles, crafts, cosmetics, etc.



Honey

- Forms of harvest
 - Extracted – by centrifuge or press
 - Comb – removed from frame
- Collected in supers
- Use of queen excluder recommended
- How bees convert nectar into honey (distribution, consolidation, capping)
- Judgments
 - Is it honey yet?
 - How much to take without leaving bee short



Pollen

- Removed from bees in pellet form
- Collected by use of “traps” at hive entrance
- Traps retard free movement of foragers, drones
- Caution: use pollen traps intermittently so as not to adversely effect brood development
- Collected pollen is subject to mold
- Remove chaff and debris
- Perishable, dry and refrigerate



Beeswax

- Cappings (not burr, brood comb wax)
- Heat cappings (melts at approximately 140 degrees) in water
- Drain to bucket through strain to remove debris
- Allow to cool, wax will harden on top
- Remove wax, reheat, strain again
- Pour into a mold and cool to form
- **Caution:** beeswax is quite flammable



Propolis

- Origin is plant resins (gum, sap, pitch)
- Bees add enzymes, sanitary agent
- Used in several ways
 - “varnish interior surfaces of nest cavity
 - Fill small (below bee space size) cracks
 - Use to restrict entrance, air flow
- In warm weather, very sticky, like putty
- Collected by “traps” placed within the hive
- Traps removed, frozen, propolis broken off



Other Products

- Venom, royal jelly, bee larvae
- Destructive to harvest
- Difficult to harvest in any quantity
- Not feasible for most of us



Principal Diseases/Pests

- Nosema – dysentery, signs, Fumidil-B in syrup
- Foul Brood – serious, easily spread (more to follow)
- Traceal mites – microscopic, menthol or grease patty
- Varroa mites – very common (more to follow)
- Wax moths – very common, best defense is strong colony, proper storage of drawn wax
 - Active in warmer weather
 - Eggs laid in brood comb, larvae feed on comb debris
 - Very nasty, extensive webbing, a real mess



Varroa Mites



- Varroa mites –
 - Centered in brood comb, particularly drone cells
 - Life cycle occurs while drone brood is capped
 - Feeds on bees' body fluids
 - Weakens colony, vector for disease
 - Signs: can be seen, on bees, on drone larvae
- Best defenses: bees with hygienic traits, IPM measures
- Commercial & natural treatments



Foul Brood

- Bacteria spores ingested by very young brood
- Two types: American and European
- Signs – odor, appearance (brood capping, larvae)
- Treatment – commercial medication, isolation, care to avoid spread by beekeeper's activity and equipment
- spores have extremely long viability (40 to 75 years), easily spread
- Recommend further study of this subject



Comments About Treatments

- Applied well before/after honey supers present
- Calendar/schedule implications
- Follow dosage instructions carefully – fear of building resistance
- Some can be administered as a preventive measure
- Know what you're doing
- Fortunately our climate seems to mitigate occurrence of the more serious diseases



Colony Collapse Disorder (CCD)

- Population greatly diminished
- Queen is present
- Seems to a result of multiple causes
- Still being investigated
- Foragers unable to return to hive



Perspective

- You are the veterinarian
- Be prepared
 - Ability to recognize (see resource sheet)
 - Choose methods of treatment
 - Know treatment protocols, dosage
 - Respond on timely basis
- Disease does occur; not prevalent
- Routine inspection is important to detection and rapid treatment



Other Pests/Predators

- Ants – attracted by sugars – set legs of colony platform into vessels holding oil
- Hive beetles – not a factor here (yet)
- Africanized bees – can invade and take over a colony – best defenses are colony strength, small entrance
- Skunks – feed on larvae – best defense is to elevate hive entrance and use nail pad
- Bears – feed on larvae –well grounded electrified enclosure around perimeter of apiary



Pesticide Poisoning

- Dead bees accumulated in front of hive
- Extended proboscis (tongue)
- Signs of paralysis, quivering, disorientation
- Sudden occurrence
- Exposure
 - Sub-lethal doses accumulated by foraging
 - Drifting from application spraying
- Protection
 - Cover hive with damp sheet
 - Notification to neighbors of bees in the area



Africanized Bees (AHB)

- A hybrid strain of honeybee
- Dominant gene intensifying defensive behavior
- Most distinguishing characteristic
- Physical differences, hard to observe visually
- Tucson Bee Lab, samples for testing
- Can invade, take over a European colony
- “All” area feral colonies assumed to be AHB
- Implications: mating of superscedure queens, purchase of mated queens to requeen colonies
- “Hot” colonies – separate by minimum of 10 feet



Further Study

- Amazing amount written about honeybees
- Visual: YouTube, vendor websites
- Internet: blogs, trade groups, message boards
- Publications—magazines, books
- Courses of study
- Master beekeeping program
- MUCH MORE TO LEARN



Q & A

- Products of the hive
 - Set up to collect
 - Harvest process
- Disease
- Pests/predators
- Africanized bees
- Further study



Closing

- Thanks to Brushy Mountain Bee Farm for donation and sponsorship
- Field sessions
 - Schedule
 - Logistics
 - Objectives

