

Southern Arizona Beekeepers Meeting

DATE: 6.14.2017

LOCATION: Eckstrom Library @ 22nd Street and Columbus

ATTENDEES: (29) Lucas Schvindt, Will Fitz, Jaime de Zubeldia, Tom Decker, Kevin Coyle, Richard Clark, Hannah Clark, Robert Dillon, Andy Peralta, Mitch Anderson, Sadie Parent, Sarah Parent, Nitesh Shah, Angie Shah, Lane Ellwood, Randy Wells, Monica King, Dan King, Zac Palmer, Mark McCarty, Keith Outwater, Randy Cade, Emily Scobie, Michael Hobbs, David Brown, Karen Moriah, Warren Edwards, David Fales, Steve Riggs.

FACILITATOR: Lucas Schvindt

PRESENTOR: Tom Chester – has many years experience as professional beekeeper in San Francisco California and Oregon. Moved to Tucson recently.

Dicussion Topic - Varroa Destructor (Power Point presented by Tom Chester)

Varroa Destructor anatomy – related to ticks, about 1.5mm by 2 mm. Relative to a bee this is the size of a rabbit. Reddish brown in color, resembles a tick.

Varroa is the bane of modern beekeeping.

- Reproduce on a 10 day cycle
- Female mite enters cell of uncapped brood,
- Prefers drone brood, but will take worker brood
- When cells sealed, female lays eggs
- Young mites attach to emerging bee
- Mites carry disease

Colony Symptoms of Varroa Problem

- Mites obvious on brood, emerging bees, or foragers
- Deformed wings on bees
- Discarded larva
- Spotty brood pattern
- Decline and death of colony

Mite population growth curve

- Mite growth curve lags behind the bee curve
- Mites/hundred bees greatly increases in fall
- Colony of bees highly infested is likely to fail
- As mite population increases colony will collapse – threshold is lower than 6 mites:100 bees

Detecting mites and sampling mite levels

- Bees with deformed wings
- Mites visible on bees in colony

- Mites on drone larvae
- Mite fall on screened bottom board
- Powdered sugar roll – Put ½ cup bees (about 300) in jar with confectioners sugar, shake well for 2-3 minutes and shake onto white surface.
- Alcohol Wash – put ½ cup bees (about 300 bees) in jar with rubbing alcohol. Shake for 2-3 minutes, strain out liquid, count number of mites, divide by 3 to determine percentage of infection.

Mechanical Methods of Mite Control

- Screened Bottom Boards - questionable worth
- Drone Culling – using drone foundation
- Hygienic Queens – hygienic bees detect, uncap and remove infected pupae before they become infectious, slowing the spread of disease and Varroa population growth
- Sugar Dusting – questionable worth
- Small Cell Foundation – questionable worth

Breaking Brood Cycle Approaches –

- Caging the queen in the existing hive, preferably with push in cage
- Making a nuc with old queen and allowing original colony to raise a queen

Advantages

Reduces mite population

Opportunity to treat for mites because nearly all are phoretic

Opportunity to requeen with hygienic or Varroa resistant stock

Disadvantages

Requires careful timing

Reduces potential colony honey production

Requires finding queen

Risk of queen not being accepted

Open mated queens likely Africanized

Chemical Methods for Mite Control

Hard Chemicals

Amitraz – Apivar

Apistan – fluvinate (proven ineffective)

Check Mite – coumaphous (organophosphate) – losing effectiveness

Soft Chemicals

Essential Oils – ineffective

Mite Away Quick Strips, Mite Gone – formic acid

ApiGuard, AviLifeVar – thymol products - these are temperature dependent for treatment

HopGuard – beta acids from hop plant (can be used during honey flow)

Oxalic acid (wood bleach) – drip, vapor, in media with glycerin (this is not yet approved, under study)

Vaporizer – requires apparatus with electrical source,

Drip –

Glycerin with OA in media (shop towel) – not EPA approved, still being researched

Do It Yourself methods – ineffective

- propane fogger with FGMO – (food grade mineral oil) -
- essential oils
- sugar dusting

Integrated Pest Management (IPM)

- Monitoring methods – sugar shake; alcohol shake, sticky boards
- Chemical controls – ApiLifeVar, Apistan, Apivar, Hopguard, Check-Mite, Mite Away Quick Strips, Oxalic Acid
- Non Chemical controls – drone brood removal, powdered sugar dusting, brood cycle interruption
- Physical – screened bottom boards, small cell foundation,
- Genetic – mite resistant stock, Russians, Minnesota Hygienic, others
- Management – colony separation to prevent drifting, requeening gwith local survivor queens

Summary

- Whether you treat for mites or not is your choice
- If you do treat, vary the miticide
- Test your colonies for mites at least once a month
- Test before and after you treat
- If you don't treat, your colonies will die. If you do treat they may die anyhow

Methods used by local professional beekeepers:

Will Fitz – Apivar – very effective

Thymol (ApiGuard) very temperature sensitive.

Oxalic Acid dribbles when broodless (Thanksgiving to Christmas)

Formic acid is the only treatment for mites inside cells

Monitors for mites at least twice each year

Monica & Dan King –

Amitraz & Apivar during honey flow

ApiGuard – in early spring at reduced dosage. It can drive bees out of hives due to smell.

Monitors and treat three times each year, early spring, summer, late fall.

Jaime de Zubeldida –

Uses IPM, does not use screened bottom boards..

Raffle for smoker, queen certificate, hive tool raised \$192.00 to be used for projector for Bee Club.

Next meeting will be July 12, 6:00 pm at Columbus Eckstrom library.