



The Managed Mentoring Program on getting started in beekeeping.

Managed Mentoring



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Watching for Queen Performance

Lesson | Summer Queen Problems



What is Covered in this Module

Acknowledging Possible Problems Can Occur

Queen Problem Origins – Root Causes

Queen Problem Indicators

Knowing What is Normal

Responding to Events



4 Summer Queen Problems

- Queen Problems sometimes surface in mid-year
 - *It is customary for some queen issues for first year beekeepers*
 - The nature in which a beekeeper obtains bees sets up the situation
 - Package bees with mated queens can cause problems
 - Aged queens in purchase Nuc Colonies
 - *Primarily Queens lose performance*
 - Sometimes it is a mating problem
 - Sometimes a queen simply reaches the end of her fertility window



Queens in Summer

□ First Consideration is what is Normal

- *Knowing prevents the wrong assessment*
 - When the nectar flow slows down, queens do not produce as much
 - Instead of full frames of brood, covered edge to edge on both faces, the queen may lay a small patch in the center of the brood area
- *The takeaway here is that brood production often contracts*
 - Sometimes brood production can contract all the way to no brood present in the colony.
 - This is not common, but it does happen, and it is not an indicator of a bad queen.



- From fully developed frames



- To something that is a little more contracted



Package Problems

□ Package Queen Mating

- *As covered in earlier lessons, some queens are not well mated*
 - They might do well enough in the season, but if they were poorly mated by the producer, summer is often when problems show up
 - Poor early weather for mating, lack of drones to mate with – several problems can lead to ineffective queens down the road.
 - Queen that get mated in a substandard way may make it through the initial push of the season only to falter mid-way through the year
 - There are a small percentage of queens where this occurs every year



Nuc Colony Queens

□ Queen are said to be 2-to-5-year proposition

- *Truthfully, it is not customary for a queen last five years – it just doesn't happen*
 - By experience we coach our beekeepers to expect 2 to 3 years. So often we see a queen's effectiveness wane or falter by 2.5 years
- *Nucs with second year queens*
 - Sometimes nucs **are sold with second year queens**
 - If you do the math, this means at the halfway point of your season the queen will be 2.5 years old and complications might arise.



Problem Signs

□ Poor Brood Patterns

- *It should be noted up front that there are some legitimate reasons for poor brood patterns that are not queen problems*
 - **Example:** Early in the season a queen starts to build a workforce, and then cold weather comes in and the colony contracts to stay warm, resulting in abandonment of outer brood. This outcome yields an unusual presentation of brood patterns for later inspections
 - This is just to demonstrate that sometimes circumstances come into play
- *If for some reason your brood looks shoddy, you should trace your steps back to see if there is a reason to explain it*



Poor Brood Pattern Visuals

■ Spotty/Shotgun Brood

- A queen should lay a tight even pattern.
 - *If you see haphazard spotty brood pattern, it could be a sign of queen failure on the horizon, and this is a watch*

Image Credit: CHRIS HOLLIS



Poor Brood Pattern Visuals

■ Bullet Drones

- Queens laying unfertilized eggs in worker cells
 - *This means the queen is out of sperm. She might not have been well mated, or her supply is depleted.*
 - *She lays what should be a worker, but without fertilization a drone is developed in a cramped worker cell – protruding from the top*



High Drone Production in Summer

□ Drones in Summer are Odd

- *Drones are not usually produced in abundance as the summer progresses*
 - If you see drones being produced in large quantities in summer, it could be a watch....
 - Drone cells normally would be in drone comb areas of the colony, and in tight concentric patterns.
 - They would not be haphazard and scattershot
 - They are not typically located in the areas where worker brood is being produced
 - It is an odd observation, but sometimes it sure appears that when a queen is failing, she produces more drones for some reason
 - Drones in the mother colony do not mate with daughters, so biologically this is odd... But it sure seems to be something that you might see and should keep an eye out for



Look for a Balance

□ Biologically Queens slow down in summer

- *As noted earlier*
 - Honeybee queens will not keep producing brood at significant rates when nectar flows are not providing free-flowing resources
 - However, a queen will continue to produce some brood and pick up again as the fall nectar flow comes into play
- *Your job is to learn what summer brood production patterns look like*
 - And pay attention to odd brood patterns, bullet drones, the presence of capped queen cells and so on.



If they try to make a new queen...

- The response form you is an it depends situation
 - *If the season is early, and they make a new queen, you can sometimes let it run its course and they will recover in time to build winter bees*
 - The longer the colony goes into summer, the more risk you take on
 - *Consider replacement queen availability*
 - Quality queens – and queen available for purchase, dwindle as the year progresses
 - If your colony runs into problems late, it is might be hard to get a queen
 - It also might be quite a setback for a queen to get up and operational
 - Recall that this is when they should be building winter queens



Queen Failures from Treatments/Handling

- **Treatments can be harsh on a colony**
 - *Depending upon what you are using and the conditions*
 - Sometimes treatments damaged queens and that leads to replacement
 - Also brood mortality may play a role in queen acceptance by the colony
 - *Be sure to check your queens for health post treatments*

- **Queens sometimes get damaged**
 - *It is important for you to be careful not to damage or kill your queen*
 - Always use care to look for and care for the queen when doing inspections



Remain Vigilant

- ❑ **Inspect periodically**
 - *Keep checking your colony throughout summer*
- ❑ **Find problems early and take action**
 - *The earlier the recovery from a problem the better*
 - Finding a problem late in the game makes it hard to recover and puts the colony at risk



Closing Comments

- **Customary Close**
 - Where we stand, where we are going...
 - *This lesson reviewed the need to check in on queens during the summer for performance problems*
 - *Our next round of lessons:*
 - Basics of Robbing Events
 - Looking out for Mite Infestations in the Fall
 - Propping Up Weak Hives
 - And collapsing hives down in preparation for winter



- **What Questions did we not anticipate?**
 - If you have feedback, you can leave a constructive comment; but be nice.
 - You could also send an email to comments@managedmentoring.com
 - *Please refer to this video in the subject so we know what the reference is.*

