

The Honey Bee Colony

Colony & Hive Management

BBE-Tech Apiary Services

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Should you be interested in becoming certified through BBE-Tech Apiary Services in Organic Beekeeping (after obtaining the Apiarist Certification) the written exams will be focused primarily on the material presented in this study guide.

If you are taking a Honey Bee Colony; Hive Management class offered by Tony Sandoval, you will have the advantage of being able to ask questions, verify information, clarify information and extrapolate ideas as they may apply to your specific apiarist endeavors.

If you downloaded this study guide from the BBE-Tech website, I hope that this provides you with information to help you be successful. You may arrange a private consulting/coaching session with Tony or arrange for a private class to be offered individually or for a group.

This manual assumes that you have already had some familiarity, education and/or experience with honey bee physiology and behaviors. If you have not, you may want to consider a private coaching session with Tony to become familiarized with this type of equipment.

Key "moments" in beekeeping are Spring prep, honey harvest and inspections. All are critically dependent on apiary planning.

◆ Seasonal activities

- Spring
 - Colony/hive increase
 - ⌚ Hive splits
 - Give splits from a hive the old queen, a new queen or a capped queen cell. Not raise own from brood.
 - ⌚ Package production
 - Equalizing colonies
 - Good neighbor practices
 - ⌚ Keep bees calm
 - ⌚ Minimize robbing and swarming
 - Equalize colonies
 - Add extra hive boxes
 - hive splits

- Reverse brood chambers
 - Re-queen
 - ⌚ Keep bees flying above head level (fences, etc...)
 - ⌚ Keep up a water supply
 - ⌚ Try to keep inspections/hive management at times not during neighbors cookout, etc... when possible
 - ⌚ It's better to have equipment ready and not need it than to need it and not have it.
 - ⌚ Only keep as many hives as can be properly supported by area forage or permit limits.
- Summer
 - Honey production
 - ⌚ Add space (supers)
 - Good neighbor practices
- Fall
- Combine weak colonies, weaker below stronger.
 - Honey harvest
 - ⌚ Pull full honey supers off
 - ⌚ Hive reduction
 - ⌚ Good neighbor practices
- Winter
 - Plenty of honey and pollen stores
 - Strong population
 - Young, fertile queen
 - Low pest presence
 - No observable diseases present
 - Good ventilation, upper entrance.
 - Protection from Winter winds, weather extremes
 - No mice allowed
 - Only fully draw combs in hive. No empty foundation or foundation-less frames

◆ Seasonal symptoms and circumstances

- Spring
 - Hive issues
 - ⌚ Dysentery
 - ⌚ European Foul Brood
 - ⌚ Scaffold
 - ⌚ Chillbrood

- ⌚ Swarming
 - ⌚ Mold
 - ⌚ high pest presence (mites, SHB)
- Summer
 - Absconding
 - High pest presence
 - Queen-less
 - ⌚ Laying workers
 - Drones reared in worker cells
 - Multiple eggs per cell
 - Eggs don't stand up. Lay on sides of cells
 - No evidence of Queensland "small" drones
 - Queen-left
 - ⌚ Failing queen
 - Loose/scattered brood pattern
 - Brood should have similar aged brood next to it older or younger in increments.
 - Quantity of brood at critical times.
 - Bearding
 - Robbing
- Fall
 - Robbing
 - High pest presence
 - Queen-less
 - Queen-left
 - Not enough stores
 - Dwindling population
- Winter
 - High pest presence
 - Climate fluctuations
 - Not enough stores
 - Dwindling population

◆ The inspection

- Identify
 - Know what to look for
 - ⌚ Varroa mites
 - ⌚ Small Hive Beetle/larvae
 - ⌚ Wax Moth/larvae

- ⌚ Robber activity
- ⌚ Predators signs
- ⌚ Environmental stressors
 - Starvation
 - Workers have been known to cannibalize larvae with no good sources. Larval skins at entrance. Drones first.
 - Excess moisture
 - Too much space
 - Too little space
- Know what "right" looks like
- Capped brood
- Cell sizes
- Healthy brood
- Healthy smell
- Agitated/stressed behavior
- Assess
 - Having identified stressors, how severe is the problem
 - Mite counts
 - Scale and scope of presence
- Evaluate
 - Based on identification and assessment, know what are next steps to counteract, reduce or eliminate the stressors
- Action
 - Based on evaluation, implement management or manipulation tactics indicated or planned.

⚡ Tactical management

- Bottom board
- Brood section
 - Try not to open brood chamber below 60F
- Stores section
- Adding boxes
 - Supering
 - Undersupering
 - Nadiring
- Inner cover
- Quilt box
- Outer cover

⚡ Colony Manipulation

- Queen replacement/introduction

- Make sure it's even necessary. Don't re-queen if not necessary.
- Best results to re-queen during a nectar flow.
- Reasons to re-queen
 - ⌚ Reduce swarming tendency
 - ⌚ Increase chances of winter survival
 - ⌚ Control of certain diseases (scaffold, EFB, chillbrood, etc...)
 - ⌚ Brood production for larger foraging force
 - ⌚ Improve colony behavior
- Laying workers
- Increased aggressiveness