

Topics: Second Year Beekeeping

- Spring Inspection
- Feeding
- Swarming Control and Capture
- Splits and Divides
- Hive Management
- Honey Removal and Storage

Late Winter Checks

- February / March assess remaining stores.
- Feed fondant or plain sugar if needed.
- No sugar water until +50F weather.
- Leave any hive wrap or fencing in place until after May.
- Pollen patties in early March to stimulate brood rearing.

Spring Inspection: Take Apart

- Do this on a 75+° day to avoid chilled brood
- Remove one outer frame, slide the rest in order
- Don't rearrange or separate brood nest
- Look for evidence of active queen

Continue Inspection

Take hive apart down to bottom board

Clean out debris on bottom

May be mouse activity in bottom box

Mouse-fouled parts must be replaced

Swap out hive parts that need repair.

Extra holes would need guarding

Spring Inspection: Back Together

- Consolidate frames, leave any honey on outside edges of brood nest.
- Can leave empty box (with frames) on bottom to avoid early chill winds on brood.
- Replace damaged frames with drawn comb if available.
- Keep hive wrapped and windbreaks in place until cold temperatures are past.
- Reverse brood boxes when dandelions bloom.

Spring Inspection: Dead Hive

- If hive is dead, deal with it promptly.
- Try to determine cause of death.
- If honey has been left, re-use, store or extract.
- Close up entrances if you can't take honey immediately to prevent robbing.

Spring Inspection: Storage, Re-use

- Take in hive parts, inspect, clean and re-use.
- Store any empty, drawn frames carefully to avoid wax moth damage.
- Drawn frames are valuable for new colonies
- Replace wax foundation 2 every year
 - Clean plastic frames down to base periodically
 - May be pesticide or toxin build-up

Spring: Feeding

Check stores and feed if needed:

Fondant and pollen patties in early spring

Honey frames if available

Don't feed syrup until +50F temps

1:1 sugar/water mix for spring

Frame feeder or on top frames with box

Keep entrance reduced until strong

Swarming



Causes of Swarming

- Bees way of reproducing
- Rapid build-up in Spring
- Congested brood nest or hive
 - Queen pheromone poorly distributed
 - New queen rearing is begun
 - Old queen leaves with about 50% of workers
 - Workers have raised new queen
 - New queen must be fertilized before laying begins

Conditions Before the Swarm

- Usually occurs in Spring
 - Sunny day following a stretch of bad weather
- Active Queen cups found on lower bars of frames (swarm cells)
- Hive is packed with bees and stores
- Usually inevitable once process is begun

Swarm Prevention

- Provide adequate space in hive

- Manage Brood space

- Provide space for storage of honey

- Allow for brood space expansion upwards

Don't have solid honey super right above brood.

Brood space must be adjoining and centered.

Swarm Prevention: Checkerboarding

- Place empty frames in every other position.
- Workers sense work still to be accomplished
- Can do this to brood also if hive is strong and temps. Warm.



Swarm Prevention cont.

- Check hives every 10-14 days during honeyflows
- Add space before congestion occurs.
- Divide strong colonies. (more on this later)

Catching a swarm

- Be alert for swarming—buzzing, cloud flying
- Usually they first land nearby the hive
 - Best time to capture is after first landing
 - Scout bees must locate new nest site
 - Put a large box or hive box with a bottom and a frame or two under the swarm and shake them in.

Put top on box—bees march in

Move to permanent location after dark.

Feed like you would a package.

Dividing A Hive

- Choose a **STRONG** hive to divide
- If done in time, may prevent swarming
 - Congestion is immediately reduced
 - Hive thinks they DID swarm
- Should be done by mid summer to give new colony time to build up stores for winter.
- Set up new hive location and decide on source of new queen.

Hive Inspection

What Do I need to Split?

- 2 Boxes full of Brood –
 - Both Boxes should see 7 – 8 frames fully drawn out
- Look at frames – Eggs, Larvae, Pollen, Honey???
- Hive must be Healthy and Happy

Hive Inspection for Split Planning

What to Look For in a Hive to Divide

- Brood Pattern on frames – Need ~ 10 -12 frames brood
 - Take 4 – 5 Frames of Brood and Larvae and Eggs 3 / 2/ 1
 - Take 1-2 Frames Honey and 1 with Pollen
 - Replace frames with empty but drawn frames if possible
- Presence of Eggs AND Larvae
- Queen – unless you are removing her, or like playing 'Where's Waldo', don't waste the time
- If you don't find her, wait 3 days. Hive with no eggs gets new queen.

MAKE Sure to take Notes

Hive Status	Queen Seen <input type="checkbox"/>	Marked <input type="checkbox"/>	Eggs <input type="checkbox"/>
Queen Cells with Egg, Larva or Pupa? <input type="checkbox"/>	Removed Queen Cells <input type="checkbox"/>	# Queen Cells Remaining <input type="checkbox"/>	
Emergency <input type="checkbox"/>	Spotty Drone Brood? <input type="checkbox"/>	# Frames with Brood <input type="checkbox"/>	
Swarm <input type="checkbox"/>	Worker Brood in All Stages? <input type="checkbox"/>	# Frames of Honey/Nectar <input type="checkbox"/>	
Supersedure <input type="checkbox"/>	Compact Brood Pattern? <input type="checkbox"/>	# Frames of Pollen <input type="checkbox"/>	
	# Frames of Foundation <input type="checkbox"/>	# Frames Open Comb <input type="checkbox"/>	
# Frames bees occupy in brood chamber <input type="checkbox"/>	# Supers in place <input type="checkbox"/>	# Supers added <input type="checkbox"/>	

MAKE Sure Hive being Split is HEALTHY

Colony Health Critical Analysis

- Inspect hive health
- Test for Varroa
- Requeen if needed
- What about Small Hive Beetle, Wax Moths, Ants?
- If not healthy, Do Not Split

Dividing a Hive cont.

I use a full-size box for new hive.

- Take 4-5 frames, with house bees, of capped brood from original hive. Try to add some open brood too.
3 / 2 / 1
- Add frames of honey and pollen.
- Add frames of drawn comb and foundation.
- Reduce the entrance.
- Recommend introducing a new queen

Queen Decision for New Hive

- Consider purchasing a queen for the queenless colony: faster than raising one.
- If bees raise a queen, more than 3 - 4 weeks to laying, 6 -8 weeks for new workers
 - Loosing 2 Months brood time – Think!
 - Break in brood cycle can reduce Varroa
- Fertilized, purchased queen, 3 weeks to new workers.

Managing Hot Weather

- Choose hive location with afternoon shade
 - Natural or man-made – Tree overhang?
- Ensure hive ventilation
 - Screen bottom boards
 - Lower and upper entrances for airflow through.
 - Remove entrance reducers on strong hives.
 - Bees need to cool the hive and cure the honey
- Give bees enough space in the hive

Provide Water

- Natural, perennial source if possible
- Nearby saves bees time and energy
- Fill containers with objects so bees don't drown.
- Bees can suck water from damp earth like watered garden, but should be steady source.
- Provide water or bees will find your pool!

Managing Hot Weather cont.

- White top covers reflect sun
- Insulation Top Covers
- Good Ventillation
- Don't worry about bearding, even at night

Combining Colonies

- May want to combine if a colony is weak or queenless.
- Check for disease in both first.
- Consider combining in late Summer if a colony won't last the winter.
- If done in Summer, consider making a nuc with the spare queen.

Newspaper Method to Combine

- Put a single sheet of newspaper on top of the frames of the stronger colony. Make small slits.
- Remove queen, if any, from weak colony.
- Put box with weak colony on top. Leave alone for a few days.
- Bees will chew through the newspaper and combine.

Moving Hives

- Must move either 3 miles or a few feet at a time.
- If 3 miles, leave for a couple weeks and bring back.
- Move when no honey supers on, if possible.
- Close all entrances and tie-down hive parts.
- Night move captures foragers.

Laying Workers

- Queen is lost.
- No young eggs available to raise new queen.
- One or several workers are stimulated to lay.
- Sterile workers lay only drones.
- Hive dwindles without worker replacement.

Signs of Laying Workers

- Hive appears weak.
- May be several eggs in one cell.
- Eggs placed on side rather than bottom of cell.
- Only drone brood being raised.
- Amount of workers has decreased.

Fixing a Laying Worker Colony

- Not easily successful.
- Impossible to locate the laying workers.
- Colony may reject an introduced queen.
- Best to combine the colony with a strong hive.
- Maybe let it meet its inevitable doom.

When a Honeyflow is On

- Busy bees—lots of foraging
- Fast comb production—new white wax
- Much nectar storage (uncapped liquid)
- Fanning at the entrance (evaporating nectar)
- Bees easy to work with—happy bees

When a Honeyflow is on (cont.)

- Frames can fill very fast: make sure to give bees enough space in the hive.
- If newly added honey super is placed below filled one, may need queen excluder.
- If new honey super is placed on top, queen excluder not needed.
- Disturb the hive as little as possible during flow: check brood, etc. another time.
- “Fixing” the hive after human disturbance takes bees away from foraging.

Robbing



Signs of Robbing

- Increased activity at entrances-hovering
- Bees looking for other ways in—back and sides of hive
- Battles on the landing pad
- Other types of bees try to enter
- Defensive behavior of hive
- Capped honey opened

Why Hives Get Robbed

- Weak colony—not enough bees to protect it
 - Loss of queen
 - Disease
 - Swarming
- Too much space for guard bees to patrol
- Smell of open honey once robbing starts
- Putting wet, extracted frames on weak hive

How to Prevent Robbing

- Check for normal activity at entrance
- Check often for active queen
 - Eggs and capped brood in good amounts
- Keep size of hive “right” for numbers of bees
- Don’t add open honey to vicinity
- Actively work to prevent swarming

If Robbing is Happening--



Reduce the entrance.

Robbing screen.

No direct fly-in.

Confuse the robbers.

Or add a wet bed sheet



Taking Honey for Extraction

- Must leave 80-100 pounds for the bees: about 4 medium supers or 2 deeps and a medium.
- If less honey than that left, must feed in fall.
 - Feed a month before end of season for curing time.
- Excess honey left on hive will be “babysat” by the bees until a later time.
- Early summer extraction assumes that late summer/fall forage will be available. (Will it?)
- Take honey for extraction off before medicating.

Honey Frame Removal

- Do when foragers are out.
- Fume boards drive bees down immediately.
- OR, take frame by frame, brush off bees, and store in empty box with cover ~10' distance from hive.
- OR, use a bee escape: return next day.
- Waiting too long to extract invites pests and crystallization.

Questions?