

Mountain Beekeepers Association

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Topic: Spring Buildup

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January thru March, the critical survival months:

- January thru March is when most hives die, with March usually the worst
 - Starvation (bees heads stuck in cells), bees can't move to food source
 - A small population and cluster may freeze
 - Nosema and or high varroa mite level
 - Extreme cold, bees can't move to food source sometimes if only a few inches away
 - Wet, condensation from warm air from cluster hitting cold inner cover and dripping down on bees
- Stress is at its greatest on the lowest population
 - Put candy board or hard sugar blocks on for winter as an emergency feed source around
 - Check hive every 2-3 weeks to make sure they still have food
 - Don't open hive if temperature is less than 40 degrees
 - Keep hive open only minimal time to add food
 - Move emergency food on top of cluster
 - Clean and check SBB if you use them

Winter feeding (January-March) is for survival

- Hard sugar cakes
- Hard sugar cakes with protein added
- Sugar/Protein patties
- Candy boards
- Protein Patties
- Winter Patties (Dadant) very similar to my sugar/protein patties
- Wet sugar (Just enough water to create very thick mixture, put on wax paper on top of frames)
- Dry sugar
 - Placed on top frames on newspaper and wet slightly
 - Placed on top of inner cover
 - I don't use this option
- Honey Bee Healthy
 - I use this year round in liquid or solid feed
 - Use 4-5 teaspoons per gallon
- Put Winter food supplies on by January 1st
- Check supplies every 2-3 weeks
- Try to check hive quickly on 40-50 degree day
- Depending on weather, February is the time to begin preparation for honey season
 - Feed 1:1 syrup, stimulates brood rearing

- Pollen patties

Spring Buildup:

- This occurs mainly in March and April but you must start in February
- Weather is a major factor determining when we can get started building up our hives
- Need temperatures at 40-50 degrees or above for bees to break out of their cluster
 - Keep hives open for minimal time to put feed in, brood can get chilled
 - If temperature is around 50 degrees you can have hives open longer

Feed:

- Feed 1:1 syrup
 - This stimulates the queen to start laying
 - Bees usually won't take liquid feed unless temperatures are averaging above 50 degrees
 - Add Honey B Healthy to syrup, 4-5 teaspoons per gallon syrup
- Feed protein/pollen patties
 - Queen requires protein to lay eggs
 - Brood Builder, AP 23 or Mega Bee are three common brands of patties
 - Feed only what bees will eat (hive beetles love protein patties)
 - Keep patties on throughout the spring even if pollen is coming in, bees will stop eating the patties once an ample supply of natural pollen is coming in
 - Should see bees bringing in pollen from Maples in early March
- If you had hard sugar candy or other winter feed in hive it is ok to leave that there a couple weeks
- Treat for Nosema
 - Usually treat once bees start taking 1:1 sugar water well
 - Add Fumagilin-B at a rate of one rounded teaspoon per gallon syrup
 - One gallon medicated syrup per two box hive (20,000 bees)
 - One half gallon medicated syrup per single box hive (10,000 bees)

Evaluating the hive:

- You must have a strong hive ready for the honey flow to get good honey production
- You can't have your hives building up on the honey flow
- Bees will make sure their brood boxes are full before putting any excess honey in supers
- The honey flow starts in KY mid-April and typically runs through July 1st
 - Actual honey flow always depends on the weather
 - The main flow usually begins around May 1st- May 10th
- Around March 1st your hive population ranges from 2-5 frames bees
 - When you look into the top of your bees, see how many frames have bees
 - A covered frame of bees contain about 1500 bees each side
 - This time of year you would like to see 5 frames of bees, about 15,000 bees, this is considered a fairly strong hive coming out of winter

- If you have less than 3 frames of bees you probably have a weak hive
 - Remember 3 frames is about 10,000 bees or less
 - This does not apply to Russian bees, 2-3 frames of bees are very common and normal for Spring
- If you use screen bottom boards, check boards to determine strength of hive
 - Look for excess mites on boards
- If you start feeding 1:1 syrup and protein patties and temperatures are averaging in the mid to upper 50's your queen should be laying 1000-1500 eggs per day
- When temperatures stay in the 60 degrees range usually around late March - April 1st, this is a good time to check out our queen and laying patterns
- You should see a difference in the number of frames with bees than you did in early March
 - Takes a worker bee 20 days to hatch from an egg and 42 days total to become a foraging bee
 - To have a large foraging workforce by May 1st, you must have a lot of new bees by mid March, must be rearing brood in February and March!!!
 - If queen starts laying 1st February and averages 500 eggs per day for 30 days she will have laid 15,000 eggs by mid March. Those bees will now be foragers by April 1st.
 - You should see at least a couple additional frames of bees
 - This is one argument for having young queens in Spring, first year queens typically lay more than older queens
- Remember you must have a **STRONG** colony of bees to produce honey
 - You want 60,000 bees around middle of May if possible for main honey flow
 - One large colony 60,000 bees will out produce two colonies of 30,000 bees
 - A colony requires 15,000 bees for nurse and house bees
 - So a colony with 60,000 bees has 45,000 forager bees and two colonies of 30,000 bees have 15,000 forager bees each for a total of 30,000
 - Combine Hives if necessary to create a strong honey production hive
 - Worker bee life span:
 - 1-10 days: nurse bee, clean cells, generate heat, feed larva
 - 11-18 days: ripen nectar, build comb
 - 19-21 days: guard bees, hive janitors
 - 22-end of life: honey and pollen forager (in the summer lifespan is about 6 weeks)

Avoid Swarming:

- Two main types swarms:
 - Congestion: Bees feel crowded, most common swarms
 - Queen replacement: Queen pheromone (Queen perfume) is getting weak and bees think queen is failing
- Bees want to swarm right before major honey flow

- Swarming season in Central KY around April 1st to end of May, but can be longer
- Bees getting congested or crowded in a hive can quickly lead to swarming
 - Adding boxes or supers of drawn comb works really well to give the bees space to store nectar and have space
 - Foundation won't work as well as drawn comb, but put a box on to give them room to expand, but only add one box at a time until that box has 60-70 percent of the foundation pulled
- Add a super of drawn comb by April 1st and have multiple supers on by April 15th (tax day)
- Add brood from a super strong hive to boost weaker hive can help prevent swarming
- Use slatted board
 - This give extra space for bees
 - Keeps the light out of the bottom of the hive, queen don't like light
 - This will let the queen lay more in the bottom of the combs of the bottom box
- Reversing brood boxes if necessary
 - Around April 1st and when night temperatures average around 50 degrees
 - Bees tend to move up into top box in winter and queen doesn't like to move back down
 - Reversing the brood boxes puts the empty box above queen and brood and gives space for queen to move up into and lay
 - You can reverse a couple times every 10-14 days if necessary until mid-May
- Create a nuc, or re-queen
 - Can create a nuc from parent hive by removing existing queen into a nuc box around April 1st and let parent hive raise a new queen from eggs
 - Can purchase a queen and re-queen parent hive and remove existing queen to a split or nuc
- If you find swarm cells, you can't stop the hive from swarming
 - Bust up the hive into nucs using the swarms cells you find
 - Place no more than two swarm cells in a nuc
 - Swarm cells make excellent queens
- **Summary:**
 - Feed, feed, feed
 - Check queen for laying patterns
 - Try and avoid and control swarming
 - Get supers on hives early and over super