# South Carolina Midlands Beekeeping Calendar A Monthly Guide to Managing Your Bees



These chores are for the Midlands of South Carolina or a similar climate where the bees are flying a least a few hours most days of the year.

These are general guidelines for the average bee colony in the Midlands of South Carolina. We all have hives that outperform the average. We also have colonies that underperform the average. Use your judgement in making any changes suggested here. Beekeeping is an art as well as a science. Only you know the many particulars associated with your physical hives as well as the general health and population of your colonies.

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## Introduction

The Midlands of South Carolina offers a wide range of beekeeping opportunities and challenges. The yearly climate is diverse, ranging from temperatures as low as the teens and highs over one-hundred farenheit. It is not unusual for temperatures to differ as much as forty degrees over a twenty-four hour period. Our bees are often given cues for early spring buildup and sometimes swarm as early as February when Red Maple preceeds the beginning of the reproductive season. The nectar flow, however, is typically not forthcoming until late March or early April. The time between February and the end of March can be a dangerous time for spendthrift bees betting they will have enough stores to feed brood and support the spring buildup.

This beekeeping calendar was created not only to remind the beekeeper of what the bees are doing during each month of the year, but more importantly, to remind the beekeeper what they should be doing to support the bees, reduce their stressors, and assist them with preparing for the coming months. The bees do not wait for a crisis to arise before taking action, and neither should the beekeeper. Instead the bees' behaviors are often in preparation for the coming months. Spring buildup in the Midlands starts in January, drones diminish in August, and brood rearing is curtailed in June as the short Midlands nectar flow ends. To be successsful, the beekeeper must follow the bees' lead and act supportively and proactively throughout the year in support of the bees' forward-looking timeline.

One note on the calendar offered here. Many of the tasks seem redundant. An example is the many repeated reminders to manage varroa mite levels. Starting in June and continuing into late fall, the calendar reminds the beekeeper of this critical task. The calendar is "harping" on tasks such as this due to their importance. Your degree of success will depend on how soon you take action when the tasks are suggested. Waiting for the third or fourth reminder will reduce positive outcomes. Other examples include swarm trapping, making splits, and queen rearing. Always remember, the bees operate on their schedule not the beekeeper's. To dance with the bees means accepting that they lead the way.

In closing, I'd like to encourage you to add to this calendar. Make notes and edit it to suit your own microclimate. Updating it will provide you with a valuable resource in the coming years. Enjoy your time with the bees.

## January



**Hives in Winter** 

Hive checks this month are tied directly to outside temperatures. Do not disturb the brood chamber or break propolis seals around boxes unless absolutely necessary. A brief peek inside, looking downward through the frames, is okay on days the bees are flying. Even then, do not open the hive deeply or excessively during the winter months. Try to not be too disruptive in order to allow them to keep their house (brood box) in order for winter. Use of a stethoscope or an ear against the side of the hive will often tell you all is well inside.

Before we start our monthly chore list, it is assumed you have addressed varroa. If you have not yet performed this critical beekeeping chore get hopping. Early winter in SC offers beekeepers the perfect chance to treat their colonies for pennies by using the oxalic acid dribble method during our "mostly" broodless period (now). Here's an instructional sheet: How to Use the Oxalic Acid Dribble Method.

- l) Continue to assess stores by tilting your hives from the back to check for weight (hefting the hive). You may peek into the hive if the weather is warm, and the bees are flying. Check honey supply. Feed with a candy board, sugar bricks, fondant, or thick sugar syrup if below one-half super. Whatever you choose, the food must be placed close to the cluster or on top for them to access the food during wintry weather. If you saved frames of honey you may add these (after thawing), placing them close to the cluster.
- 2) Long periods of temperatures below 50F will keep the bees inside and clustered. If you would like to check on them place an ear against the side of the hive and give a knock to the side of the hive. You should hear a roar. An alternative method is to use a stethoscope which you can use to determine exactly where in the hive the cluster is located.

- 3) Continue to clean, repair, paint, and construct new equipment. Clean up and repair any dead-outs. <u>Learn from your dead-outs.</u>
- 4) Late January, eagerly look for the start of <u>Red Maple</u> blooms by monitoring the sides of Interstates and roadways.
- 5) Colony population starts increasing this month. Population will rapidly accelerate when Red Maple blooms. Be prepared for a rapid decrease in the amount of food stores as the population expands and they start to feed more larvae. This increase in food use will become exponential.
- 6) Check for pollen stores and pollen coming in. If none, consider feeding dry pollen substitute in a feeder outside the hive.
- 7) <u>Moisture control</u>: Frequently check for excessive moisture on the underside of the telescoping cover. If wet, consider adding an empty box above with an absorbent material such as sawdust in a burlap bag or a quilt. Increasing ventilation will also lower moisture inside the hive.
- 8) If colony is dwindling or queenless combine bees with another colony.
- 9) Historically our swarms over the past five years have been coming earlier. A mild winter can result in swarms in mid-February. This year, consider <u>building a nucleus hive</u> or a portable hive for swarm captures. <u>Build a swarm trap</u> to capture your own swarms (and your neighbors).
- 10) Order package bees and queens now for delivery mid to late March or as early as possible for your area.
- 11) Plan now and get started on changes you are going to implement this season.
- 12) Call, visit, or write farmers or landowners where you would like to place hives for out yards next spring.
- 13) Read a good beekeeping book.
- 14) Register for a spring conference or other beekeeping educational opportunity.

- 15) Renew your association membership. Attend local meetings.
- 16) Scout trees for placement and prepare swarms traps. Construct swarm capture bucket.
- 17) <u>Build a nuc box</u> now to keep in your car or truck for community swarm captures next spring. Register with on-line swarm call lists.
- 18) 'Tis the season to be grateful. Be thankful to have a local beekeeping association with hard working volunteers serving the membership and community. Thank a club leader or volunteer; offer to lend a hand.

## February



February begins a gradual warming in the Midlands but can often be all over the map with freezing temperatures as well as the occasional warm, even spring like, day.

Red Maple blooms in earnest at the beginning of this month and other early bloomers soon join in – look for them along the roadways. The queen goes full tilt with her egg laying and the colony makes plans for reproduction. A lot is happening but mostly it is a covert operation within the hives for the bees during February. While we humans believe it's winter, the bees have decided to go forward with spring plans and are building up their population in anticipation of colony reproduction (read what Randy Oliver has to say about <u>Understanding Colony Buildup</u>). For the beekeeper it is crunch time to prepare themselves and equipment for the coming rush of spring. Bees can and sometimes begin swarming the later part of February in South Carolina.

l) During inspections, this month we are looking to ensure the bees have enough food stores to support their current brood buildup. During February, the bees will be intent on raising lots of brood regardless of their pantry stores. This population increase will require food for the nurse bees, larvae, and additional heat to be generated from the workers. For that reason, the use of colony food stores is dramatically increased. We are entering a risky time for

colony starvation. Remember, the colony will keep everyone fed up until the last drop of honey is used then they will perish together, typically head down in the cells, if food is not available.

- 2) We get occasional warm, spring like, days in February. You may do a pre-spring inspection, checking for the presence of a queen and assessing the colony and stores. In fact, it is strongly recommended you assess the colony on a nice day, warm enough that the bees are out flying. Explore into the hive as far down as the brood nest if the weather is warm and the bees are flying. Note strength, they should be gaining in population. Be purposeful and brief. Check honey supply and feed with a candy board, sugar bricks, fondant, or thick sugar syrup fed from above if below one-half super. Whatever you choose, the food must be placed close to the cluster or on top for them to access the food during cold weather. If you saved frames of honey you may add these (after thawing), placing them close to or above the cluster. When removing a top telescoping cover with the inner cover exposed, if the bees are visible in the hole in the inner cover you likely need to feed. Typically, once feeding is started it continues until the nectar flow begins to prevent starvation of the growing colony.
- 3) Depending on the Midlands climate, be ready for an early buildup. Some colonies, especially those that were fed through the winter, may be making swarm preparations. As brood rearing continues and populations increase, make note of increased population and congestion in the brood area. <a href="Swap">Swap</a> (rotate) brood boxes</a> based on your assessment of buildup. Rotating boxes provides the queen with empty drawn comb to lay in as well as disrupts the colony with regards to swarm preparations. Only rotate brood boxes when all of the nest is in the upper brood box (food chamber). You do not want to split the cluster. Rotating brood boxes is a swarm prevention measure, not simply to get the queen into the lower brood box.
- 4) When rotating boxes notice that the bees will often have <u>built drone comb in the space</u> <u>between boxes</u> (bottom bar to top bar). You will break this comb as you separate the boxes do not panic. Before scraping the top bars clean, visually assess for the presence of Varroa mites on the drone pupae. Also note whether the drone pupae are at the purple eyed stage which indicates queen rearing may start soon if swarm prevention efforts are not implemented.
- 5) Low stress swarm prevention measures that do not disrupt the brood nest, such as hive body rotation, adding drawn comb above, and <u>nectar management</u> can typically be safely

done during early February. Later in the month, weather permitting (moderate temperatures), and depending on colony buildup and strength, you may want to perform more invasive swarm prevention methods such as the opening up the brood chamber with drawn comb or even empty frames if congested. (Next month we will talk about swarm control i.e., when they have ignored all your arduous work and decided to swarm.)

- 6) If your goal is to build up for honey production, or to make increase (i.e., splits) you may want to begin to stimulate the colony with feed. This will stimulate a population growth that will accelerate rapidly. Eggs laid on Valentine's Day, will reach foraging age by April 1st which often marks the beginning of the nectar flow in the Midlands. Be cautious, stimulating population growth will also stimulate swarm preparations. Your goal is to have lots of bees for nectar collection, but the bees have a different idea. Swarm prevention and control techniques should be constantly on your management agenda. Also, once you start feeding it is important that you continue until the nectar flow begins unless you are assured they have enough to feed larvae and heat the colony until forage is available.
- 7) Assess for Varroa levels early February and give a spring clean-up treatment if indicated. Your goal is extremely low levels now because it will be June before the nectar flow ends and supers are removed. Remember, once supers are in place your options for varroa treatment are greatly reduced. When choosing your treatment method make note of how soon it needs to be out of the hive prior to placing honey supers. Remove any medications in the hive if already in place before the nectar flow begins.
- 8) If not yet done, continue to assemble honey supers, frames, etc. Get them ready now because you will be busy once the season begins.
- 9) Notice <u>Red Maple</u> starting along the roadways in the Midlands. Also, Dandelions, Japanese Apricot, and Camellias.
- 10) Notice bees bringing in yellow pollen.
- 11) Place and bait swarm traps (bait hives) by mid-month.
- 12) If you are going to chase swarms this year, prepare a well-ventilated traveling <u>nucleus</u> <u>hive</u> or a portable hive for transport. Sign up for swarm notifications at <u>Bees-on-the-Net</u>. In the Midlands, contact MSBA if you want to be placed on the MSBA swarm call list.

- 13) Build and prepare woodenware and frames for upcoming spring splits.
- 14) If you stored your drawn comb using paradichlorobenzene for wax moth control, start the airing out process.
- 15) Order nucleus hives for delivery this spring or as early as possible for your area.
- 16) Renew your association membership. Attend local meetings.
- 17) While you still have time, read an article on swarm control <u>here</u>. Many more are available: Google search "<u>Swarm Prevention and Control</u>."
- 18) Email your Association's Secretary asking what you can do to help, or volunteer to lend a hand in your organization. Many hands make light work. If you would like to see your organization grow as well as offer and maintain your current level of member services your help is needed.

## March



Swarm Trap in tree

March is full of action in the bee yard from growing populations in our hives to first swarms. Weather in the Midlands can still hold surprises – last year we unexpected weather which disrupted swarming and also caused some early splits to fail.

1) Towards the end of February, and the first of March, if not already done, <u>place swarm traps</u> with pheromone attractant or lemongrass oil attractant to catch swarms. Traps ideally should be 10 – 12 feet above ground but can be lower for convenience and safety.

2)

2) On growing overwintered hives, place first super at beginning of this month. Stop syrup feeding if they are making white wax indicating a flow is in progress. Plan on

checks every 7 days to head off swarm preparations. (Brief checks every 5 days if possible and walk your Beeyard daily observing for bees languishing on landing board.)

- 3) Ahead of the nectar flow, inspect colonies for laying queen with good pattern, disease, etc.
- 4) Consider <u>spring splits</u> this month if weather is warm, drones are present, and you wish to increase your colonies. Inasmuch as it takes lots of bees to make excess honey, splits will impact a colonies ability to produce surplus honey. The frequently heard saying is, "You can make bees or honey, but rarely both."
- 5) Swap (rotate) brood boxes if not previously done or a second time if needed. This provides the queen with the typically empty comb from the now empty, lower box. Also, this disruption delays swarming. <u>Video Here</u>
- 6) Checkerboarding frames above brood nest with empty drawn comb alternating with full frames of honey also provides disruption as well as food availability in case of a period of unexpected colder weather.

- 7) 'Open up' brood chamber (temperature and weather permitting) with drawn comb while keeping in mind not to disrupt the integrity of the brood nest. (Note: 'Opening up' refers to adding empty drawn comb for the queen to use. Do not use frames of foundation as this only serves to wall off part of the brood nest or isolate the queen.)
- 8) Look for poor queen performance and mark colony for queen replacement when queens become available. Wishful thinking and second chances don't work when you have a poor queen.
- 9) Notice <u>Flowering Tulip Magnolia</u>, <u>Bradford Pear</u>, Pine pollen, <u>Yellow Jasmine</u>, Oak pollen, Azaleas starting. Note lots of pollen coming in as brood expands.
- 10) If you ordered package bees make final preparations for their arrival equipment, site preparation. Mark your calendar for package delivery day and prepare for the excitement.
- 11) Club nucleus hive orders will close this month. Place order if needed. Local vendors will still have package bees and nucleus hives available to order if needed.
- 12) Start or renew your association membership. Attend local meetings.
- 13) While you still have time, read an article on swarm control <u>here</u>. Many more are available: Google search "<u>Swarm Prevention and Control</u>."

  Spring Management: March 1-15th (Temperatures above 60 degrees):
  - Rotate brood boxes if two exist or add second if only one exists. If you add a brood box, place it above existing brood box. Use drawn comb if available.
  - Check the brood comb and replace frames that have excessive drone cells, are old, or have other problems.
  - Check for queen cells. Repeat every 5 − 7 days for about 6 weeks. If you find a capped queen cell (swarm cell), verify hive is queen-right and consider making increase by moving queen to new hive to simulate swarm. If you have multiple swarm cells consider making splits by moving frames with cells leaving at least one queen cell in the parent colony.

#### All month:

• Inspect queen/brood status, if weak, mark colony for re-queening when new queens are available.

- If running two brood boxes, rotate boxes to maintain space for queen to lay as well as for swarm prevention technique.
- Last week of month, place minimum two empty supers of drawn comb or one super if using frames of foundation on strong colonies (assuming no major beetle problems).
- Medium strength colonies should receive one empty super if using drawn comb to allow them room to both guard and grow.
- Replace 2-3 frames of old drawn comb in each hive body with frames of new foundation.
- Remember to remove all medications from colony according to product label directions prior to adding honey supers.
- 14) I would be negligent if I did not mention that between now and the nectar flow the chances of your colony starving are the greatest they have been all year. Why? Because your bees have ramped up brood rearing to a level that requires a great deal of nutrition. They are consuming their pantry at a rate that is unsustainable until the nectar flow begins. Ideally, they will not run out before the nectar flow starts. But it is up to you to monitor their remaining stores to prevent them from starving. You have gotten them this far. Do not let them starve just days before nature's bounty presents itself.
- 15) Email your Association's Secretary, asking what you can do to help. Volunteer to lend a hand in your organization. Many hands make light work. If you would like to see your organization grow, offer to help, and maintain your current level of member services. Your help is needed.

## April

April starts with the nectar flow in earnest and the beekeeper is busy with hive space management, swarm prevention, and swarm control. The bees will be in high gear growing populations, seeking opportunities to swarm, and storing excess nectar. Weather in the Midlands typically stabilizes with few surprises and the bees are actively flying longer and longer hours each day.

Beginning beekeepers get a "gentle" introduction to beekeeping as the bees are less defensive due to the availability of plentiful food. Also swarming behavior is not typical during a colony's first season if space management is followed and the bees provided with proper space as the colony grows.

1) Monitor for queen cells – check suspect hives every five to seven days for swarm cells hanging on bottom bar in boxes above the brood chamber in hives with screen bottom boards and all boxes in hives with solid bottom boards.

# 2) <u>Prevent swarms</u>. <u>Control swarming</u>. <u>Capture swarms</u>.

- 3) Plan to check every two weeks for hive body management i.e., space management.
- 4) If not yet added, place additional honey super(s) at the beginning of this month. On strong hives, install two honey supers if frames have drawn comb. Weaker colonies should receive less supers accordingly. If drawn comb



is not available and foundation is used supers should be placed one at a time. Periodic checks should be made during the honey flow to see if additional supers are needed.

- 5) <u>Install and feed any packages and nucleus hives purchased if given foundation. Feed splits.</u> <u>Feed captured swarms.</u>
- 6) Unite weak colonies with strong colonies unless suspect of disease. Replace weak queens.

- 7) Make splits if increasing total hives is a goal with mated queens or allow colonies to requeen themselves. Splits can be used to curtail swarm behavior but will decrease honey production. If increase is desired, split any hives not previously split and re-queen any weak queens. Queens should now, or soon, be available if needed.
- 8) Actively manage your hives designated for honey. Manage brood space allowing the queen room to lay. <u>Utilize other methods of swarm prevention</u>. There is no longer time for a colony to re-queen itself in time to raise foraging bees in time for the nectar flow. If needed, add a purchased mated queen, or combine colonies if not diseased if seeking honey production.
- 9) Begin IPM program. Place beetle traps or other hive beetle management items.
- 10) Watch for swarms daily and inspect for <u>swarm cells</u> no less than every 7 days. (Bee math alert: An egg laid in a queen cup is capped on day nine at which point the colony may swarm. Bees will use a one-day old larva to start a queen. That is day four of sixteen and capping occurs on approximately day nine do the math to understand why swarm cells can slip by you.)
- 11) If not already done, <u>bait hives</u> should be in position at various points 360 degrees surrounding apiary. Place bait hives at 50 to 150 yards away from colonies, edges of open fields, close to "bee" aerial landmarks, scent lightly with lemongrass oil, and a 1 1/4" circular entrance equals the two square inch recommendation.
- 12) Notice Dogwoods blooming and azaleas in earnest the first week. Sassafras, Tulip Poplar, and Tupelo blooming. Holly may be late this year and bloom in early April but is short. Also, notice the increasing greening up of many, many nectar producing trees.
- 13) Email your club Secretary asking what you can do to help, or volunteer to lend a hand in your organization. Many hands make light work. If you would like to see your organization grow as well as offer and maintain your current level of member services your help is needed.

## May

During May the nectar flow settles in, providing a steady influx of nectar keeping the bees busy. Robbing is minimal as food is plentiful. The bees are typically gentle and easy to work. Populations continue to grow. The beekeeper needs to be mindful of space management with both brood rearing at full tilt as well as incoming nectar or else swarming may occur due, in part, to limited space. Weather in the Midlands has stabilized with few surprises and the bees continue to fly longer and longer hours each day.

New beekeepers, starting nucleus hives or packages, may find that during a strong nectar flow their bees will no longer take sugar syrup. By now they have developed a foraging force of their own and nature's food is preferred over sugar syrup. Continue to encourage them to build comb at least until they complete the brood chamber hive body and food chamber hive body. After they have completed those boxes, it is your decision whether to continue to feed or hope to capture some real honey in the first honey super.

1) Add space as needed during first part of month. There is still a month of nectar flow left to be gathered and your bees should be at maximum foraging force.

2) Manage space within the hive in population expanding situations as well as declining population situations. If a hive appears weak in population, or is not active, then investigate.



Colony population should be growing this time of year. If the colony population appears declining, investigate. Do not allow too much unguarded space inside the hive if the colony weakens, swarms,

or declines. If your queen is not performing well purchase another bred queen as there is no longer time to let them raise one and still capitalize on the nectar flow.

- 3) Plan on checks every week and no longer than every two weeks.
- 4) Swarm season continues but is lessened this month. With both incoming nectar as well as increased brood rearing, space can become an issue quickly. Manage space accordingly and continue to watch for swarms.
- 5) Continue to check for queen cells make splits if swarm cells observed. Have an extra hive body, a five frame "nuc" box, or some other means to collect a swarm or to hive a split.
- 6) Monitor for disease. Assess varroa mite levels this month. Temperatures this month will allow the appearance of a new pest wax moths. They can set up shop in weak hives keep your hive volume: colony population ratio appropriate (this is what we refer to as "a strong hive.")
- 7) Honey supers above the feed chamber that are filled may be removed and extracted or left in place until the end of the nectar flow but no longer. Provide super space with drawn comb if available for bees to deposit nectar to ripen.
- 8) Notice Blackberries in bloom. Tulip poplar in bloom. Then Honeysuckle, Dandelion, Privet Hedge, Confederate Jasmine, Persimmon.
- 9) Add additional space conservatively toward end of month. Remove capped honey, as nectar flow lessens to encourage the bees to fill the open cells, remove moisture, and cap.
- 10) <u>Begin IPM program</u>. Place beetle traps or other hive beetle management items. Your management method for wax moths is <u>"a strong hive"</u> with sufficient bees for the hive volume.
- 11) If you forgot to renew your local association membership this year do so now. Local associations operate on a shoestring budget. Only through this limited budget, and the volunteerism of club members, can they provide local beekeeping education, group purchases, beekeeping classes, community outreach, monthly meetings/fellowship, and more. Dues are minimal and your help is needed. Email your club Secretary asking what you can do to help, or volunteer to lend a hand in your organization. Many hands make light work. If you would like to see your organization grow as well as offer and maintain your current level of member services your help is needed.

## June

This year the summer solstice here in the South Carolina Midlands takes place Tuesday, June 21, 2022 at 5:13 am. For beekeepers the bees. and the summer solstice marks the end of the period of plenty (increase) and the beginning of the journey to the winter equinox. The next six months will be a period reduction and preparation for winter.



During early June, the nectar flow ends with only a few location exceptions. Robbing becomes a concern as nectar becomes scarce. You will notice the bees wash boarding on the front of the hive and around entrances. It is as though they do not have anything to do other than wait at the entrance rocking back and forth. Populations are large now and consume a great deal of food. Mild weather and long days are ideal for foraging – if only there was nectar available. The early rising beekeeper may note that the bees fly with more enthusiasm during the morning hours. But as the heat increases and the nectar dries up fewer bees forage as the day progresses.

Last month we stated that as the nectar flow increases the bees often ignore sugar syrup. This month their interest in syrup will return. Be careful with sugar syrup and when harvesting honey as any spill may incite a robbing frenzy in the bee yard. Hive inspections should be brief, and frames should not be scattered around which may provoke robbing. If you have not reached the hive volume necessary to overwinter continue to feed using a feeding method which does not provoke robbers. Continued heavy feeding will encourage them to build comb. After they have completed those boxes then it is your decision whether to continue to stimulate colony building and population. Unrestricted feeding will also result in large amounts of brood rearing.

This month will start the beginning of <u>honey bee pest management</u>. Your colonies will need your assistance with small hive beetle (SHB), and Varroa mite control. June:

Elderberry, Mimosa, Sparkleberry, Clover. Magnolia in earnest.

Plan on checks twice this month.

Dearth begins early this month. Start feeding when dearth begins with the plan to "keep alive" until August, then start stimulation to produce the nurse bees that will raise your winter bees..

Pull supers and process spring honey ASAP after the nectar flow ends – but no later than by end of month. If left on the hive for a fall harvest you may be surprised to find they have eaten it all by then – maintaining large colonies and turning honey and pollen into bees.

Place wet supers back on hives for cleanup then remove for storage.

Assessing bee population to hive size: A properly sized hive to bee population allows the bees to handle many pests. I often say a properly sized hive pushes a dozen or more bees out on the landing board to guard the entrance. If you do not see guards you may have too much inner hive space. Remove any supers if not needed and store.

Employ entrance reducers to discourage robbing. Remove Imirie shims.

Strong hives handle <u>wax moths</u>, beetles, and robbing. Keep hives strong by equalizing space with population (see above).

Any hive that is overachieving should be split and allowed to rear own queen now.

Check for Varroa early in the month once honey supers are removed. If treatment levels are met, (they typically are in my bee yards) treat using your method of choice. You will have more treatment choices if the weather remains cool. For more information: <u>Varroa Management at NC State</u> and more detail at <u>Honey Bee Health Coalition</u>.

Small hive beetle (SHB) populations may start to climb. When opening your hives always check under the inner cover first to assess and then kill as many as possible with your hive

tool. Use oil traps, microfiber sheets, or other management tools to keep SHB under control. For more information: <u>Small Hive beetle Management at Clemson</u>.

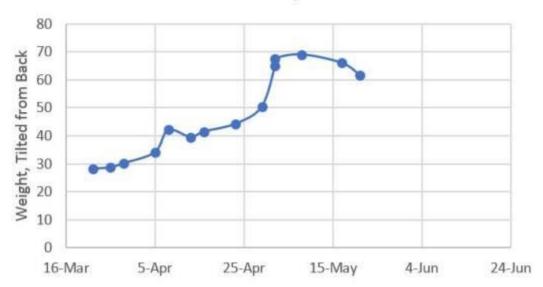
Train your bees early to use the water sources you provide. If not, they may imprint on your neighbor's pool or water feature. Keep water sources for bees filled. You will notice they need more water than during the spring since they no longer have the moisture provided by nectar. They also need to gather more water now for hive cooling and to dilute honey for consumption. More information <a href="here">here</a>.

Keep yourself well hydrated. Hot temperatures are not uncommon in the Midlands during June. Hydrate before working, during, and afterwards. Move your inspections to earlier in the day rather than at midday. Observe when the bees are flying and use this as your indicator of an appropriate time to enter the hive.

- 1) Harvest honey crop.
- 2) Replace wet supers on hives for the bees to clean up.
- 3) Create water sources for your bees. The more the better.
- 4) Assess and treat for Varroa.
- 5) Make summer splits if hive population is large.
- 6) Begin feeding program if needed.
- 7) Consider moving bees to sourwood or cotton to capture late summer flows.
- 8) Attend monthly local club meeting.
- 9) Volunteer at association meeting, event, or festival; consider becoming a club leader, mentor, or become a bee buddy.
- 10) The South Carolina Beekeepers Association's Summer meeting is in July! Attend at least one state or regional beekeeping conference.

# July





Above: This graph, posted on the MSBA Facebook group by Steve Krooswyk shows how quickly a nectar flow can end. This year, for most Midlands beekeepers, our spring nectar flow (nectar in excess of colony needs) has now concluded.

July tends to be extremely hot, often dry, and represents a huge challenge for both the beekeeper and the bees. Stressors for the bees are the recent harvest, nectar dearth, heat, and pests. Robbing becomes a concern as nectar becomes scarce. You will notice the bees bearding on the front of the hive in an effort to reduce the heat inside the hive. Populations typically remain large, and they can consume a great deal of food. You may see a reduction in brood rearing due to the reduction in forage and increase in stressors.

The main stressors for the beekeeper are heat and finding time and enthusiasm to manage their hives during suitable temperatures and busy summer schedules. The exciting colony growth period of spring gives way to a less appealing time of feeding, dearth, and pest management. Moving beekeeping chores to early morning hours helps with temperatures. And never forget to hydrate before, during, and after working your bees.

This month the bees' interest in syrup is impressive. Many hives will consume a quart or more a day if provided. Be careful with sugar syrup during inspections as spills and unattended frames with honey can incite a robbing frenzy in the bee yard. Hive inspections should be brief, and frames should not be scattered around which may provoke robbing.



Established hives left with plenty of stored honey may not need feeding although feeding of a thin syrup will increase needed water in the hive and promote a continuation of brood rearing. New beekeepers, with newly established hives, are typically advised to continue to feed to promote comb building and to provide the colony with food and hydration to maintain brood rearing to keep a balance of all ages in the colony population. Use a feeding delivery method which does not provoke robbers.

This month honey bee pest management becomes a beekeeping chore not to be ignored. Your colonies will need your assistance with Small Hive Beetle (SHB), and Varroa mite control. Plan on brief checks twice this month but do not work unless necessary to prevent the triggering of robbing.

If used, remove any Varroa treatment products at the end of their treatment period. If not treated for Varroa in June then assess Varroa levels and treat this month as needed. <u>Time to keep a close eye on Varroa levels</u> before they become too high for treatment to be effective. Remember the mite is simply the vector for the true villains – viruses.

<u>Dearth</u> in earnest this month. Even if you left the bees plenty of honey consider feeding a minimum amount of syrup to provide hydration. Syrup is quick and ready for the bees to utilize as needed, helping them keep the brood fed, cool the hive, and keeping the hive at 50% – 60% humidity.

l) Remove dry supers for storage if left on hives or returned to hives for cleanup. To protect drawn comb, supers should be stacked tightly with paradichlorobenzene crystals or balls on a paper plate or piece of newspaper between each five supers. (Remember fumes from the moth crystals move down as they evaporate.) DO NOT USE COMMERCIAL MOTH BALLS that contain Naphthalene. They are a different formula and not approved for use on beekeeping equipment! Other methods of protecting drawn comb from wax moths include storing in freezer, and leaving drawn comb open to air and light while protected from rain.

- 2) Treat for Varroa mites if treatment indicated by mite count assessment. Write down dates if using strips that will need removing later. <u>Southeastern U.S. Varroa mite Treatment Decisions.</u>
- 3) Inspect colonies for queen status and order queens for August replacement, if necessary. August is usually the last month local Midlands queens are available. If needed you should make contact with your local queen supplier now to ensure receiving queens.
- 4) Assessing bee population, remove any supers not needed and store. Maintaining a strong hive means adjusting the internal volume to match the colony population. A strong colony will manage many pests themselves.
- 5) Consider feeding established colonies with a plan to maintenance feed until August then start stimulation. With full on dearth now present, all feeding should be done cautiously to prevent robbing. Internal feeders are preferred. Boardman feeders are discouraged. Open feeding should be done at a distance greater than 50 75 yards from your hives if possible. Feed additives with essential oils are discouraged for two reasons: 1) the bees do not need encouragement to feed as they are already hungry 2) syrup laced with the scent of oils will mark their hives as targets for other hungry colonies and pests. Also, do not let syrup ferment which will attract SHB. Anytime your bees stop taking syrup then investigate the reason with an inspection. Should you decide to go full tilt with feeding be mindful of the potential of stimulating late season swarms monitor for signs of becoming honey-bound.
- 6) Monitor pollen stores in the hive. Some locations may produce adequate pollen while other locations will not. In some Midlands areas a pollen dearth often occurs during late summer. Bees must have pollen just as they must have nectar or syrup in order to create brood food and to maintain a healthy immune system. Monitor pollen stores by observing the presence of pollen on brood frames and the frames on the edges of the brood nest. If your colony needs supplemental pollen consider feeding dry pollen or substitute in open pollen feeders. Do not use pollen patties as they create SHB problems here in the Midlands. More here: Pros and Cons of Feeding Dry Pollen Substitute.
- 7) Monitor entrances and <u>use entrance reducers</u> to discourage robbing. Remove multiple entrances such as Imirie shims if used. Keep a balance of internal hive space and bee population such that entrances have guard bees.

- 8) Strong hives handle wax moths, beetles, and robbing pressure better. <u>Keep hives strong</u> by equalizing space with population.
- 9) <u>Consider combining hives</u> that are failing, are losing population too fast, have poor queens, or are otherwise not performing up to expectations. Combine with a strong hive, swarm, or late flow split that is progressing nicely. Do not combine two weak colonies. Never combine a sick, diseased, or colony collapsing from Varroa hive with a healthy colony.
- 10) <u>Keep multiple water sources</u> for bees filled. This month you will start to see them gathering water in earnest. Use a Boardman feeder to place water on the hive.
- 11) There may still time to consider moving to late summer bloom like cotton, sourwood, or soybeans.
- 12) Begin measures to <u>control Small Hive Beetles</u> as they will begin ramping up their populations now. Do not feed pollen patties.
- 13) <u>A small upper entrance</u> may be beneficial with venting excess heat depending on your colony strength staple a screen to prevent unwanted visitors yet allow ventilation. Or use popsicle sticks between the inner and telescoping covers to allow heat to escape.
- 14) For safety, work bees earlier in the day before it gets hot. Hydrate before, during, and after. Quit early, before you are tired. Take frequent breaks if needed. Bees can be testy during dearth wear your veil even for minor tasks. Carry your cell phone. Work outyards with a buddy. Heat Safety
- 15) Start preparing your State Fair entries wax and honey.

## August



#### HONEYBEEHEALTHCOALITION.ORG

## Honey Bee Health Coalition Tools for Varroa Management

This set of videos from the Honey Bee Health Coalition provides practical step-by-step demonstrations on monitoring and controlling varroa mites in your hives.

#### Visit the Honey Bee Health Coalition for Information on Mite Treatments

Plan on checks twice this month but be brief when opening hive to prevent triggering robbing. This month you should focus on mite control, other pest control such as Small Hive Beetles and yellow jackets and feeding as needed. Unfortunately, controlling pests is not a great deal of fun.

#### Monitor and control pests - Varroa, Small Hive Beetles, Yellow Jackets.

It is now critical that the beekeeper assess varroa levels (sugar roll method or alcohol wash) and treat this month as needed. (If you have not treated yet, most likely you will need to treat.) Varroa mites are now outbreeding your bees. Fewer drone cells mean the mites will start entering more worker cells. Additionally, while your bees are reducing their populations as a result of a decrease in their food supply, the mites are continuing to multiply exponentially. It is critical that you determine the effectiveness of your treatments by measuring varroa levels post treatment. Do not assume that a treatment was effective. Establishing a healthy population of bees now will be reflected in your fall bees and ultimately in your winter bees. Allowing your bees to maintain a high mite load now will result in weak fall bees and sickly winter bees later. Depending on your current mite level your bees may not get to winter if this is left unaddressed. If you are seeing deformed wing virus you likely have a serious case of mites, a high virus load, and need to take immediate action.

Dearth continues this month. Even if you left the bees plenty of honey consider feeding a thin 1:1 syrup to provide hydration and calories. Syrup is quick and ready for the bees to utilize helping them keep the brood fed, cool the hive, and keep the hive at 50% - 60% humidity. Additionally, if the population is dropping or brood is looking poorly fed, i.e., no brood food in larval cells, offering syrup will increase the population. You will also notice an increase in colony activity (who does not enjoy a refreshing drink in this heat?). It's also a good time to start monitoring honey stores by hefting the back of the hive, comparing the felt weight to the stores found inside on inspection. The bees are not bringing in much nectar now (if any) and will consume what is currently stored as we continue through dearth.

August will be your last opportunity to obtain local Midland's queens. Early contact with your local supplier is suggested. If you need a queen after this month you will probably have to order online from out of state.

- l) <u>Treatment options for varroa control</u> are now limited due to the extreme Midlands heat in August. Options for August include <u>oxalic acid vaporization</u>, Hopguard III, Apivar, and other hard chemicals. If using oxalic acid vaporization, <u>a series of treatments is suggested</u> (Rusty Burlew covers various treatment schedules <u>here</u> as does Randy Oliver <u>here</u>.) Remember to harvest any honey for human consumption prior to treating if indicated.
- 2) Implement pest control measures to contain **Small Hive Beetles** and **Yellow Jackets**.
- 3) Monitor and reduce entrances to assist the bees with guarding. This can be helpful to avoid robbing from other colonies as well as pests. Spilled syrup or honey can start a robbing frenzy. Be exceptionally careful when working your colonies to not spill syrup or drip honey when working colonies.
- 4) Re-queen as necessary a weak or failing queen will not improve over the fall. The stressors of winter will need a healthy colony now is the time to strengthen weak colonies if you suspect a failing queen.
- 5) Unite weak (but otherwise healthy) colonies with stronger colonies if no disease is present. If a colony is weak and not showing promise of strengthening, rather than allowing it to dwindle and fail, combine it with a strong colony. Consider that combining two weak colonies does not improve either and results in a colony that continues to weaken.

- 6) A small upper entrance may be beneficial with venting excess heat. Depending on your colony strength, staple a screen to prevent unwanted visitors yet allow ventilation. Or another idea is to use popsicle sticks, or pennies, between the inner and telescoping covers to allow heat to escape.
- 7) Remove colonies from mountains and extract Sourwood honey.
- 8) Cotton bloom has typically already started but you still have time to place colonies on upcoming soybeans.
- 9) If not already accomplished, continue to reduce hive size (internal volume). If you have not been feeding syrup, and still have honey on any remaining colonies you may harvest for human consumption. If you have been feeding, some beekeepers place excess frames of stores in the freezer for feeding, if needed, during winter. Always leave at least one hive body, often referred to as the feed chamber, of honey for bees.
- 10) Monitor pollen supply coming into hive. We occasionally see a late summer pollen dearth that lasts a couple of weeks depending on weather. Some locations produce more pollen than others. Bees must have pollen just as they must have nectar or syrup in order to create brood food and to maintain a healthy immune system. Monitor pollen stores by observing the presence of pollen on brood frames especially the frames on the edges of the brood nest. If your colony needs supplemental pollen consider feeding dry pollen or substitute in open pollen feeders. Do not use pollen patties inside the hive as they create Small Hive Beetle problems here in the Midlands. More information here: Pros and Cons of Feeding Dry Pollen Substitute.
- 11) Starting the last week of August begin to increase your syrup feeding using a 1:1 mix and provide enough to stimulate brood production. Do not use essential oils this time of year as it may incite robbing. Monitor honey stores as well. The goal is to start raising the nurses that will raise the nurses that will ultimately raise your winter bees. It is important that you begin to raise well fed, healthy bees free of mite loads, and viruses in late summer. Do not let sick or compromised bees do the job of raising your fall nurse bees or winter bees.
- 12) It is also time to start monitoring stores to ensure you will reach the goal of one full super (the feed chamber hive body directly above your brood nest) for winter.

- 13) Keep water available at all times for your bees. If you do not provide water they will gather water elsewhere such as your neighbor's swimming pool.
- 14) The South Carolina State Fair will be hosting competitive events this year. Registration is now open. You can register online in the <u>Agriculture Section HERE</u>. Registration is free until September 1st. Start preparing your entries!
- 15) Attend your local monthly meeting. Volunteer to educate the public on the importance of honey bees.

## September



### Photo credit: https://chriscondello.wordpress.com

Plan on checks twice this month but do not work unless necessary to prevent triggering robbing.

September weather usually continues to be hot in the Midlands. Do not expect extended

cool weather until mid-October. In the meantime, slightly reduced temperatures may open up some alternative Varroa treatment options.

The main management issue this month is a continuation of last month's focus on pest management. Pests are growing in numbers while bee populations are typically falling in response to a reduction in available nectar. Varroa, Small Hive Beetles, Yellow Jackets, and other pests can overwhelm a hive leading to decline. A weakened hive then becomes vulnerable to robbing and wax moths. The beekeeper must get ahead of the pests as responding after a problem is observed may be too late.

- 1) Continue to monitor and control pests Varroa, Small Hive Beetles, and Yellow Jackets. If you have not yet treated for Varroa now is the time to assess and act accordingly.
- 2) This year's hive beetle population seems to be greater than last year's. I suspect this is due to last year's warm winter, increased rainfall this spring and summer, and overall supportive weather. Place traps or Swiffer pads in hives before you notice a problem. Check traps weekly and replenish or replace as needed.
- 3) Yellow Jacket traps with lure can be placed around the apiary. There are several low-cost or no cost do-it-yourself trap plans online. If you see yellow jackets attempting to breach security at the hive entrance observe how your bees handle the situation. A strong hive will eject the intruder in short order. Keep hives strong by adjusting hive size to bee population. Poor Man's Yellow Jacket trap.

- 4) Depending on your location some of these plants may have already bloomed. Rose of Sharon, Magnolia, Crepe myrtle, Sunflower, White Boneset, and Sweet Autumn Clematis. Cotton is blooming east of the Midlands. Goldenrod and Asters begin to make their appearance this month. We sometimes get a short fall nectar flow. If we get a fall flow you will notice a renewed vigor on the landing board and lots of pollen entering the hive. The smelly sock odor of goldenrod will be noted when you open the hive and sometimes when walking through the apiary.
- 5) Typically, no local queens are available in September. If you need a queen you will probably have to order one from out of state or buy one from a vendor that has ordered from out of state.
- 6) It is crunch time to combine weak hives with strong hives. There is a saying, "Take your losses in the Fall." Experienced beekeepers combine their weak hives with stronger hives knowing they can split in the spring, and nothing is lost. (Assess and make sure the weak hive is not weak due to disease before combining.) Better to strengthen a strong hive than allow the weak hive to perish. Use the newspaper method between boxes with slits to allow the bees to become accustomed to each other. Remove weaker queen prior to combining. Note: Assess and make sure the weak hive is not weak due to disease before combining.
- 7) Use entrance reducers as appropriate. Many colonies have been bringing their populations down over the course of dearth period. Adjust their entrances accordingly. Addition of an upper entrance such as a notched inner cover is advisable prior to entering colder weather to allow for ventilation (cover with screen if robbing pressure is a concern).
- 8) Increase feeding this month to stimulate the brood rearing of nurse bees which will raise your winter bees. You may use a 1:1 mix during this time but nothing thinner. Coupled with autumn pollen flow this can give a boost to improving the quality of your winter bees. Some beekeepers begin the use of 2:1 this month. The decision is yours based on your assessment of your hives, their stores, and whether you think we will get cooler weather sooner rather than later.
- 9) Begin to tip colonies forward from the rear to assess their weight. Notice the number of frames of honey stores inside so that you can compare what you are feeling with what is actually inside. You will need this assessment skill during winter when you should not open the hives.

- 10) If needed, make efforts to bring all hives with extra supers down to overwintering configuration. For ten frame hives that usually means one deep and one medium OR three mediums. If you have eight frame hives do the math to accomplish the same internal volume.
- 11) The occasional late swarm caught this time of year can be housed briefly in a box and fed. They will pull out some nice comb but anticipate combining them after a short while with an established colony.
- 12) Prepare your honey and wax entries for the South Carolina State Fair. <u>Helpful hints can be found here.</u>
- 13) Attend your local association's monthly meeting. Volunteer to educate the public on the importance of honey bees by signing up to work a shift at the upcoming SC State Fair booth.
- 14) It is September and time to start preparing for autumn! Enjoy the following resources as you prepare your colonies:

Fall Management by David MacFawn

Fall Management Review from MSBA Beekeeper Class

## October



Kudzu blooms, Purdue Extension photo/Chris Parker

Plan on checks once or twice this month but otherwise do not work unless necessary to prevent the triggering of robbing behavior. Try to not be too disruptive in order to allow them to get their house (brood box) in order for winter.

If you have not yet treated for varroa it is important that this is done before your winter bees are exposed to the smorgasbord of viruses that varroa transmits when it feeds. Also, it is not sufficient to just treat. You also need to have some idea that the treatment was effective in reducing the numbers of varroa in the colony.

Expect the break in the weather to occur during mid-October. Local legend has it that the State Fair brings autumn to the Midlands. Looking forward, our average date for first frost is the last week in October and the first freeze the first week of November. That said, the bees still have plenty of flying days ahead before winter.

Notice goldenrod and asters along the roadways. Kudzu will also provide forage if available in your area.

- 1) Remove fall flow honey if appropriate. In my few years of beekeeping I have never had enough of a fall nectar flow to take honey. However, I have had colonies that were so large at the end of the spring flow that I was unable to reduce their cavity size to winter configuration until October. When this happens, I am usually pleasantly surprised to be able to take some surplus frames from the bees, still leaving them enough for winter. Remember if you treated for Varroa using a product that affects the honey you will not be able to eat this honey, but the bees will be happy to get it back in late winter / early spring.
- 2) October is your chance to make sure you "right size" your hives for the coming winter months. If you have not reduced your hives to winter configuration, early October is one of the last times which will still allow the bees time to propolize any cracks before winter and get their food stores properly situated. Typically, for the Midlands, a standard configured ten-frame Langstroth hive of bees will need 30- 35 lbs. of honey to overwinter. This, along with living quarters, equates to at ten-frame deep (brood box) and a ten-frame shallow or medium above the brood box (sometimes called the feed chamber). To "right size" your hives remove hive bodies (supers) above the feed chamber. i.e., any empty, partial, or full supers. Extract and store these (protected from wax moths until temperatures drop and we have a hard freeze). Or, in the case of supers with stores, you may share these resources with



- 2) Process supers and store for winter. After extracting, your options for cleaning the sticky frames are to either place the supers back on the hive or place them out in the yard for cleanup. If placed out in the yard expect some comb tearing as the bees rob the supers of leftover honey. I am lucky that I do not have neighbors close and can separate the sticky supers from the bee yard by one hundred yards or more. If you do not have these options do not leave sticky supers out where they can create a nuisance for your neighbors and cause a feeding frenzy spreading to your weaker hives. Instead consider simply placing them back on the hive and your bees will do the work of cleaning the supers and placing the leftover honey in the hive bodies below. Remove the cleaned supers in a few days returning your hives to winter configuration.
- 3) Protect your drawn comb. After it gets cold wax moths will no longer pose a threat. Until we get chilly weather (end of November) you will need to protect any drawn comb you have removed from the hive. Methods vary from placing the frames in the freezer, placing outside open to light and air, using Paramoth (paradichlorobenzene) or use of BT (bacillus thuringiensis Aizawa). BT is available from bee vendors. Clemson article on wax moth IPM.
- 4) Reduce entrances if not yet done. The appropriate amount of reduction is what your bees can guard. I like to see 20-30 bees on my landing board guarding the entrance. If you have this or more, and your entrance is well defended, and you may not have to reduce the entrance from its current setting. A three or four-inch entrance is typical for this time of year. Addition of an upper entrance such as a notched inner cover is advisable prior to entering colder weather to allow for ventilation and allow moisture to escape.
- 5) It is time to change to 2:1 syrup feeding to add stores and weight. Feed bees as necessary. As you recall, we started stimulating brood production in late August with a full 1:1 sugar syrup mix. Your bees, by now, should have some weight on them and you should be seeing an increase in orientation flights. When you see foragers bringing in goldenrod and other fall pollens they are raising your winter bees. Your colonies should have some open nectar for brood rearing available from the feeding you have already provided. If they have plenty of open nectar but are still not heavy with stores it is time to increase to 2:1 syrup to put some weight on the colony.
- 6) Any colonies that are lagging behind in weight should be fed aggressively at this time. Assuming you have reduced them down to overwintering configuration, now is the time to make sure they are increasing their stores in preparation for winter. Use 2:1 sugar syrup via

your normal feeding method. Whenever they run out of syrup, refill. If using a jar feeder enlarge the feeder holes just a bit to allow them good access to the thicker syrup. The 2:1 syrup, fed rapidly, creates a situation where the bees cannot consume it as fast as they empty the feeder thereby creating a situation where they must store the thick syrup. Also remember, soon it will be more difficult for the bees to remove excess moisture (after the temperatures cool) so use 2:1 early to enable them to ripen the syrup and store. If you have colonies with more frames of stores than needed, consider sharing the bounty with less fortunate colonies.

- 7) Continue to tip colonies forward from the rear to assess their weight. Notice the number of frames of honey stores inside so that you can compare what you are feeling with what is actually inside. You will need this assessment skill during the cold of winter on days when you should not open the hives.
- 8) Pollen: Usually we get a nice pollen flow in the Midlands during the month of October. New beekeepers will notice, perhaps for the first time, the yellow and orange blooms along the roadways. That "smelly sock" odor you may notice in your hives this time of year is attributed to goldenrod. Kudzu blooms in late summer and will continue into early autumn producing a beautiful purple pollen. The bees will use autumn pollen to both raise winter bees and to stockpile for use during next year's spring buildup.
- 9) Remove any queen excluders on hives. A queen excluder during the winter will prevent the queen from moving up with the winter cluster as the bees consume honey and move upward clustering and staying warm.
- 10) I have never had problems with mice in my bee yard but if you have a local mouse population consider placing a mouse guard on this month. An inexpensive method is to reduce the current opening's size, top to bottom, to three-eighths inch.
- 11) Attend your local monthly meeting. Volunteer to educate the public on the importance of honey bees by signing up to work a shift at the upcoming South Carolina State Fair booth. There you can network with other local beekeepers, share stories, and have some fun finding the queen and educating the public about our favorite insect!



12) Attend the South Carolina State Fair. Visit the South Carolina Beekeepers Association's booth. Marvel at the beautiful honey display! Point out your prize ribbon to friends and family.

## November



Plan on checks once this month but otherwise do not work unless necessary to prevent the triggering of robbing behavior. Try to not be too disruptive in order to allow them to get their house (brood box) in order for winter.

1) Make sure bees have stores enough for winter and proceed accordingly. Last month we suggested aggressively feeding colonies that were underweight using 2:1 syrup. The goal was to increase their weight to approximately 30 - 35 lbs. of stores. This month with the cooler weather we increasingly start to concern ourselves with excessive moisture in the hive. If your colonies are still lagging behind in stored nectar / syrup you may be forced to continue feeding 2:1 syrup. If they have stored enough syrup, later this month you may wish to add some insurance in the way of a <u>candy board</u> or <u>mountain camp style dry sugar feeding</u>.

- 2) Moisture containment becomes a major management concern this month as we move into cooler weather. Moisture within the hive cannot be avoided. The bees breathe and, like humans, express humidity which condensates in the cooler weather. Additionally, the process of eating and metabolizing honey results in the release of water molecules. Important reading: A review of methods to control moisture within the hive can be found here.
- 3) Further reduce entrances if not yet done. The appropriate amount of reduction is what your bees can guard. Colder weather will result in the bees staying inside more and clustering. Lack of forage will also reduce their need for a larger entrance. You probably won't see as many guard bees on your landing board. Rather than struggling with removing the current reducer, simply place a small piece of wood across the front of the current reducer to attain a smaller entrance. Addition of an upper entrance such as a notched inner cover is advisable prior to entering colder weather to allow for ventilation and allow moisture to escape. The upper entrance should be small, perhaps one bee width. If the colony is small a piece of screen across the upper entrance will ensure no unwanted guests have access.
- 4) Make repairs on your equipment, assemble new equipment, and make some of those time saver gadgets. Replace any bad equipment. Get started on that <u>bait hive /swarm trap</u> now for placement in early spring.
- 5) November is an excellent month for selling honey as customers prepare for the holiday season.
- 6) If you are considering an out yard for next year, now is the time to start looking for a suitable place. Use <u>Google Maps</u>, place an ad in the <u>Market Bulletin</u>, or cruise the countryside to find a place that has ideal forage.
- 7) Make plans to attend your association's monthly meeting.
- 8) Start hinting at what books or equipment you would like this year for holiday gift giving.
- 9) Start setting your beekeeping goals for next season.

## December



If you thought the beekeeping season was over you would be incorrect. The successful beekeeper continues his/her efforts over the winter to have success in the coming year.

Hive checks this month are tied directly to outside temperatures. Do not disturb the brood chamber or break propolis seals around boxes unless absolutely necessary. On a warm day

with temperatures in the 60's you may briefly remove the inner cover and view down between the frames. Try to not be too disruptive in order to allow them to keep their house (brood box) in order for winter. Use of a stethoscope or an ear against the side of the hive will often tell you all is well inside.



- l) Clean, paint, repair equipment, assemble new equipment, build more hive stands, make some of those time saver gadgets, and replace any bad equipment. Remember, when spring arrives you will be busy and won't have as much time to construct needed hive bodies, build frames, wire (or wax) foundation, or build stands.
- 2) Check for excessive moisture in the hive. Lift the cover and note for wetness or mold indicating excess moisture. As needed, ventilate hives with a 1/16th inch crack at the front of the inner cover to prevent condensation and mold. Alternatively, many beekeepers maintain an upper entrance in their inner cover. Other methods of controlling excess humidity in the hive is by using a quilt box above the inner cover or using insulated outer covers. Typically, we do not wrap our hives in the Midlands as our winters are not harsh. Remember, the bees can keep themselves warm if they have enough bees and enough food stores. It is the moisture we are focused on preventing.

- 3) During winter, it is important to tilt the entire hive forward slightly with a shim placed under the hive in the back. This is especially true for those hives with solid bottom boards. A driving rain can pool water inside the hive and coupled with lower temperatures and winter debris on the floor, will chill the bees. To a lesser extent we do this to allow condensation that forms above the cluster to run forward and down the front of the inside of the hive, preventing it from dripping on the bees. While this helps reduce condensation from above, it should not be the sole method of preventing overhead moisture (see # 2 above).
- 4) Continue to assess stores. Continue to <u>heft the back of your hives</u> to check for weight. (Not having to open the hives in the wintry weather is why you learned this method earlier in the year to assess food stores.)
- 5) If needed, feed using a low moisture method such as a <u>candy board or fondant</u>. Another method of winter feeding that also reduces moisture in the hive is the <u>Mountain Camp method</u>.
- 6) Order packages, nucleus hives, and queens for delivery mid to late March or as early as possible for your area.
- 7) Review and evaluate how well your bee colonies performed this year and make decisions on how to improve your operation, particularly regarding disease management and pest control such as Varroa mites, small hive beetles, and wax moths. Document your findings in your <u>beekeeping journal</u>.
- 8) Plan now for changes you are going to implement next season. Will you explore making splits, raising queens, increasing your honey yield, producing nucleus hives, or pollinating crops for income? Set goals now and prepare for next year's success.
- 9) Call, visit, or write farmers or landowners where you would like to place hives for out yards next spring. Use Google Maps to scout likely locations.
- 10) Renew your membership in your local Beekeepers Association. Attend local club meetings. Register for your state's Spring Beekeepers conference.

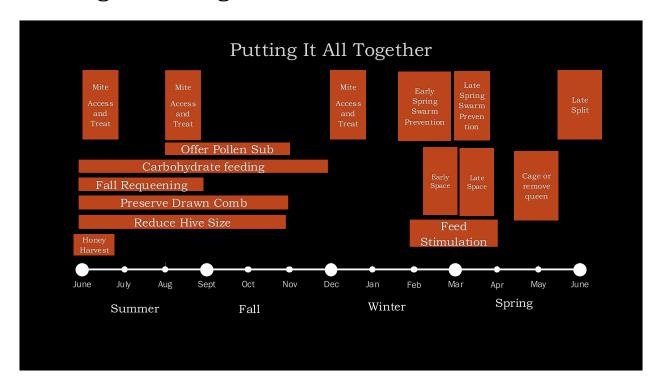
- 11) Scout trees and other locations for bait hive placement and <u>prepare swarms traps (bait hives)</u>. Read <u>Bait Hives and Swarm Traps</u> by McCartney Taylor, available for checkout from the Mid-State Beekeepers library.
- 12) Construct a <u>swarm capture bucket</u> for those spring swarm calls that inevitably come during swarm season.
- 13) <u>Build a nucleus hive</u> now to keep in your car or truck for community swarm captures next spring. These small hives are also very handy to have on hand when you see swarm cells in your own hives and need to move a queen or queen cells to capitalize on, or survive, an unexpected reproductive event.
- 14) Order or ask Santa for a copy of that beekeeping book you have been wanting to read. Read some every day.
- 15) If, for some reason you have not yet treated for Varroa, this time of year presents the Midlands with as close to a broodless period as we get. A cheap, economical, quick, and easy, method of Varroa treatment during this broodless period is the oxalic acid dribble. Read

Born here, Langstroth revolutionized the beekeeping industry with his 1852 patented moveable frame hive and his manual, The Hive and the Honey-Bee. Both remain in use today. His innovations advanced beekeeping, pollination, and honey production worldwide.

about how it's performed here: Once a Year Opportunity to Save on Varroa Treatment.

- 16) December is an excellent month for selling honey. Farmer's markets, holiday festivals, and other events are suitable places to sell your golden treasure.
- 17) Celebrate Lorenzo Langstroth's birthday on December 25.

# Putting It All Together



Add your notes here: