In the Apiary:

Throughout Ohio, the pollen and nectar flows are becoming scarce. Most areas have just finished with catalpa and little-leaf linden trees, while white Dutch clover is still going strong. To help keep the clover in bloom, only mow the top 1/2” off of the clover. This allows the clover to rebloom for a steady stream of nectar, as well as feeding nitrogen to your lawn and surrounding plants in the area, keeping them green and blooming.

The majority of swarm season is coming to a close, but you can still find managed or natural hives that will swarm if they don’t have enough room to grow. Keep monitoring your colonies for the adequate room, backfilling of the brood area, queen cups, queen cells with egg/larvae and adding honey supers, as needed.

By this last week of July, you should finish making increases, splits, or starting nucs. This will allow sufficient time for them to build brood & store resources to make it through the Winter. You can delay this time further out but be prepared to babysit by adding frames of honey, feeding sugar/water, dry sugar, fondant, and/or winter patties to increase your odds on Winter survivability.

When you decide to harvest honey from your apiary, you should purchase a refractometer. You have to know the percentage of water in your honey. The natural yeast in honey becomes stable when the moisture is 18.0% and lower. Once the moisture goes above 18.1% the natural yeast will start to become active and turn your honey into mead. This will ruin your honey product right in the container. Wild yeast can be good & bad, so please do not chance it by drinking any mead that has not been processed with store bought yeast. Open nectar can have a moisture content of 18%+. Allowing the workers to reduce the moisture content depends on air flow, temperature, humidity, amount of open nectar, and its initial moisture content when the bees brought it into the hive. Once it’s well below the 18% will they begin capping the cells. When you remove capped honey frames or supers from the hive, you need to extract the honey within a day. Honey is hygroscopic and will pull moisture from the air like a sponge. If you pulled capped frames/supers two days ago at 17.4% and it’s been highly humid outside, the honey could easily exceed the 18.1% limit. You’re not the only one who wants honey; insects, hive beetle, & wax moths can locate it quickly since it is not being defended and under humidity controlled by the honeybees. Remember to keep your refractometer clean, calibrated, and it will last a lifetime. Standard refractometer model come with a calibration kit for around $85 and most suppliers sell digital units that start around $350 and up.

Useful tool:

If you love reading the current issues that effect beekeeping, then you will want to get a subscription to Bee Culture and American Bee Journal. They both have great articles on research, things effecting our bees, value added products and how you can manipulate your hives. They have great photos & illustrations that show great detail. Both of their website’s give articles of new and past issues, letters to the editors, how to subscribe, and resources they offer. Websites: Bee Culture [https://www.beecculture.com/](https://www.beecculture.com/) American Bee Journal [https://americanbeejournal.com/](https://americanbeejournal.com/)

This information is only a reference of what you should be doing and looking for in your apiary(s).
Inside the Hive:

Are you seeing the natural progression of your hives building upward and onward? Always checking on the condition of the queen, by seeing her brood pattern, would be a good start. You should be seeing all stages of brood; eggs, new larvae, old larvae, and capped pupa. Evaluating the queen on her performance and then determining if she should be replaced, could help a struggling Spring/Summer hive. Locating the brood area; have you been seeing wall to wall brood, small groupings, or sporadic patterns, also known as a shotgun pattern. If you haven’t seen good full patterns or constantly sporadic, this is a good determination that the queen should be replaced with a quality sized cell, virgin queen, or mated queen.

If you decide to replace the queen, the old queen must be dispatched or taken away from the hive. One option is purchasing a new queen. Most queens come in California or JZBZ cages, with or without attendance. The cages allow the workers inside the hive to spread her retinue as they feed her, while other workers will be chewing through the queen candy to release her within 3 days. If she has not been released on the 3rd day, you must remove the candy and lay the cage on the top bars, this allows her to walk down into the hive. Proper placement of the cage is critical so everything can take place. JZBZ cage works best between the frames, using a toothpick, so it doesn’t fall between them. California cage can be placed between the frames or pushed into the frame as shown. Making sure there is an area open for the workers to feed her and for her to emerge for a good queen introduction, screen side up & free from wax & honey, allowing workers to feed the queen.

You will always see queen cups within a hive, this is natural and will not hurt to have them. Once queen cups are seen with an egg or larvae with royal jelly, the new queen begins her journey to emerging on day 16. Day 1, the Queen will lay an egg in a queen cup in preparation for her colony to swarm. Day 3, she will emerge from the egg and eat the shell for protein. Day 9, the workers will cap the cell in preparation for her to pupate and begin spinning her cocoon. Day 11-13, are the fragile stages that she will drop head first. Day 16, the new queen will chew through the silky cocoon, opening up the tip of the cell and emerging from the cell. It will take her an additional 2 weeks (weather dependent) to make a mating flight and begins laying eggs.
Over and Above:

Let’s talk about putting together a plan towards sustainability in 2021. I know you have heard it before, but it’s having nuc(s). They are the nucleus of a full colony; laying queen, brood factory, honey, pollen, and resources. Let’s say you have 2 full size colonies and 2 nucs that go into Winter. In Spring, you lose 1 full colony and 1 nuc, you still have 2 colonies. No need to buy another nuc, package, or split your own resources down again.

If you don’t already have a nuc, contact your woodware dealers in your area or larger dealers to get one now. Once it’s painted and ready, it’s time to get your resources:

#1. Queen - a mated queen or virgin queen will work the best. If you must start from a graft or cell, it will take a little longer to get going, time to emerge, mating flight, and begin laying.
#2. Resources - frames of open brood (old larvae), capped brood, honey, pollen, and drawn comb. This can be taken from 1 colony or multiple colonies, depending upon your operation.
#3. Emergency Feed - this comprises of 1:1/2:1 sugar/water, pollen patty, Winter patty, dry sugar, candy board, or fondant.

The better and best “examples” to the right are what you’re shooting for and the goal. This does not guarantee it will survive to Spring, but it’s easily done with minimal resources. Make sure you have your mites within the 9 mites per 300 bee threshold. No disease, pests, brood diseases, and that all the frames are full of resources. If there are frames of foundation going into Winter, they need pulled and placed with honey, pollen or frames of brood. It would be considered dead space, otherwise. Before Fall sets in, you will want this nuc or nucs to be busting full of healthy bees and brood.

Upon your success of getting them into Spring, they can easily be split into 2 or 3 more nuc(s). These could be sold to your local beekeepers, club members, build up your own numbers, or sold to “newbees” in 2021. Keeping them for yourself, you always have extra mated queens, brood to boost other full colonies, cut comb builders, comb in jars, Ross rounds, or let it build into another full size colony. I wish you luck and from personal experience, I constantly take 20+ nucs through Winter, just like this.

Apiary Diagnostic Kits:

Have you taken a mite count yet? Are you recording your results in your journal and/or handbook? From your results, did you determine if you need treat and what did you use, and did you do a follow-up mite count?

Mite Check:

Remember to take your ADK kit to the apiary to do your alcohol wash. Mite counts will be increasing monthly, remember that each month the mite population doubles.

Vocabulary:

**Hygroscopic** - tends to absorb moisture from the air. Relating to humidity or moisture in the atmosphere.

**Shotgun Pattern** - sporadic pattern of brood that is spread over the frame, shotgun pellets hitting a paper target.

**Dispatched** - killing or removing the old queen from a hive; poor performance, health of the colony, etc.

**Retinue** - honeybee queen is usually attended by a group of workers, ranging from six to ten - queen retinue.

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