

## October Beekeeping

### BEES – WHAT ARE THEY TRYING TO DO?

It's now past fall equinox and the days are getting shorter. The sun is also getting lower in the sky. This means the bees are focused on keeping their brood warm for a significantly longer time. The nights are longer, the temperatures are cooler, and the sun is not warming the hive as much. Their foraging time is reduced by shorter days. The foragers are also required to stay in the hive much longer on cool mornings/days to keep the brood warm, reducing their foraging opportunities even more.

October is similar to February, in terms of how the long nights limit and suppress the bees. However, day length is going in the opposite direction. The nights are getting longer in October, whereas in February the nights are getting shorter as the month progresses.

The days are growing shorter, but this is often mitigated by a lot of hot, sunny weather in the fall (70-90 degrees). In Oakland/Berkeley, if it does get in the 80s for 3 days, then the fog comes in for 2-4 days. During sunny 70+ degree weather, the bees may cap honey and even build wax if there is a nectar flow on. During the warm, sunny weather virgin queens can mate if there are enough drones in the area. On hot afternoons, your bees may keep the hive from overheating by bearding on the front of the hive. Having a screened bottom board and/or using a slatted rack will prevent the bearding.

There is a lower food supply in the environment in October. The ivy flow is usually over with (though some years are late like 2022 & 2023, so may still be going on at the beginning of October). In response to the lower food supply in October, you will possibly see:

- A smaller brood nest and bee population (compared to June/July)
- Less honey in the hive as they eat it
- Drones being pulled out of the hive or not allowed to enter (watch the entrance)
- Robber bees trying to get into the hive, especially when you open it up to inspect

At the very end of October (Halloween/Samhain), the silver dollar and blue gum eucalyptus start to bloom. They provide copious amounts of pollen and nectar for the bees through winter. Watch for ones in your neighborhood. When they bloom, you know the bees have made it through the most stressful time of year (August-October). Hooray!

Small hives struggle through October because of low food supply and trying to keep their brood warm at night. If ants, yellow jackets, or robber bees get into the hive, they can easily take out the hive (kill it or make the bees abandon it).

The bees have put a lot of propolis to seal up the hive for winter. They can be more sensitive and defensive to their hive being opened up and inspected.

## BEEKEEPER – WHAT ARE YOU TRYING TO DO?

October is the last month you'll inspect till the beginning of February. (Note: I do recommend one last mite test in the beginning of November, if the weather is warm.) The focus of October is getting the hive in its best shape to survive the next 3 months of winter. The last few years have had hot falls, but October can turn cold early. Be on the lookout for colder weather and make sure to get the hive ready for winter before a cold spell. Here is a checklist of what to get into place for winter.

### WINTER CHECKLIST for October: Medium to Big Hives

Here is a checklist to go through to make sure you have everything in place. Small hives (hives with 5 or less frames of brood) have their own checklist starting on Page 6 below.

- **Protection**
  - Robbing screen in place  
Bees can only get in on top of screen. Look carefully for bees getting in on the side or bottom of the screen, and seal them up with duct tape (or similar).
  - Ant protection in place (& plan to keep in place for winter)
  - Make sure there is NO way for bees to get inside the hive except through the entrance/robbing screen. This means, no cracks/broken boxes, no holes in bottom board, and that the upper entrance on the inner cover is taped up.
- **Leave just the right amount of Honey in Hive**
  - Big hives (2-3 boxes of brood) – leave 8-10 frames of honey
  - Medium hives (6-8 frames of brood) – leave ~5 frames of honey
  - Do not leave more honey than above. It will just cause future problems: crystallize in the hive and/or make your hive swarm in spring.
  - Do not feed pollen to medium to big hives unless in an emergency or climate change event where bees can't forage.
- **Make Sure Bees Are Filling Up Hive**
  - If not, take off box and wait a week. If still not filling up hive, take off another box, etc. See below for details on how to reduce, which frames to take out, etc.
  - Having the hive filled with bees helps the bees to more efficiently keep the brood warm and protect from ants, robber bees, wax moths, etc.
- **Mite Test & Treatment**
  - Your last mite count before winter should be below 10 mites. Get your mites below 10 in October and do one last mite test on a warm day in the first two weeks of November to make sure it's still below 10.
  - Test every 2 weeks (if no towel/sponges on)  
Note: You may need to shake 2 frames into tub to get enough bees for sugar roll test. It's more accurate to scoop up an overflowing ½ cup of bees and level the amount out with your finger like you would when measuring sugar.
  - If OA glycerin shop towels/sponges are on:
    - 3-4 weeks after putting them on
      - Test for mites (you can test less often than 2 weeks)
      - If bees have removed 50% or more of towels, at this point, remove and reapply early.

- 6-8 weeks after putting them on
  - Test for mites & reapply a new batch of towels (6 weeks) or sponges (8 weeks)
- Apply one last treatment of towels or sponges in October or beginning of November. Leave them on the hive through winter (February).
- Go into winter (end of October/beginning of November) with mites below 10
- Make sure drone comb frames are out of hive for winter.

## Inspect Your Hive Every 2 Weeks

### What Are You Inspecting for in October?

Here are the things to focus on when inspecting:

1. **Healthy brood/larvae** (eggs if you can see them)  
(means you have a laying queen)
2. **Sugar roll test a capped brood frame for mites**
3. **Make sure bees are filling up each box in hive.**
  - Remove box/frames if not until they are.
  - As part of this, remove extra honey.
4. **Watch for robber bees** when inspecting hive. Make inspections short if you see them.
5. **Feed small hives** (5 or less frames of brood) pollen patties. Also, make sure they have 1-2 frames of honey (no more) or feed them drivert sugar.

## Keep Inspections Short

From August – October, opening up the hive to inspect can make it vulnerable to robber bees from surrounding hives coming to try to steal the honey. Look in September Beekeeping for how to keep your inspections to 15-20 minutes. Use Bee Quick or a Bee Escape to remove a box/frames rather than shaking/brushing bees off frame by frame. The latter attracts robber bees that can then attack your hive.

## Reduce Your Hive Size

### Why?

From August to October, the bees' population has shrunk down 20-30%. By reducing the size of their hive or house so it matches the bees' population, will help them in two ways:

1. Protection  
The bees can easily protect a smaller area that is their size. They can spend less time and energy patrolling a larger space for ants and wax moths.
2. Warmth  
The bees keep their brood nest at about 95 degrees. A smaller hive size will make this heating more efficient.

### When Do I Reduce the Hive?

September 21 (autumn equinox) to October 15<sup>th</sup>

If it's a hot fall, you can procrastinate till the end of October. However, be careful, if there are some cold nights (in the 40s?), honey can crystallize on the hive. Crystallized honey is nearly impossible to harvest, but can be left on the hive for the bees.

## How Do I Reduce?

Read September Beekeeping for a lengthy description of how to reduce your hive, how much honey to leave, and more. My Preparing Your Hive for Winter class also goes into this.

### WINTER CHECKLIST for October: Small Hives

Small hives have 5 or less frames of brood. Most small hives at this time of year have 2-3 frames of brood. This is about the smallest a hive can be to survive the winter. If smaller, I'd recommend combining with a bigger hive. If your hive has 4-5 frames of brood (full not partial frames), you don't have to care for it as much. It'll have more resiliency.

- **Protection**
  - Robbing screen in place – reduce top opening to 1-2 inches  
Bees can only get in on top of screen. If other openings on side or bottom, close them up.
  - Ant protection in place (& plan to keep in place for winter)  
Make sure that ant protection is solid and don't let your guard down. Just a day of ants getting in can kill a small hive.
- **Make sure they have honey**
  - Leave 2 frames of honey for a small hive. If you leave more than 2 frames, it will attract more ants/robber bees than your bees will be able to fend off.
  - If you don't have honey, feed them divert sugar on top of the inner cover while feeding them pollen.
- **Feed Pollen to Them every 2 Weeks through February**
  - How much:  $\frac{1}{4}$  pollen patty at a time (so they eat it within a week)
  - Roll out patty so it's a lot thinner and then cut it into quarters. The patty will have paper on each side of it. You can use a rolling pin to roll it out. It will squish out beyond the paper. (If patty is too thick, it won't fit between the boxes.)
  - Put patty on top bars right over brood frames/where all bees are concentrated. In addition, I sometimes squish patty down in into aisle between frames I know have brood. Leave paper on as it keeps the patty from drying out. The bees will remove the paper.
  - For hives with 4-5 frames of brood, you can feed every 4 weeks (less often).
  - Feed especially 1-2 days before a rain storm that will keep them inside the hive and prevent foraging.
- **Reduce Hive with Follower Boards to Make Sure Bees Are Filling Up Hive**



- If a hive has 3 frames with brood, put 1 frame of honey on either side of the brood (or empty frames if you don't have honey). Put 5 frames against sunny side of hive and put follower board against them. There will be empty space between follower board and other side of box. The bees will ignore that space.
- This will help the bees to more efficiently keep the brood warm and more easily protect from ants, robber bees, wax moths, etc.
- **Mite Test & Treatment for Small Hives**
  - Test ¼ cup of bees and multiply your result by 2.
  - Your last mite count before winter should be below 10 mites. Get your mites below 10 in October and do one last mite test on a warm day in the first two weeks of November to make sure it's still below 10.
  - **Use OA glycerin shop towels**
    - I recommend proactively putting the shop towels on small hives, as Mite Away/Formic Pro is very stressful.
    - Put shop towels on bottom board as shown in photo to the right. Lay them down right up to the entrance so returning foragers must walk on them.
- If you get a high mite count and need to use, Mite Away/Formic Pro, count how much brood you have and email me for a recommendation. It's also helpful to email me a photo of their population.

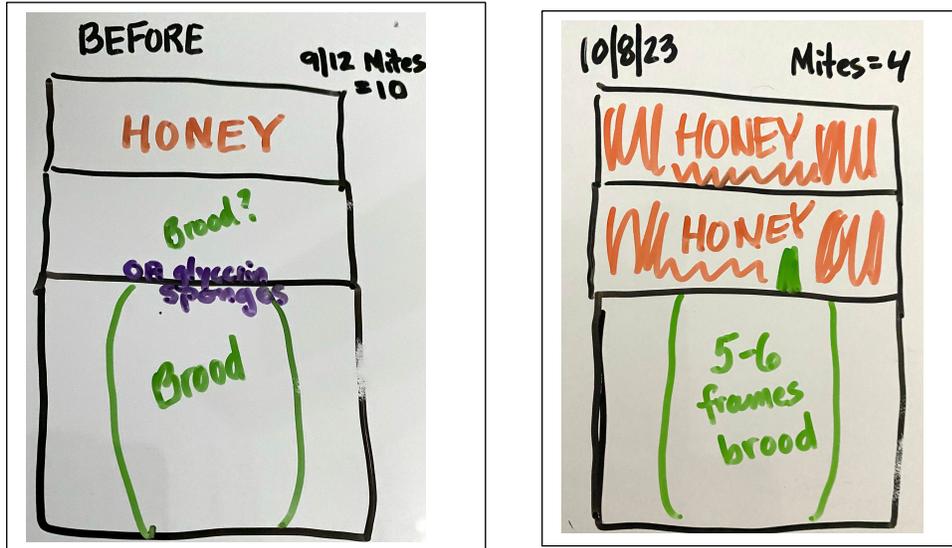


## CASE STUDY: My Berkeley Hive 2023

My goals for an Oct. 8<sup>th</sup> inspection were:

- see eggs/larvae
- do sugar roll test with capped brood frame
- see if bee population matches wooden hive size

Here is what the hive looked like 9/12 (last inspection) & on 10/8:



### October 8<sup>th</sup> Hive Inspection

Bottom Box: I looked at 2-3 brood frames, saw eggs/larvae and did sugar roll on capped brood frame. Test result: 4 mites/300 bees.

Second Box: The box felt very heavy like it was full of honey. I only looked at ~4 inner frames to see if there was any brood. There was only a little brood on one frame & the rest of the frames were all mostly uncapped honey. The bees had brought more honey in since 9/12.

Third Box: The box felt very heavy like it was full of honey. I did not inspect (take out frames).

### Population Evaluation

You can see on the next page photos of the bee population of each box in order from bottom to top. You want to not only look at how many bees are on the top bars but also if they are packing the aisles between the frames.

The bottom deep box is very full of bees (and brood). The second super has a decent amount of bees (60-70% full) and the third super very little (10-15% full). The bees from box 2 & 3 can fit in one box, so I will want to take off a box.

### Oct 12<sup>th</sup> – Take off box with Bee Quick

On October 12<sup>th</sup> I used Bee Quick to get the bees out of the top box and took it off.

