

The Bee Line



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A Basic Small Apiary Management Strategy for Increase/Swarm Prevention

by Erin Evans

This is only one of many ways that swarm prevention can be achieved and used as a method for increase. Each beekeeper will find their own path – but here is a strategy for starting to try new things.

On the dandelion bloom or shortly after (May 17th = Erin's "swarm day") inspect all colonies for capped swarm cells. With any colony preparing to swarm, remove the queen and two frames of brood (preferably mostly capped) and place in a five frame nuc with one full frame of honey, one full frame of pollen and one frame of foundation (against one wall). Shake the bees off an additional two frames of brood into the nuc.

Feed this new colony sugar syrup and pollen patties to replace the loss of field force. Remove the nuc to another location or keep in the same bee yard. Reduce the entrance to the smallest size and feed with an internal feeder only to prevent initiation of robbing. Expand to larger equipment in two to three weeks depending upon colony development.

This colony can be used for:

- increase, (with feeding/drawn comb you should be able to get a good fall crop of honey). In this case, start with three frames of brood.
- queen rearing (this is one of your better queens from last year by definition)
- to draw foundation and provide bees/brood for more nucs raised later in the season.

Next: Cut out all swarm cells in the original colony except for one. Put the colony back together, keeping all brood together, replace removed frames with foundation in positions two and nine. **ADD HONEY SUPERS.** You have just created an "artificial swarm."

Options:

1. Destroy the queen cells
2. Dissect the swarm cells (learn about the bees)
3. Eat the swarm cells – Royal Jelly!
4. **SAVE** the swarm cells and rear the queens in small mating nucs:



Carefully cut the swarm cells with plenty of comb above them to use to attach the cell. Shake the bees from three frames of brood into a smooth cardboard or plastic box. Spray the bees in the box lightly with 1-1 sugar syrup. Scoop out two cups of bees into a styro mating nuc such as a Mann Lake style small or three cups of bees into a Bee Works Style large with all frames removed.

Insert the queen cell into the mating nuc by securing it between the frames with a toothpick through the extra comb at top. Insert all of the remaining frames. Put a "ladder" into the feeder (plastic mesh) Fill the feeder with 1-1 syrup **CLOSE** the mating nuc so the bees can't fly and put into a moderate temperature, dark **QUIET** place for two and a half days (basement or closet).

Take the mating nuc out in the **EVENING** just before dark and open the entrance so the bees can fly. Check the mating nuc every two to three days to check/refill feeder. In three weeks, examine the mating nuc for eggs!

You now have a "spare" queen for requeening or you can use her as a backup for the parent colony's new queen. Check the original parent colony for eggs in three weeks. If no eggs are found, requeen with your "spare" queen or combine the original nuc back with the parent colony.

Mating nuc resources:

- Mann Lake Styrofoam mating nucs (Erin's favorite baby nuc)
- Bee Works Styrofoam mating nucs (Erin likes these better if the top bar modification works)
- Queen Castles (Erin's other favorite but they work differently – no shaking of bees)

REMEMBER:

These moves can only be done when the weather is good and has been good recently.

TRY NOT TO SCARE YOUR BEES! What scares bees? Confinement, rain, being alone, loud noises, vibrations, bad smells.

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Upcoming Board Meeting: June 15 & July 20 (7-9 pm)

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President's Message



My first try at mentoring didn't go so well. A local business who sold my honey asked if I could help their daughter get started in beekeeping. She had ordered a package and been given some equipment. When we got together to set up the hive I discovered the woodenware was in really poor condition: something to be leery of due to several AFB hotspots in Maine at that time. I'd been in the process of switching to medium brood boxes, so was able to give her a couple of deeps in good shape. She hadn't attended a bee school, so I did an introductory tutorial, extended an invitation to come observe my hive inspections and encouraged her to attend local bee club meetings. None of this happened. It turned out that she was working two intensive summer jobs in an effort to pay off student loans, and had no spare time. In the absence of face-to-face guidance, my mentorship became a series of emailed and texted advice and reminders of typical management tasks such as syrup feeding, checking for eggs, and keeping an eye out for swarm cells. By late summer, concerned for the health of my own nearby hives, I brought over some of my Mite Away Quick Strips. I also donated a moisture board and some roofing paper with instructions for winterizing, hoping that the bees might survive and get more care from their keeper the following spring. In late January a quick peek at the colony showed a massive pile of carcasses at the entrance, but a fair amount of live bees at the top. I slipped in a 5 lb. brick of sugar candy and vowed that would be my last act of mentoring – you have to draw the line somewhere. I never found out whether those bees survived.

That experience taught me to establish some criteria for future pairings. I make sure the newbee has adequate time and flexibility, and has ideally attended a bee school, which in my mind demonstrates that the person is serious about becoming a beekeeper. Despite that first unfortunate experience I've continued to mentor others and help out with issues as they come up. Almost all are now proficient and conscientious beekeepers. Several have become good friends. It's been a gratifying endeavor and also gives me peace of mind knowing that most of the colonies within a few miles of my apiaries are healthy and well looked after.

There's no question that a new beekeeper's chances at success can be greatly improved under the watchful eye of a mentor. Bee school teaches important management basics, bee biology and more, but practical skills are best learned through demonstration and hands-on experience. It's common for a novice to confuse capped honey with capped brood the first time they see the inside of a hive. There are tricks to learn for using a hive tool, firing up a smoker, identifying eggs – simple stuff that seasoned keepers do almost reflexively. Many beekeepers are "paying it forward" by guiding others. Lindy Allen of Freeport willingly shares her knowledge through Cumberland County Beekeepers' club hives and individual mentoring. She believes that "the enormous learning curve of becoming a good beekeeper and keeping healthy bees that thrive has made it so important to have a way to get new folks on a road to success."

A mentor can also help preempt an unfortunate situation. Kennebunk resident David Reece was recently asked to come look at a package colony that had been hived about 10 days earlier. "I'm glad he asked for my input because a thorough inspection revealed that the hive was

queenless" said Reece, who was quickly able to assess the problem. He recommended that the new beekeeper get a replacement queen ASAP, thus saving a potentially doomed colony.

Some mentors may not have enough time to travel to another's apiary and look through their hives, especially during the nectar flow. My own bee guru was a sideline who let me accompany her on inspections. It was a great way to see what beekeeping was all about. She assisted with the hiving of my first package, but with 100+ hives to manage and a serious queen breeding program, the in-person mentoring soon came to an end. But any questions I had were always promptly answered by phone or email.

Another format that works well is group mentoring. Longtime bee school instructor Bill Truesdell has taken several Bath area beekeepers under his wing, conducting regular "open hive" sessions. One of his mentees, Alicia Romac, related that he periodically sends out tips to beekeepers on the peninsula, keeping them up to date with management tasks.

Most experienced beekeepers will welcome having novices observe an inspection. For those just beginning, it's an opportunity to see what their colony will look like in a month or two: a newly acquired 3 lb package in a sea of foundation is a whole different hivescape than an overwintered, fully populated colony. And "experienced" doesn't necessarily mean five or more years of beekeeping. Someone with only one or two seasons under their belt, who went to bee school, had a good mentor of their own, watches webinars and attends open hives, may provide just as good guidance as a longterm beekeeper.

Judith



Want to Learn More?

by Dick Vermeulen

Here is a question. How big should the upper ventilation hole be over winter? Maybe I should first ask what ventilating the over-wintering hive will accomplish. I believed that the bees needed fresh air to be able to breathe. Seems logical right? Incorrect - per one of the professors teaching my Apprentice level beekeepers course at University of Montana who wrote:

"Honey bees have the ability to resist hypoxic environments that are far superior to our own and most other insects. This derives from their tightly sealed overwinter cavities. This tight seal is advantageous for many reasons besides its superior insulation properties. The CO₂ levels within overwintering cavities are around 5%; that might not sound like much, but it would kill us. The colony, however, survives and thrives. Varroa mite mortality is increased slightly in such hypoxic environments and may be a piece of the puzzle that explains varroa control in naturally nesting colonies. Naturally nesting colonies choose a cavity with an opening about an inch and a quarter in diameter. Many will reduce that with propolis over the winter months. All ventilation must pass through that opening. There is no evidence that any extra openings are beneficial to the colony, and due to the colonies' drive to seal all extra openings, that seems to prove that it may well be detrimental."

University of Montana online Beekeeping Certificate program consists of three university-level courses at the Apprentice, Journeyman and Master levels, culminating in a certificate designating the participant as a "Master Beekeeper." The program takes a minimum of three years to complete, giving students a chance between courses to gain more experience managing their own hives and applying the information they have

learned. If you are a new beekeeper this is a great program to get you started learning more about the craft without years of experience. In fact a number of the students in my apprentice class were taking the course prior to setting up their first hive. Beekeepers with experience and knowledge of honey bee biology can test out of the apprentice course and move directly to the journeyman level by scoring an 80% or above on the apprentice exam. The cost for this exam is \$60.00.

My apprentice course had 44 students from all over the US and Canada. There is no set lecture time. Lecture videos are added each week and can be viewed at any time. Exams on that week's lecture were posted on Friday and the exam had to be completed before Monday. All exams are timed and you have only one chance. Exams ranged from 25 to 35 questions and between 30 to 40 minutes are given to complete. Questions were multiple choice, true and false and matching. Grades were posted the same day you completed the test and reviewed with notes on any questions you answered incorrectly. In addition to the video lectures by the professors we also were graded on our participation in open forum questions and discussions related to that week's lecture. The forum discussions added new information and it was interesting to hear what issues beekeepers in other parts of the country had encountered. The apprentice course covered honey bee biology, tools and equipment, bee laws, colony dynamics, working your bees, and prevention and treatment of honey bee diseases and pests. We had four weekly exams, an essay writing assignment, final exam and video practicum which showed various parts of a hive and asked questions on what we were seeing. One question showed a 14 second video clip and asked for a count of the number of drones in a mass of a couple hundred worker bees running around a frame. Needless to say I didn't get that one right. You need a grade of 80% to pass and to be able to move on to the journeyman course. The cost for the

apprentice level course is \$325.00. The course description on the UM website, <https://www.umt.edu/bee/>, stated that the apprentice level course would require three to four hours of study per week. It has been over five decades since I graduated from college, which probably explains why I spent over 10 hours a week studying or researching to pass the course with some cushion. The good news is learning more about keeping my bees alive, healthy and productive is just as much fun as working a hive during the honey flow with a booming population while inhaling that sweet scent. I just completed UM's six week apprentice level course and truly enjoyed the experience. I am already looking forward to continuing my beekeeping education next spring taking the journeyman level course.

The journeyman course is a nine week session and requires the purchase of a 400X microscope used for Nosema diagnosis by dissection of the honey bee digestive system. The microscope will be used again in the master program when we dive deeper into honey bee anatomy with a closer look at the honey bee reproductive biology.

One of the unexpectedly pleasant surprises was the ability to contact the professor directly via email to ask for research sources to investigate an area of interest which may not have been covered in the lectures. I am building some hybrid AZ hives and insulating the entire box with R-6 rigid insulation board. I asked if any research had been done in warmer climates regarding the effect of insulation on honey and brood production. My professor emailed me a research study done in Egypt in 2015 with the finding showing an increase in both brood and honey production in hives that were insulated compared to uninsulated. I am now leaving my winter 1-1/2" thick Styrofoam shell on both of my Langstroth brood boxes year round.



There are a number of other excellent master beekeeper courses offered around the country. Cornell University, University of Florida and Eastern Apicultural Society programs are listed on the MSBA website and are all highly regarded, providing an excellent educational experience. I decided on the University of Montana program since it is all online and had a larger emphasis on scientific research and honey bee biology. It also requires a number of research writing assignments finishing in the master course with a technical report in publishable format. I also felt that the winters in Montana were

similar to Maine and preparation for over-wintering success would be similar to mine. There is an amazing amount of well-researched scientific studies available to help us become better beekeepers. In this world of "Google knows everything" in video format, we have become complacent to watch the video instead of finding the scientific paper and reading the finding. The real value to attending university-level courses is opening new avenues to finding credible information. The common adage

that you ask 12 beekeepers the same question and get 13 different answers may be true. But when asked on an exam how many wings a honey bee has there is only one right answer - four. The hooks on the back pair of wings engage with the folds on the forward pair to look like only two wings when they take flight. These are amazing creatures we should learn more about. Your bees will appreciate your efforts and may even produce more honey for you to sell at the farmers' market.



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American Foulbrood

by Jennifer Lund

Editor's Note:

With the serious outbreak of American Foulbrood in seven counties and at least 13 non-adjointing towns in western and central Massachusetts along with two cases in Maine for 2023, I am republishing an article which appeared in the February/March 2020 issue of The Bee Line. Please learn about how this disease is transmitted, the risks of purchasing used equipment, nucs or packages which have not been inspected or come from locations with documented foulbrood infestation and ways to increase biosecurity in your own apiaries.

During the start of this 2023 beekeeping season there were two separate confirmed positive cases of American foulbrood (AFB) in midcoast Maine. One beekeeper was given some equipment by a relative and asked for an inspection to make sure there wasn't any disease. Scale was observed. The equipment tested positive for AFB and was destroyed. The second case was the removal and destruction of the relative's equipment. While no documented cases were uncovered in 2022, there were three cases in 2021.

-Case 1: Someone took their equipment out of storage after 20+ years of not keeping bees. The beekeeper installed packages on that equipment. Five living hives and a bunch of equipment tested positive. All was destroyed.

-Case 2: A beekeeper was given a hive by another beekeeper. That hive tested positive for AFB and was destroyed.

-Case 3: Beekeeper who gave the hive to case 2. Two living hives tested positive and were destroyed.

AFB is the most contagious and devastating of the brood diseases. It is caused by a spore-forming rod-shaped bacterium (*Paenibacillus larvae*) and is found across the United States and in parts of Canada. The AFB life cycle includes an active vegetative stage and the dormant spore stage. The disease is transmitted by the spore stage, but it is the vegetative stage that kills the brood. Honey bee larvae become infected with AFB by ingesting spores present in larval food. The spore germinates in the insect gut, ultimately killing it. AFB spores are resistant to heat, cold and ultraviolet radiation and can remain dormant, yet viable, for up to 80 years.

AFB can be spread by:

1. using infected equipment and tools,
2. when spore-laden honey is robbed by neighboring hives/apiaries, or
3. when bees drift from diseased hives to clean hives.

In both 2019 cases, the beekeepers bought used equipment that was not inspected or tested for AFB prior to sale.

AFB is not very common in Maine but beekeepers should be vigilant during hive inspections. The brood pattern of hives infected with AFB will appear mottled and irregular. Pupal cappings are sunken, perforated, greasy, and wet. Larvae turn from white (healthy) to dark brown and die upright in their cells. Advanced cases of AFB have an offensive odor described as rotten meat, sulfur, dirty socks, or rotten eggs. Field diagnosis of active AFB is usually accomplished by the "toothpick test". A toothpick or twig is inserted into the suspect pupal capping that contains the brown, collapsed pupal remains. The toothpick is then slowly removed from the cell. If the brown, sticky mass of dead tissue "ropes out" ½ inch or more, it is highly probable that AFB is present.

As pupae decay, the mass of dead tissue will dry to a rigid "scale" at the base of the cell. Each scale can contain billions of



*From Carolina Honeybees
American Foulbrood in honey bee colonies*

spores. AFB scale adheres tightly to the cell wall, lays flat and appears to be black and shiny. Often remnants of a pupal tongue are visible from the scale and at times are attached to the upper cell wall. Scale can usually be seen in AFB infected equipment that has been in storage for many years. Routine inspection of brood combs for the presence of scale and thorough autopsy inspections of colonies lost during winter is essential before equipment is restocked or dispersed to other hives.

The first confirmed case of 2019 AFB was in southern Penobscot County and the hives showed all the "characteristic" symptoms of AFB. The second case was in northern Penobscot County and visual inspection of old brood comb did not locate any definitive symptoms of AFB. In both cases AFB infection was confirmed by the USDA ARS Bee Research Laboratory. If you suspect you have a hive with AFB call your state bee inspector who can confirm diagnosis, help with abatement, and will attempt to locate the initial source of infection (another apiary, diseased equipment, etc.). They will inspect other hives in the area for AFB. The earlier an infection is caught, the less likely it has had a chance to spread to other hives. In the case of the southern Penobscot County AFB case, the living hives were sick but still relatively strong when AFB was detected. If the infection was not caught as early as it was, the weakened/dead hives would have



been robbed by other hives in the area, spreading disease to non-infected hives.

Honey bee colonies found to be infected with AFB must be abated according to existing state regulations. In most states, including Maine, hives infected with AFB are depopulated and burned. Between the two cases, six living hives and several pickup loads of equipment were destroyed.

See the Maine State Apiary Rules and Regulations for more detail on AFB abatement (https://www.maine.gov/dacf/php/plant_health/statutes_rules.shtml#bees)



Some states allow the use of antibiotic treatment as a means of abating AFB. Maine does not allow this because treatment of AFB infected hives using antibiotics has limited success and several associated problems. First, the disease is likely to reappear once the treatment ceases after larvae ingest bacterial spores originating from dried scales and contaminated honey. In addition, overuse and improper dosing of antibiotic has resulted in strains of AFB with antibiotic resistance. Currently, strains of AFB with Terramycin resistance are found globally.

Besides AFB, more than a dozen pests and pathogens are associated with honey bees. The easiest way to minimize the possibility of hive contamination is to maintain good apiary hygiene. Beekeepers should:

1. Make sure any used equipment you are planning on buying is inspected by the State Apiary Inspector and has been tested for brood disease.
2. Exercise caution with equipment of unknown health history or origin. Clean any used equipment by placing it in a deep freeze for 48 hours and then scraping any wax, propolis, and other debris from the boxes. Collect and dispose of this waste. Finally, sterilize equipment by scorching with a propane torch. Never use old frames and comb with an unknown health history; rather discard these.
3. Never open-air feed honey or syrup. This includes letting bees have open access to frames after extracting honey.
4. Never leave burr comb or hive scrapings about the apiary. Carry a bucket with you to collect the waste. Dispose of it at the end of the day or store it in the freezer.
5. Store unused equipment under “bee tight” conditions to prevent robbing behavior and access to the stored equipment by rodents, wax moths and hive beetles.
6. Clean hive tools between hives while performing inspections. Scrape off any honey or wax from tools and scorch in a lit smoker.

7. Never combine sick or collapsing hives with healthy ones, especially if you do not know why the hive is sick or collapsing.

8. Replace old black comb on a schedule with new foundation. Try to rotate comb out of your hives on a three to five year cycle. An easy way to keep track of the age of your comb is to mark the year with marker on the top of the frame.

The brood in a healthy colony has a uniform appearance with few interruptions of the brood pattern. Healthy larvae are pearly white and the pupal cappings should appear convex, not perforated or greasy. Larvae should move and roll when prodded. There should not be an offensive odor. When one or more of these criteria is not met, the colony needs further inspection and evaluation.

For more information on AFB please visit: https://honeybeehealthcoalition.org/wp-content/uploads/2019/06/HBHC__AFB-EFB-Final-061119.pdf

USDA ARS Bee Research Laboratory: <https://www.ars.usda.gov/northeast-area/beltsville-md-barc/beltsville-agricultural-research-center/bee-research-laboratory/>



European foulbrood	American foulbrood
<ul style="list-style-type: none"> • Can be slightly ropey with threads less than 1.5cm, but usually not ropey. • Odor: sour or none • Scale: brown to black, rubbery • Stage of Brood: before capped • Appearance: twisted, dull to yellow to dark brown, tracheal tubes often visible 	<ul style="list-style-type: none"> • Coffee color, ropey with a fine thread about 2.5cm • Odor: sulfurous, “chicken house” • Scale: brown to black, brittle • Stage of Brood: after capped • Appearance: chocolate brown to black, perforated cappings

Fig.3: Table from Shimanuki and Knox (2000) and Delaplane (1998). Ropey length from Shimanuki (1997). American foulbrood photo by Williams. USDA.

Back Into Beekeeping

by Reggie Gracie

I haven't kept hives since 2012 and at the peak of my experience in this hobby, I recall having 13 hives going into the winter season and coming out in the spring with less than half that number. I have a faint recollection of general disappointment and that it wasn't my first time having that feeling. So why in the world would I start it up again this year? Maybe it is because I'm getting older and I long for the nostalgia of days gone by. Maybe it is because my memory is failing and the disappointment I felt has faded. More likely, I believe, the main reason is that I miss the relaxing time when I would sit and just watch the bees go in and out of the hives in my small apiary. I used to put a chair in the middle of the hives and sit for hours watching them go about their business peacefully enjoying the evening after work. Those were some of the best times of my life, as cliché as it sounds.

This year, I began with three 3-pound packages, exactly as I did when I first started many years ago. Of course, I hatched this concept last year and wanted to start then, but I remembered that it takes a good year to get things up and running. Beekeeping, as you all know, is a hobby that requires plenty of planning. I had nothing left from ten years ago, so I had to obtain all the woodenware, hive tools, feeders and the other miscellaneous stuff we need to keep bees. Once I felt comfortable that I had enough woodenware to support the project, I ordered the packages in December. I hadn't forgotten that bee packages and nucs were hard to come by in the spring of the year and that I needed to order them in the winter! Interestingly though, I seem to remember that bees were a little cheaper ten years ago as well.

At the end of April, I was informed that the bee packages had arrived in Maine, and I drove to Bucksport to pick them up early on a Saturday morning. The ride was about an hour and a half. (I probably could have found bee packages closer to my house, but when I started looking for packages, I jumped and bought the first ones I found at the time when I wanted to order.) I was fortunate that on the morning I picked my packages up, it was nice, sunny and sixty-degrees. I remember my past experiences with installing or dealing with bees in cold, cloudy or windy weather and it never usually ended well for me. This was especially relevant, since I had made the last-minute decision not to buy a bee suit or gloves. I had always hated putting them on, especially in the summer's heat. I am ten years older now and I know with certainty, that the discomfort or misery of wearing them would not be any better.



Photo courtesy of Reggie Gracie

The bees came home and were placed in hives at my son's house which is a few miles from my place. He has a nice location in the country with some acreage and is surrounded by plenty of fields and farms, perfect for bees. I installed the first package while he watched the process. I went slowly and carefully being sure not to upset any of the ladies. By the time I was finished installing the second package, he was putting in the third. He had picked up the process quickly! Unfortunately for him, when he was uncorking the queen cage, he accidentally crushed a worker. This riled them up a little bit and we each got a nice

reminder of how to be more careful next time. One sting each wasn't a bad performance for the day, especially without suits and gloves.

Two days later, I went back to make sure the queens were released. I went on the second day, instead of the third, because we got a break in all the rainy weather, and as the weather changed from rainy and cold to a nice sunny warm sixty-five-degree afternoon. The rest of the week was forecasted to be more rain and cold, so I wanted to minimize my chances of being stung. I was pleased that the hives looked great and had a nice build up. I noticed that the queens were out and laying. Overall, we seem to be off to a good start. Since then, we have been busy keeping the feeders full and praying for some sunny weather.

Lastly, I have already re-joined the Maine State Beekeepers Association and I plan on attending the Kennebec Beekeepers Association meeting in a couple of weeks. I have sent in my hive registration to the State of Maine. I am looking forward to being able to sit and watch my hives this summer like in the days of past. I am also delighted that my son has taken an interest in the hobby, and I hope that this will become a father and son memory for him, as well as passing along to him some of my knowledge and experience in apiary management. I am looking forward to many more years of memories and enjoyment keeping bees!



Photo courtesy of Reggie Gracie

How To Protect Your Hives from Infiltration by Ants

by Mary McEvoy

I am a fifth-year beekeeper in western Maine (80% of my town is in the White Mountain National Forest) where winters can be harsh and where I have measured snowfall of up to 12 feet in a season. For love of my bees, I always seek to improve their health (Varroa mite treatments) and safety (electric fence), and look for innovative ways to help with nectar dearth, water sources, pest control, and harsh weather. I keep a bee journal and when I learn something that helps my bees, I create a section at the end of my notes entitled "What I learned."

When I began beekeeping, I purchased two nucs and transported them at night in my Subaru Forester. With the hatch open for good ventilation, I kept them in the garage overnight for safety since I also live in bear country. When I transported the hives to my bee yard, I noticed quite a few ants in the Subaru. Later, when a friend arrived to help me remove the staples attaching the nucs to a styrofoam base, I was shocked to find tens of thousands of ants and their larvae in the base. The ants were dispatched and the hive moved to my bee stand, but that vision stayed with me. I was determined to not have ants invade my hives again.



Photo courtesy of Mary McEvoy

You can see from the photos, my hive stand is situated on a former fire pit area made of paver bricks. The sand between the bricks is a haven for ants and it wasn't long before I saw them climbing the hive stand for a sweet treat. A little research revealed how I could control for ants with a simple, inexpensive, environmentally-friendly solution ...

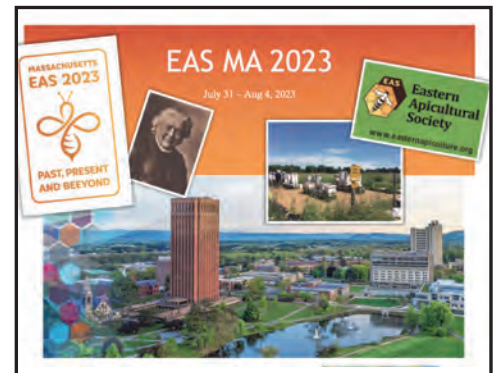


Photo courtesy of Mary McEvoy

I simply use rinsed yogurt containers (17.6 oz size), with the lid sliced with an exacto knife to accommodate the 2" x 4" support. I lightly fill each yogurt container with mineral oil and voila! ... ants cannot get through the oil to climb the wood hive stand support. The fitted lid may allow some rain to filter into the mineral oil (which is not an issue), but it is important to keep the bees from entering the yogurt container thinking it may be a water source. Alternatively, one could cover the yogurt container with screening to keep the bees out.



Photo courtesy of Mary McEvoy



WEBINARS

- June 20 7 pm **University of Georgia Bee Lab Research and Extension Update: OA for Varroa control, honey bee vaccine research and more!** with Jennifer Berry
- July 17 7 pm **Hives For Heroes** with Steve Jimenez
- August 16 7 pm **Mysteries and Management of Laying Workers** with Jon Zawislak
- Sept 14 7 pm **Seasonal Beekeeping: Getting Ready For, and Then Surviving Winter** with David Peck
- Oct 4 7 pm **Seasonal Management for Successful Overwintering** with Jennifer Lund

Why Are You Here?

by Carol Cottrill

New beekeepers in our classes always ask how often they should check their hives. The standard answer seems to be "every week to ten days." Off they go and follow the calendar dutifully opening their hives, removing each frame and looking it over. They may not really know exactly what they are looking for, but they are following the schedule. Experience has shown that opening a hive and messing around with it will set the hive back, but new beekeepers need to learn by practice and observation. Opening a hive to see it changing and developing over the seasons is an important part of learning the art of beekeeping.

Once the newness of this process has worn off, however, it is time to adjust hive inspections so that the bees are not disrupted unnecessarily. It is also time to become more organized so that trips to the bee yard are more efficient. Opening a hive

and finding that it needs a super when all the supers are in storage back at your house means the hive will be disturbed a second time once you retrieve a super. Keeping a simple notebook to record your hive observations can be very helpful in organizing your bee yard visits. Bringing paper and pencil with you can result in a sticky mess; if you only have a few hives recording brief notes after leaving the bee yard may be fine. If you have a failing memory such as mine you may want to bring a recipe card (better than a piece of flimsy paper) and make a few quick notes with a pencil (not a pen: ink runs) that can be transferred to your diary. I find I often refer to my notes to check year to year progress, determine approximately when I performed various tasks and see what things worked and what didn't.

Another useful reminder can be as simple as a brick on the hive. I use rocks to weight down the hive covers, but keep several bricks on the ground near the hives. If there is a reason a hive needs special attention it gets a brick on top when I close it up. Maybe it has swarmed and I need to check

to see if the new queen has mated and is laying a good pattern. Perhaps I am keeping an eye on mite levels in case I need to treat the hive earlier than normal. Even without my diary in hand I know which hives might need an extra inspection. Use your diary to plan your trips to the bee yard. If you know why you are opening your hives you are more apt to have all the supplies and equipment you need. You don't need a fancy container to keep all your equipment in, but you should have something that holds all you need.

Toolboxes, buckets, totes of all sort will work as long as it is something that you can add to as you figure out what is essential each time you inspect your hives. Is there room for a container to collect hive scrapings so you won't leave them lying around the bee yard (a coffee can perhaps)? Are you putting on medications that require use of chemical resistant gloves and eye protection.

If your bees need to ask "Why are you here?" perhaps it's time for you to become better organized beforehand.

Remember to register your apiaries by June 15th!



It is a requirement under the Title 7 MSRA, section 2701 to register your apiary with the Maine Department of Agriculture, Conservation and Forestry (DACF). Registration is valid for a twelve-month period expiring in mid-June.

Besides being the law, it is important for beekeepers to register their apiaries with the State of Maine for several reasons.

-Disease Management: American Foulbrood is a bacterial disease that is extremely long-lived and contagious. It can rapidly spread from hive to hive. If a positive case is found in the state, all the surrounding registered beekeepers are notified. A notification alerts a beekeeper to be extra vigilant about checking their hives for signs of the disease and allows them to request an inspection by an apiary inspector. If your apiary is not registered, you will not be contacted.

-Pesticide Applications: There are rare occasions when pesticides must be applied aerielly to control mosquitoes or other public health pests. The Maine State plan for public health emergencies includes consideration for pollinators and contains language that directs the applicator to contact beekeepers in the area so they can take the proper precautions to protect hives. If you are not registered, you may not be contacted.

-Inspections: If your hives are registered with the DACF you can request an inspection of your apiary by a trained apiary inspector.

Outreach and Education: Registered beekeepers who provide their email address will be included on important updates regarding pests/diseases and educational opportunities.

Fill Out the 2022/2023 Maine Beekeeper Survey!!! The annual Maine beekeeper survey of losses and management practices is now ready for your input! Gathering this type of data is important for seeing trends, recognizing when and how losses occur, and determining where to focus education/outreach activities in the future. A link to the survey can be found at the top of the DACF apiary website (www.maine.gov/dacf/php/apiary) or directly at this link: <https://forms.office.com/g/KKAjpcRatr>



Tips and Tricks

by Jason Peters

Our Guide For Effective Swarm Management

I am often asked how I manage my bees to prevent swarming without making splits. The following is a guide that outlines the steps that we take:

-Equalize colonies so that they are all of relatively equal strength and can be monitored and managed similarly for the remainder of the season.

-Performing inspections every 7-10 days during the prime swarm season (typically late May- early July) in our area.

-Finding and caging or isolating the queen (quiet box works well).

-Making sure that the queen is actively laying (eggs are present).

-Shake down all brood frames to remove adhering bees so that you can identify all queen cells and queen cups (often hidden in corners, indentations in the comb or covered in adult bees).

-Remove ALL queen cells and queen cups (if a cell is missed, they will likely swarm).

-Add more space in the form of additional honey supers or brood boxes depending on how you manage your bees (singles vs doubles) to provide room for the increasing adult bee population, incoming nectar, honey and pollen storage and to help relieve congestion in the brood chamber.

-Utilize young queens selected from stocks with a strong disinclination toward swarming.

-Clipped queens. We use this more for tracking the age of our queens but it helps by preventing the queen from flying if a swarm is initiated. They are much easier to capture when they aren't in the trees but the colony will still swarm with a virgin if not managed well.

When we manage our bees following this system, we are generally able to stay ahead of their efforts and we see very little instance of swarming in our yards. This prevents us from having to perform other more complicated and often time-consuming swarm prevention techniques or having to pull nucs or splits from our production hives. This ensures that our colonies are very robust, productive and healthy during the season increasing our honey crop and the chances of our bees successfully wintering.



EAS SHORT COURSE AND CONFERENCE

by Janet Anker

The annual Eastern Apicultural Society Short Course and Conference is being held on the UMass Campus in Amherst, MA from July 31st to August 4th. The theme is **Past, Present and Beyond**. This is the closest that this worthwhile event will be to Maine for at least three years, so if you have put off going, this is the year to attend. A number of stellar speakers are lined up; Sam Ramsay, Tom Seeley, Paul Kelly, and Dewey Caron, to name just a few. Presentations run the gamut from the *Chemistry Behind Feeding Bees* to *What Kills Bees?* and everything in between.

The on-site apiary is where you can learn about disease detection, queen rearing and colony management. Special workshops on microscopy, photography, apitherapy and cooking with honey will fill up fast. Due to limited attendance, fly, don't crawl to the EAS website and register now.

Field trips will be held on Thursday and will include a tour of New England Apiaries LLC with demonstrations of commercial honey extraction and cut comb production. Also on Thursday is an all-day trip to western Massachusetts sights such as the historic town of Deerfield and the Yankee Candle Village. There will also be a children's program on Thursday with an array of activities and learning stations. The morning session is geared to ages 4-7 and afternoon sessions for ages 8-12. Parents must attend with their brood.

Other perennial favorite features of the EAS conference are the Honey Show, the evening banquets, and the vendor area. Bring three spotless jars of your perfect Maine honey, or your most fanciful beeswax sculpture or your best honey bee photo to enter in the Honey Show and maybe come home with a ribbon.

If you pre-order from your favorite bee supply company they will bring your order to the conference for you without shipping charges. In any case, drop by and see what ingenious things the vendors have that your bees can't live without!

Aside from the Thursday field trip there are plenty of things for your non-beekeeping family members to do in western MA. Make it into a vacation. Accommodation options include dorm rooms and the on-campus hotel, or area campgrounds and hotels (see the website for conference discount rates). UMass permits self-contained camping vehicles in designated areas on campus. UMass and surrounding towns have a plethora of EV chargers although most are level 2.

If you are interested in attending 1) make sure you are a paid-up member of EAS and 2) to register, go to the EAS conference website for a complete schedule of events and details.



Do you have swarm trap tips to share?

-Have your swarm traps out before swarms issue.

-Bait your traps with old brood combs and perhaps a few drops of lemongrass oil on a Q tip.

-Don't add honey (capped or not) or bee bread to your traps. Why? They'll attract ants and/or other pests which will discourage bees.

-Don't panic if you don't have access to a fancy swarm trap. An older single deep on a bottom board with a reduced entrance and a regular cover works fine. (I have roughly 80% success with one outside my kitchen window).

Andrew Dewey, Master Beekeeper

Use lemongrass oil as a swarm lure; a few drops inside near the entrance is plenty to attract scout bees' attention. Put your swarm trap somewhere that you will see it multiple times each day (near your parking spot, somewhere you can see out your kitchen window, etc.) You will likely notice bees scouting when swarming is imminent (or has occurred), even if they do not ultimately chose your swarm trap as the new nest site.

Erin Evans, Master Beekeeper

What behavioral signs do bees provide that help to indicate a nectar flow is on before you realize the hive is nectar bound?

I'm unaware of any behavioral signs related to being nectar bound. Ideally, a beekeeper will learn the historical timing and phenological signs for local nectar flows from their club and nearby experienced beekeepers.

Congestion from being honey bound can be a swarm trigger. Inspect each strong colony every 7-10 days to look for honey being stored long-term (capped) in the brood laying area. Remember that nectar is given to receiver bees to store. On days when the flow is especially heavy, to keep up, the receiver bees may temporarily store honey in the brood nest, and once foraging is done for the day, move it to permanent storage locations above the brood nest.

Put drawn honey super(s) on if you doubt adequate honey storage. The bees are not going to see the undrawn super foundation as a place to move nectar.

Andrew Dewey, Master Beekeeper

The first signs for beekeepers to notice are what is in bloom and the weather, these things govern the behavior of the bees. The most obvious sign is that there will be a lot of activity at the entrance of the colony. Bees will be frantically coming and going, and foragers will be returning to the colony with swollen abdomens. Sometimes these bees will be met on the landing board by house bees who are there to take the nectar. That first good flow gets them very excited. When you open the colony, you will see new light-colored wax on the frame top bars. Bees can build comb in small amounts from recycled wax, which will be brown just before the beginning of the spring nectar flow. The wax you will see when the nectar flow starts will be white or very pale yellow.

Karen Thurlow, Master Beekeeper

Are there steps that beekeepers can take to protect their colonies from pesticide exposure and injury (in addition to registering their hives)?

There are two primary options: work ahead of time to provide pesticide education to homeowners in your apiary forage area; the second option may take years and lots of money to achieve: provide adequate forage to keep your bees home and away from pesticide exposure. Adequate forage isn't a few flowers, but a field of flowers (or the

equivalent of flowering trees and shrubs). Alternatively, consider moving your hives for a few days to a pesticide-free area.

If you know pesticides will be applied where 1) your bees will be exposed and 2) the pesticide is toxic to honey bees, you can screen your bees in the hive for a day or so. Be very aware of hive temperatures if you screen the bees in – consider using a screened top.

Andrew Dewey, Master Beekeeper

When on another's land, have a contract with the grower or landowner where your bees are stating no pesticide, herbicide, fungicide, etc. will be applied on the crop or land while colonies are there. Also, no applications of toxic products should be made immediately before the bees' arrival if the product residue will be a danger to the colonies. In the case of emergency treatment, the grower or landowner needs to inform the beekeeper 24 hours before any application is made. The name of the product that will be used needs to be shared so the beekeeper can determine the length of the removal period. The contract should also have an area where the grower lists any systemic or neonicotinoid class pesticide that has been used in the area. The grower or landowner should also provide a clean water source if none exists. This will help keep the bees out of the ditches that could have residue from previous applications of products. Also, this keeps the bees out of swimming pools and other water sources where they are not welcome. *Karen Thurlow, Master Beekeeper*



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