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The Bee Line

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A Few Good Queens

by Mike McNally

Last time we covered finding the right hives from which to produce a few good queens. It was my opinion that winter survivability was the number one criteria to be considered followed by temperament and honey production. If your bees don't survive the winter the other criteria won't amount to a hill of beans. Where to start looking? Look first in your own backyard. If you have a couple of hives that made it through the winter then your bees have achieved their first hurdle.

Much of what I'm going to say is old hat to longtime beekeepers but I hope it will be helpful to those just getting into this wonderful hobby. Go buy a nuc box, maybe even two if you don't have one already. Fill it with frames and foundation or even drawn comb if you have it. Know this...if your hive(s) have made it through the winter it is reasonable to assume they are healthy. Healthy hives love to swarm and if this happens you could lose up to 50-60% of your workforce, and maybe more. Ouch!!! What to do, what to do? Wringing of hands does not work! Many of us in our introductory beekeeping courses were taught the "Demaree" swarm control method. It works some of the time but requires a lot of hive manipulations. I prefer making artificial swarms as taught to me by Jackie Hildreth and Erin MacGregor Forbes in their intermediate beekeeping course given a number of years ago in Falmouth. Subsequent to that Jackie gave a talk to our Sagadahoc club where he stated that he would like to declare May 15th "National Swarm Day". That would be the day we all made up our artificial swarms. I told him that I much preferred May 10th, my wife's birthday which is easier to remember. I just knew my wife would be ecstatic about this. Imagine my consternation when she was NOT!!! Anyway, why mid May? Bees typically swarm between May 15th and July 15th. Therefore, you need to head them off at the pass and intervene before they decide to do it on their own. Pick a nice warm day around mid May and make up your artificial swarms. Haul out your nuc boxes and get started. You may want to give a chant to the bee gods for good luck before you start. Work the upper box first because I have found this is where she likes to hang out 75-80% of the time in May. I try to kill two birds with one stone. When I find the queen I like to put her on a frame with open brood, add a frame with pollen and a frame with honey and an open frame where the queen can lay; then shake, shake, shake the nurse bees in with the queen. You have now created a nuc with no capped brood. This hive can now be treated effectively with oxalic acid vapor since it is open brood. These nucs usually take off with a bang.

Now what you have left is the bulk of your bees, a lot of capped brood and hopefully eggs and young larvae. At least enough eggs and larvae to make emergency queen cells. I let this hive settle down and in seven or eight days I go in and check for ripe queen cells. Usually I find five to 15 capped or nearly capped queen cells. If you have a large population you may want to haul out that 2nd nuc box and take a frame from the mother hive with a couple of ripe queen cells on it, another frame with capped brood and a frame of honey and a frame of pollen. Now you have the original hive and two nucs.

This next step is very important. Count 25 days from when you first removed the queen. Check your original hive and the second nuc that you made up. You should find all open brood and a bred queen that has started to lay, but no capped brood. I capture and mark my new queens at this time. Why 25 days? Remember it takes 24 days from the time a drone egg has been laid until it emerges. At 25 days your hive and 2nd nuc have nothing but open brood and hopefully you will see evidence of eggs and young larvae from your new queen. NOW is the time to treat this hive and nuc with oxalic acid vapor. OMG, you can practically hear the frantic phoretic mites screaming, "we have no place to go, no place to hide!!!" It is like driving a stake into their bloodthirsty little hearts. Actually it is fat body little hearts but that doesn't sound as dramatic. Mites actually feed on fat bodies of the honey bee (equivalent of a liver), not blood or hemolymph.[1]

Back to the beginning when I said the most important asset that a hive can have is the ability to make it through our harsh northern winters. A couple of the best papers I have seen written on this subject were by Maine Master Beekeeper, Erin MacGregor Forbes. In her first paper she compared the

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Upcoming Board Meetings: April 15 & May 20 (7-9pm)*

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President's Message

This time of year many of us can be found in a barn, basement or garage workshop building hive bodies and frames, replacing foundation, cleaning smokers and mending equipment. I find this to be the ideal time to listen to beekeeping podcasts. Both entertaining and educational, they relieve the drudgery and seem to make the work go by a lot faster. Here are five of my favorites:

The **Beekeeping Today** podcast airs every Monday. Co-hosts Kim Flottum, former editor of Bee Culture magazine, and Jeff Ott, a skilled, longtime backyard beekeeper, interview a vast spectrum of folks from the beekeeping universe – many are distinguished in their fields while others are not quite as renowned but just as engaging. In May 2020 guest co-host and honey bee biologist Dr. Kirsten Traynor joined the show on a regular basis to converse with young, upcoming personalities and researchers. Whatever the topic, all of the episodes are great listening. For new beekeepers there's a four-part series in Season 2 called "How To Get Started With Bees," with Kim, Jeff and Dr. Jim Tew discussing all aspects of the craft.

Two Bees in a Podcast is hosted by Dr. Jamie Ellis and Amy Vu of the University of Florida's Honey Bee Research and Extension Laboratory. Running about one hour long, the weekly show kicked off in January 2020 and numbers 54 episodes. Anyone who's heard Jamie speak in person or on video knows he's adept at presenting content in a clear, coherent and humorous way. Amy does a great job of moderating and the repartée between the two is entertaining.

Almost every episode features a guest, most of whom are leading lights in the beekeeping world. Think of anyone you've heard of and they've probably been on the show. Topics range far and wide. One segment is devoted to "Five Minute Management" in which fast-talking Jamie gets exactly five minutes to explain a specific topic in beekeeping management. The show wraps up with a listener Q&A dubbed "Stump the Chump."

Hobbyist and EAS Master Beekeeper Kevin Inglin hosts **The Beekeeper's Corner** every couple of weeks from his home in central New Jersey. The podcast was launched in April 2010 when he and his wife were entering their third year of beekeeping and had lost their bees over the winter. In Kevin's words, "This podcast is a little like two friends sitting and chatting about beekeeping and life." He has a great voice with a calm, laid back delivery. Sometimes he drifts off-topic before reminding himself that he's had "a Kevin moment." Pretty much every possible beekeeping aspect has been touched upon throughout nearly 200 episodes. They run from one to two hours long, but timed segments make it easy to skip from one to another. Kevin loves trying new methods and comparing results, making his ongoing journey of trial and error unique among podcasts.

What happens when you take a redneck fishing guide and pair him up with a master beekeeper? That's the premise of **The Hive Jive**, which tracks novice beekeeper Ken and his mentor John. Early episodes follow Ken's educational journey with basic beginner topics, and later moves on to a broader range of beekeeping skills appealing to all levels of experience. Texas Master Beekeeper John knows his stuff and has a knack for explaining in-depth subjects in an articulate and easy to understand manner.

There's a lot of talk about local weather and forage, which Maine beekeepers won't benefit from because the hosts' colonies are located in Austin. And we can probably skip the episode on fall splits. Top bar hives get plenty of coverage. But the duo tries to be inclusive of their northern audience with episodes like Winter Prep for Northern States. The 95 weekly episodes last from 30 minutes to over an hour.

From the UK comes **Beekeeping Short and Sweet**, billed as "a podcast for inquisitive beekeepers with a short attention span." Every episode is a brief 15 minutes long, hosted by the congenial Stewart Spinks in a pleasant British accent. He packs a lot into the short time frame and despite some differences in transatlantic beekeeping, we all share the same issues: mites, wasps, swarming, queenlessness, hot bees, hive vandals and more. It's worth noting that he runs Honey Paw polystyrene Langstroth hives from Finland as well as some wooden Langs in addition to traditional UK styles. A former bee inspector, Stewart is very focused on education and the "how-to" of beekeeping.

For the past year there have hardly been any opportunities to "talk bees" with friends and club members. I've found that the next best thing is listening to smart people who know a thing or two about beekeeping, even if they're in a faraway state or even another country. Thank goodness for podcasts!

Judith Stanton

Bees of Maine

by Jennifer Lund

Family Halictidae (Halictids, Cuckoo, and Sweat Bees)

Some members of this family are metallic blue or green, but most are black or brown. They are small (0.1 - 0.6 inches in length), slender and range from bald to moderately hairy. Most species are solitary, but some are sub-social where multiple females build and defend a single nest. Females are generalist foragers and carry pollen on the hind legs or thorax. There are eight genera found in Maine with Lasioglossum being the most diverse.

Lasioglossum spp. (sweat bees) is a very diverse bee genera, containing well over 1000 species worldwide. In Maine we have 52 species. Members of this genera are commonly called “sweat bees” because they are attracted to animal sweat, which they drink for salt and micronutrients. Sweat bees are small, slender and often black, metallic green, or metallic blue. They are generalist feeders and carry pollen on the upper portion of back legs. Lasioglossum spp. includes species that exhibit a wide range of social behaviors, including solitary, communal, and social habits. In social colonies, daughters care for the young. In communal colonies, several reproductive females will lay eggs in and defend a single nest opening. Most species nest in sandy soil on flat ground and line brood chambers with a wax like secretion to protect developing larvae. A few species nest in soft wood.

Sweat bee on thistle
Photo courtesy of Megan Leach

Sphecodes spp. (cuckoo bees) are small to moderate in size, slender and relatively hairless. They have shiny brown to black head/thorax and red abdomens. Sphecodes spp. are cleptoparasites, meaning they lay their eggs in the cells of another species. Sphecodes spp. primarily lay their eggs in the cells of other Halictid species. After hatching, the Sphecodes larva consumes the resources in the cell (nectar and pollen) and often any other bee larva/egg in the cell. Adult Sphecodes spp. lack scopa, or pollen-collecting hairs since they only visit flowers to drink nectar, not to collect pollen which is needed to feed developing larvae. There are 14 species in Maine.

Sphecodes on oxeye daisy
Photo courtesy of Megan Leach

Family Melittidae (Melittids and Oil Collecting Bees)

This is a small and uncommon family containing only two genera (Macropis and Melitta) and four species in Maine. These bees are small, brown to black in coloration and have stripes on their abdomens. Melittids are ground nesters, preferring areas of bare, sandy soils. Because adequate nesting sites are not uniformly distributed in the landscape, Melittids will often be found in aggregations. Most species are specialists, only collecting and feeding on pollen/nectar from a limited number of plant species. Macropsis spp. collect loosestrife (Lysimachia spp.) oil and line cells with it. They also feed it mixed with pollen to developing larvae.

Family Colletidae (Plasterer, Cellophane, Polyester and Yellow-faced Bees)

Female Colletids line brood cells with a cellophane or polyester type substance produced from a gland in their head. The substance does not permeate the surrounding soil, so it easily separates from the soil. This substance is waterproof and resistant to fungus, which protects eggs and developing larvae. This family provisions its nests using regurgitated liquid food. There are two genera found in Maine.

Colletes spp. (polyester bees) are 0.3 to 0.6 inches long and very hairy. Most are black with white hairs on head, thorax, and in stripes on the abdomen. When viewed from the front, their head tapers towards their mouth, giving it a heart shaped appearance. They carry pollen in scopa on their hind legs. Many are specialist feeders, only feeding on a few species and all are soil nesters. Besides producing the cellophane type substance, Colletes spp. also secrete linalool, which acts as a fungicide and bactericide. There are 10 species found in Maine. One species, Colletes inaequalis, emerges very early in the spring, often before the snow has fully melted.

Hylaeus spp. (yellow-faced bees) are small (0.2 to 0.3 inches long), slender, and relatively hairless. Most are black with yellow or white markings on their faces, thorax, and legs. They are generalist feeders and collect nectar and pollen in their stomach (no scopa). Most species nest in twigs, plant stems, or small natural

cavities and will readily nest in artificial bee nesting blocks. In Maine there are 10 species.

Yellow faced bee on spirea
Photo courtesy of Megan Leach

Family Andrenidae (Miner and Sand Bees)

Andrenids are the most diverse family of bees on the North American continent, and are one of the first bees to emerge in the spring.

Andrenid on Goldenrod - Cloudy winged mining bee (looks like a wasp from afar)
Photo courtesy of Megan Leach

They are moderately sized (0.3 - 0.7 inches in length) and hairy. Most are black or gray-brown, some with abdominal stripes. This family contains both specialist and generalist foragers and female bees carry pollen high on their hind legs. They are soil nesters and can be found in aggregations when conditions are favorable. Many are solitary, but some will form communal nests. Females excavate a vertical shaft with lateral tunnels used as brood chambers. In Maine there are four genera, but 52 of the 56 species are in the genera Andrena.

Andrenid on lowbush blueberry
Photo courtesy of Megan Leach

For more information:
Checklist of Maine Bees:
https://www.researchgate.net/publication/322277890_Bees_of_Maine_with_a_State_Species_Checklist
Bees of Mind website:
https://www.beesofmindme.com/
Maine Bumble Bee Atlas:
https://mainebumblebeeatlas.umf.maine.edu/
What's the Buzz on Bees Webinar:
https://www.maineentosociety.org/webinar-archive/whats-the-buzz-on-bees

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Megan studied bees for her master's degree at the University of Maine and began photographing them while doing field work. Photographing insects, and in particular bees opened her eyes to the many different species flying around and she's been working to increase her knowledge even after completing her thesis and degree. She shares her work through her website, instagram and facebook pages to increase visibility of native bees, other insects, plants, and habitats in Maine.

Website: https://www.beesofmindme.com
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A Few Good Queens

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survivability of southern raised package bees to northern nucleus colonies started from northern stock and her second paper compared conventional package bees from the south vs. conventional package bees from the south that had been requeened with northern queens from northern stock.[2,3] She defined southern queens as those queens raised from southern stock and northern queens as those queens that had made it through a northern winter or daughters from northern queens. She demonstrated clearly that hives with northern queens survived in greater numbers than southern package bees with southern queens.

Three years ago I asked Sagadahoc club members how many hives they had starting the winter and how many survived and whether they were headed by a southern raised queen or a northern raised queen using the above definitions. Only 7% of the package bees survived (2 out of 37) vs. 54% of the hives headed by northern queens. Enough said! You should by the end of summer have three hives all headed up by northern queens.

REFERENCES:
1. Ramsey, Samuel et al, 2019, Proceeding of the National Academy of Sciences; Varroa destructor feeds primarily on honey bee fat body tissue and not hemolymph.
2. MacGregor-Forbes, Erin, 2010, SARE; A Comparison of Honey Bee Colony Strength and Survivability between Nucleus and Package Started Colonies
3. MacGregor-Forbes, Erin, 2012-2014, SARE; A comparison of strength and survivability of honeybee colonies started with conventional versus requeened packages.

Reflections on Hive Management and Queens

by Jane Dunstan

Each year the planned routine is to spend February and March going through stored equipment, scraping burr comb, separating frames based on whether they are drawn or undrawn and preparing boxes of honey supers so they will be ready to place on hives May 1. The other crucial activity is reviewing my apiary notes from the previous year. It is now March; boxes and frames remain untouched, but I have reviewed my notes. After reading through a composition book full of detailed observations, I ponder whether I could ever simply write abbreviations on the inside of the telescoping cover. It's doubtful that transition could be made; I rely on detailed notes of specific issues to help guide my decision making and interventions.

After perusing notes on the 22 colonies who were out and about on cleansing flights that warm 50° day, I noted a theme emerging as I read. Colonies which required more interventions, had less honey production and did not emerge as strong as others all suffered from the same problem: a poor performing queen.

I was guilty of being a queen protector in spite of some pretty alarming evidence. I coddled her, made excuses for her, and gave her more opportunites than you can imagine to change the brood pattern that was presented. I chose to allow her to limp along thinking it would be different in ten days, or twenty days or a month. I placed undue stress on the colony by giving those queens every last chance to prove me wrong. It was indeed the reason why the colony struggled so. I should have known better...

During the first inspection on a warm, sunny 70° day in May is when the hives get “sized up." They are classified into the following groups: big and booming requiring immediate attention, typical post winter presentation with a solid number of bees, capped brood and larvae or woefully slow to declare themselves. Let's look at the latter.

The woefully slow to declare themselves category was typified by a smaller number of bees, less brood and larvae and very often a number of untouched frames of honey. Queens were present; however not young queens from the prior season. That should have been my first clue. Interventions for those smaller, weaker colonies might include reducing two hive bodies to one giving them less space; feeding with 1:1 sugar syrup; adding frames of capped and uncapped brood with a slug of nurse bees from other colonies in an attempt to boost numbers; and giving them another week or so to see if any of the interventions worked. Despite checking every seven to ten days and finding mitigation efforts had not worked, I kept intervening in these colonies rather than simply grabbing the queen and disposing of her. For whatever reason, I chose to delay the inevitable...*because she was the queen*. I had allowed there to be an emotional response to my queens which interfered with sound decision making surrounding hive management strategies.

The longer a marginal or less than prolific queen is left in a colony, the longer it will take them to rebound. The challenge is identifying whether a queen issue exists. Delaying her removal, waiting to see if a colony supercedes or finding yourself now with laying workers is not where any of us wish to find ourselves. However, the reality is that we sometimes end up with these problem colonies because we continue with repeated interventions when the obvious action is to simply remove the culprit...our beloved queen.

Never question the presence of supercedure cells. Recalling a particular instance, fence row colony # 11 was a favorite. Perfectly populated with lots of bees, a beautiful blond queen and frame after frame with an exquisite brood pattern, I remember thinking this is a textbook colony. During an inspection that year in mid July, I surprisingly found supercedure cells everywhere. "No way...you guys are crazy!" I looked through numerous frames, found my beautiful queen and could not imagine what they were thinking. Not wanting to but deciding to trust the bees on this one, I removed her and placed her in a nuc with two or three frames of brood and empty frames of drawn comb to simply observe. After almost 30 days in the middle of the summer with a nectar flow, the new emergent queen began laying in #11 and the original queen from that colony who was placed in a holding nuc...was superceded. Yes indeed, they knew. While all ended well in that colony, supercedure at that time resulted in a colony which required supplemental fall feeding and a smaller population of bees than I would have preferred.

The challenge is to ***recognize when the queen is the reason*** for poor colony build up and performance and to act ***decisively*** to requeen. To this day, I cannot explain why I managed those three colonies in that manner, but reflection was valuable and will certainly be fresh in my mind with spring right around the corner.

Several weeks ago I attended a Zoom webinar with Dr. Jamie Ellis on recognizing queen events. He discussed how to recognize queen issues and what actions to take, all which involved some form of provision for a new queen; whether by allowing the colony to requeen itself, inserting a ripe queen cell, introducing a bred queen or using a nuc. He discussed at length the benefit of utilizing a nuc colony to requeen a hive. He has provided an excellent pdf download which outlines in great detail how to use a nuc to requeen a colony and is available to everyone at https://edis.ifas.ufl.edu/in869

Spring Management

by Jennifer Lund

Wintered honey bee colonies should be checked in early or mid-March to assess the amount and position of honey stores. Lift the outer cover and note the position of the cluster. In moderate temperatures, strong hives will often have bees present on the inner cover drinking collected water. In cold temperatures, the cluster should be in the center of the hive body beneath the escape hole of the inner cover. The amount of honey stores can be estimated without removing the inner cover by tipping the colony slightly on its edge. If the weight is sufficient and the cluster is centered in the second hive body or situated in the lower hive body, close the hive and check it again in two or three weeks.

Hives that have the cluster positioned along the hive body wall should be centered. On a day with no wind and temperatures near 40°, remove two or three empty frames from the center of the hive and move the remaining honey and cluster into the gap. Try to move the clustered bees using minimal disturbance. This is best accomplished by sliding two or three frames, as one unit, along the frame rest using the hive tool as a pry bar against the hive wall or adjacent frames. Place the remaining frames of honey in the newly created void.

Colonies that are low on honey stores should be fed to prevent starvation. In late winter/early spring it is best to feed frames of honey to populous hives that were saved from the previous year or obtained from dead hives (provided it is free of American foulbrood and other disease). Individual frames of honey are positioned on either side of the cluster, whereas a hive body or super filled with honey is stacked above the cluster. Do not stack hive bodies or supers partially filled with honey above the cluster. The cluster may move into these partially filled frames and starve.

If honey isn't available, the best feed during late winter/early spring is sugar candy or commercially prepared fondant. In emergencies, granulated sugar can be fed to hives above the inner cover or situated on newspaper directly on top of the frames using a two to three inch spacer.

Beekeepers should visit colonies again in April on a day that is at least 50°. A quick check of the brood pattern will give an indication of the queen's performance and colony condition. All stages of brood should be present and uniform in appearance. Symptoms of queen failure include: drone brood in worker cells, spotty pattern, or the absence of brood. The amount of honey stores should also be estimated since honey consumption will increase with brood rearing. Hives that are light on reserves should be fed a 1:1 (water:sugar) syrup. Feed the syrup from above the cluster via an inverted jar or pail above the inner cover escape hole and protected with an empty hive body. Miller (hive top) feeders also work well during the spring. Avoid using entrance feeders in cool temperatures. The bees will not use them while clustered.

If the weather permits, bottom boards can be cleaned during this inspection. Do not reverse brood chambers at this time and keep entrance reducers in place. If the colony is small, extra boxes can be removed to reduce the area the colony needs to keep warm. Rewrap colonies until night temperatures moderate.

Hives that require feeding must be checked frequently and syrup should be replenished as often as needed. If syrup is fed in one or two gallon containers, a weekly check is usually enough. Typically, bees will stop feeding on supplemental feed at dandelion bloom since the bees are able to forage for nectar. As soon as the nights start getting warmer (usually around red maple, dandelion, and fruit tree bloom), unwrap colonies. If the queen is still in the top hive body and the bottom hive body is empty, reverse the hive bodies to encourage population buildup. Keep the entrance reducers in place until late May or early June, when the nighttime temperatures moderate.

MSBA Webinars

April 29, 2021, Thursday at 7 pm with Jennifer Lund
"All You Ever Wanted To Know About Swarms..."

May 11, 2021, Tuesday at 7 pm with Lincoln Sennett
"Successful Nuc Installation and Spring Splitting Strategies"

EAS 2021 Conference
Shepherdsville, KY

This years conference will be held at the Paroquet Springs Conference Centre on August 11-13, 2021 which is located 15 miles from both the international and regional airports in Louisville, KY.

A presentation based track and apiary based track will be offered this year. Attendance is limited and COVID safety protocols of masking and social distancing will be enforced. Walk in registrations will not be accepted. If you are interested in attending be sure your EAS dues are up-to-date and keep an eye on the Bee Line and the EAS website for further details.

Master Beekeeper Certification exams will be offered during the conference. If you had planned to sit for the exams in 2020 or are newly interested, this is a great opportunity for you to participate.

The 2021 conference will be *in-person only* with no hybrid options available. There are plans to record sessions and make them available to EAS members. Stay tuned for more details as information becomes available. Hope to see you in Kentucky!

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. If you previously registered your apiaries, you will receive a renewal form by mail. If you have not previously registered your hives, forms can be downloaded from the DACF apiary website (www.maine.gov/dacf/php/apiary). Besides being the law, it is important for beekeepers to register their apiaries with the State of Maine for several reasons.

•Pesticide Applications: There are rare occasions when pesticides must be applied aerially 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.

Tips and Tricks

by Jason Peters

Making a split using a Division Board

Using a division board is an easy way to make a split in the bee yard. This piece of equipment is very similar in design to an inner cover, except it has a solid bottom with no porter escape or feed hole and typically only has a rim on one side allowing for the entrance. Pictured is one that I made several years ago. Notice that the bottom is solid so that no queen or pheromones can pass through when it's in use.

Photo courtesy of Jason Peters

It is used as follows:

• Approximately one to two weeks before making your split, replace the top inner cover on the main hive (A) with the division board. Place the entrance facing down and in the opposite direction of the main entrance and replace the outer cover. This will allow some of the bees to get used to the new entrance.

•

Photo courtesy of Jason Peters

On the day of the split, take two frames of mostly capped brood with adhering bees (being careful not to take the queen), a frame containing mostly honey/pollen and enough additional drawn frames or foundation to fill out the box and place them all in what will become a new brood box (B).

• Shake in bees from one or two brood frames from the main hive (A), again being sure not to include the queen. This is also a great time to perform an alcohol wash to sample for varroa as your queen is safely down below.

• Turn/flip the division board over on the hive so there is no top entrance for the bottom hive (A).

This photo shows the back of the original hive (A) with the division board (notice the entrance for the division board is facing the back of the original hive (A). It should remain like this for approximately one to two weeks prior to making the split.
Photo courtesy of Jason Peters

• Place the new brood box (B) on top of the division board.

From the top down, you now have:

• The new brood box (B) with bees, brood, honey and pollen.
• The division board, with entrance facing up (this is for the new colony).
• The main hive (A) with the original colony and queen, below the division board.

Wait 24 hours and introduce a mated queen or queen cell to the new split.

This photo (rear view) shows the division board flipped over on top of the original hive (A) and the new hive (B) in place on top of the division board now with its own entrance
Photo courtesy of Jason Peters

When making splits, I highly recommend taking the opportunity to increase the good genetics in your colonies by introducing mated queens or queen cells of good genetics that were developed under optimal conditions. These can be purchased from a local queen breeder or by raising your own queens by selecting from your best performing colonies and producing queens under controlled conditions.

The back of the stack once the split has been made
Photo courtesy of Jason Peters

Alternately, you could use a queen cell from a colony that is preparing to swarm or take a supersedure cell from another hive but one should understand that by using swarm cells, we are automatically selecting for an increase in swarming behavior. Although many will let the colony make their own queen, I strongly advise against doing so under these circumstances (emergency impulse) as those queens often suffer from a few major disadvantages such as smaller size at emergence, lower pheromone production and are generally less attractive to drones during mating flights which leads to less sperm storage and ultimately a shortened life span in the colony.

Timing for making up a split should be based on things like your goals, colony strength and the weather to name a few. A good time to make up your split is when the bees are preparing to swarm or at the onset of the dandelion flow. One of the great advantages of waiting until the dandelion flow and raising your split on top of another hive is that it will share some of the heat produced from the colony below.

With this method all of the older foraging bees go back to the original colony so there is little impact on the honey crop that is produced.

Ask A Master Beekeeper...

I have heard the terms bee bread and royal jelly used interchangeably but they are indeed different. Would you address the difference?

Think of bee bread as an ingredient needed by the bees to produce royal jelly. Nurse bees eat bee bread and then secrete jelly via their hypopharyngeal gland. *Andrew Dewey, Master Beekeeper*

All honey bee larvae receive royal jelly from the time they hatch from the egg until they are three days old. Royal jelly comes from glands on the forehead of younger bees, older than five days but less than 12. Hey! I don't have my chart in front of me but somewhere in that age group. Bee bread is what is fed to larvae that are older than three days until they are capped in their cells. Bee bread consists of a mixture of honey and pollen. *Rick Cooper, Master Beekeeper*

Have you used probiotics and if so, was it beneficial and in what way?

I have not. While I pay some attention to company claims and "evidence," I remain unconvinced. *Andrew Dewey, Master Beekeeper*

I was involved in one of the early studies looking at probiotics for bees. I was fortunate to have 12 hives in one apiary, ten of which were pretty strong. The other two hives were about equal but weaker by far. In the ten strong hives I saw neither improvement nor decline. The hives all produced honey and as usual some produced more than others. In the two weak hives one showed good growth during the six weeks they were treated while the other remained weak enough that by August 1st they got re-queened. Honestly, I didn't see much help except for the one weak hive. *Rick Cooper, Master Beekeeper*

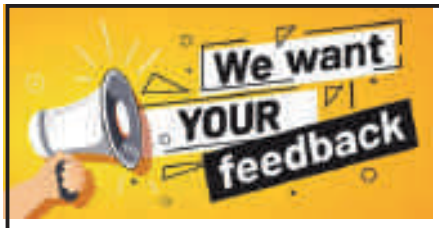
When do you perform your first alcohol wash in the spring?

I do my first alcohol wash the first day I can manipulate frames in the spring. That means the temperature is at least 60°, it is not excessively windy, nor is it about to rain. For my location, that is late April/early May. While the Honey Bee Health Coalition recommends testing several times a season, I plan to test every colony monthly (during bee season) and about seven days after the end of treatments. *Andrew Dewey, Master Beekeeper*

This is an easy question to answer. I don't do alcohol washes. I treat spring and fall and do drone pulls from time to time during the summer. *Rick Cooper, Master Beekeeper*

Do you have a beekeeping question that you would love to see addressed? Email your questions to rmllamas1@gmail.com

Photo courtesy of Judith Stanton



Fill Out the 2020/2021 Maine Beekeeper Survey!!

The annual Maine Beekeeper survey of losses and management practices is now live and 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 summary report of the survey will be presented at the Maine State Beekeepers annual meeting in October and available online. A link to the survey can be found at the top of the DACF apiary website (www.maine.gov/dacf/php/apiary).

University of Maine's Black Bear Beekeepers

by Rachel Irzyk

University of Maine's Black Bear Beekeepers (BBBK) club was formed in September 2019 for students interested in learning how to care for honey bees. The club meets twice a month indoors and every Saturday during the fall in an apiary on the periphery of campus. Although the university doesn't provide any funding, Black Bear Beekeepers has received nearly $3,000 of in-kind donations from the biology department and Student Life.

Retired faculty member Dr. Frank Drummond donated the bees and Langstroth hives, which had been used in his research projects and for teaching beekeeping classes in the university's apiary program. Equipment and protective gear are borrowed from the club's advisor, UMaine employee and beekeeper David Fiacco, as well as other community members.

BBBK harvested 46 pounds of wildflower honey in October, most of which was put into jars and donated to the campus food pantry. Fiacco provided honey bottles, lids and labels, which he designed and created with the help of BBBK's public relations officer, Rachel Irzyk. A beeswax processing fundraiser is planned for the upcoming semester. Future fundraising ideas include selling honey at the campus farmer's market.

BBBK's vice president Zoë McNally says "While small, our club is full of excited, passionate members who work hard. Through weekly meetings and "hive days" we've learned about honey extraction, mite treatment, winterization and even things like budget and fundraiser planning. I am entirely grateful for this program and cannot wait to see how we continue to grow our hives and our club!"

Along with Fiacco, BBBK has benefited from other experienced beekeepers who've shared skills and knowledge. Maine State Apiarist Jen Lund has provided instruction about native bees, honey bee diseases and pests, and hive winterization. Phillip Fanning, an assistant professor of agricultural entomology, shares his expertise while maintaining his own hives adjacent to BBBK's. Also very helpful in providing advice and technical guidance are Jason Peters and Peter Cowin, both members of Penobscot County Beekeepers Association.

Despite the impact that the pandemic has had on the university, the Black Bear Beekeepers club was able to hold meetings safely during the fall semester, and members can visit the hives at any time to check on the bees or just observe activity. Anyone interested in learning more can email David Fiacco at (david.fiacco@maine.edu).
Also, you can keep up with Black Bear Beekeepers on its Facebook page facebook.com/blackbearbeekeepers, or Instagram account @blackbearbeekeeping.

Photos courtesy of the University of Maine's Black Bears Beekeepers Club

A Beekeeper's Spring Checklist

by Jane Dunstan

•Feed as needed to prevent starvation in March and April
•Assess early for queen performance
•Monitor for space needs each time you enter your colony
•Ask yourself whether there is adequate room for pollen, nectar and eggs?
•Manage for swarms EARLY
•Perform an alcohol wash during your first inspection and treat for mites if above threshold
•Evaluate the strength of your colony to determine interventions going forward: do you need to split or equalize?
•Become familiar with pollen and nectar sources in your area and when plants bloom
•Be prepared when performing your first inspections! Bring at least 3 hive tools, extra boxes and frames.
•Record your observations and interventions each time you enter your hive. Identify a reason you are checking that colony before you lift the telescoping cover
•Remove extra burr comb from frame tops and side bars to prevent snug placement of frames
•Place honey supers on May 1st
•Monitor, monitor, monitor...So much happens in the colony during spring and summer.
•Equalize to reduce congestion in large colonies and boost numbers and resources in smaller ones
•Recognize potential problems and document interventions
•Reassess whether your interventions worked
•Remember the colony has its own objectives: to build a maximum population with an outstanding queen and store abundant stores for winter

MSBA
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THE BEE LINE | Newsletter of the MSBA

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