

Beekeepers Gazette

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June, 2014

Are You a Phenologist?

VOLUME 2, ISSUE 6

Plants and animals have life cycle events that seemingly occur like clockwork every year:

- Butterflies go through metamorphosis
- Flowers bloom
- Honey bees swarm to create more colonies
- The leaves of deciduous trees change color and fall off
- Birds migrate back and forth between their breeding grounds and their wintering grounds
- Frogs and salamanders breed and their offspring go through metamorphosis
- Male ungulates (deer, elk, etc.) grow antlers to begin the rut and breeding season
- Some mammals, such as bears, groundhogs and ground-squirrels, hibernate through the winter

The study of how the biological world times natural events is called **phenology**.

Scientists now understand that plants and animals take their cues from their local climate. Climate (long-term weather patterns) is impacted by non-biological factors--temperature, precipitation and available sunlight. Species use the predictable yearly changes in the climate to determine when they start natural events such as breeding or flowering.

The three main non-biological factors that affect phenology are:

- Sunlight
- Temperature
- Precipitation (rainfall, snowfall, etc.)

These three factors work together to determine the timing of natural events.

For example, birds in the Northern Hemisphere begin their migrations to their breeding grounds each spring.

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Phenology Continued

One of the main cues they use is the amount of available sunlight. In the spring, the amount of sunlight increases a little each day signaling that summer is right around the corner. Along with sunlight, birds also use the warming temperatures to determine the time of migration.

Honey bees will begin preparing for their swarm season (i.e. colony expansion) using very similar clues. As we have discussed in earlier issues, in our area it is much earlier in the year than other parts of the country.

Plants use all three factors together-- temperature, precipitation and available sunlight--to time their yearly blooming.

This is how, as beekeepers, we plan for what we believe the proper timing for a nectar flow, such as Gallberry or some other important planting.

Occasionally we may have misjudged the actual bloom by a few weeks. I've seen situations where I miss the expected nectar flow and find myself trying to figure out; was it too much rain, was it those unexpected cold snaps months ago or maybe it was too much early heat. You only get one chance at a certain nectar flow. If you miss it, you won't get another for a year.

Phenology is an important subject to study, because it helps us understand the health of species and ecosystems. Every species of animals and plants has an impact on those in its food chain and community. The timing of one species' phenological events can be very important to the survival of another species, i.e. honey bees and their beekeeper's marketable products.

If one year has an unseasonably warm winter, certain plants might mistake the high temperatures as a sign of spring. Therefore, several plant species could begin to flower much earlier in the year than expected.

If an early spring storm passes through, then all of the new growth or blooms that have begun to emerge could die. The change in the spring time development will impact the species that depend on the development of that particular plant. The impact will be felt throughout the food chain.

Farmers depend on insects to pollinate crops, such as blueberries, watermelons and squash. Beekeepers depend on the plants and crops to secure pollination contracts or nectar flows for the production of honey.

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Phenology Continued

There is a delicate balance between the insects and the crops.

In some scenarios, the crops need to flower around the same time that the insects finish developing into adults. If the crops flower too early, then the pollinator insects could still be larvae. There could be no pollinators to make our fruits and vegetables grow! This is why we, as beekeepers need to understand the development of the plants and trees around us.

This is why we are destined to become phenologist.

Based on documentation from countless sources, we can decide what is likely to bloom and when. You have the ability to pinpoint or fine tune the expectations of what is actually happening.

This month, the Beekeepers Gazette is going to begin tracking and reporting what you, the reader is seeing in your area.

We need your participation. You are the researchers, we are the reporters. If you will report what is in bloom or beginning to bud in your area, we will begin a data base to help one and all realize what is happening around you.

Send us an email stating the location of the plant, the pertinent dates, and what is in bloom or beginning to bloom. You should include any other information you feel useful.

We will then publish this information to be shared among our readers.

Keep in mind; this will be a perpetual document. What you report this month will be outdated in the July issue, however it will be useful next year. What you report this month may be different next year because of climatic causes as discussed earlier.

This endeavor will only be successful if you participate. As I said earlier, you are the research team. Let's see what happens.

Excerpts for this article were taken from an article "What is Phenology" on the National Wildlife Federation's website at;

<http://www.nwf.org/Wildlife/Wildlife-Conservation/Phenology.aspx>

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Comments from the Editor

It has often been said that if you keep bees, sooner or later you will become a botanist. Botany is the study of plant life. Maybe, we don't want to go that far. What if we stop short of that and call ourselves a phenologist? **Phenology** is the study of periodic biological phenomena that are correlated with climatic conditions. After reading our article on this, you'll be able to decide which definition will fit you best.

Hopefully, you have a super or two of honey and are beginning to think of extracting it. In the last few issues, we have discussed the basics of promoting growth. Hopefully, you are beginning to see the fruits of your labor.

In this issue we will discuss the basics of processing your honey. Some of you are pros on the subject and some of you have just begun to muddle through this. We will address what you can do to make this simple.

Next month we will devote the entire issue on honey bee Pests and Diseases, focusing on Varroa Mites and Small Hive Beetles.

Summer is upon us. Now is the time to be vigil in conducting your Varroa counts and monitoring the Small Hive Beetle population. A hive can reach the tipping point remarkably quick. However, you can control the outcome.

This month we didn't receive any questions. Therefore we will not have a Question and Answer section.

If you have questions that need answering, please submit them.

Your participation is important to our success.

Until next month,
Happy Beekeeping

The Editor,

Ray

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Honey, get the biscuits!

Finally, all this preparation has produced results. Our bees have produced what most of us desire; Honey.

Published papers report the average hive in Florida will produce somewhere around five to eight gallons of honey. Not a bad return, I'd say. A medium super will yield approximately 2 ½ gallons of honey.

If you are new to the intricacies of processing honey, you'll soon discover it can be the most rewarding experience in your beekeeping adventures and at the same time, the most aggravating and messy. One drop of spilled honey can end up on the ceiling fan in the bedroom. Don't ask me how, just believe me whenever I say, "Don't do this in the house if you can possibly avoid it."

Let's begin this adventure by figuring out what is ready to extract. Whenever you inspect a super, it is very possible that not all of the frames are capped and ready to extract. If a frame is 90% capped, i.e. all but an area the size of the flat part of your fist, it is likely ready to process. If the super has but a few frames ready, you have several options; First, you can move the capped frames to the outside walls of the super, thereby encouraging the bees to cap what has been moved to the center. This will involve the waiting game to give the bees a chance to finish their mission. A lot of people will subscribe to this principle because in the long run you'll have a nice blend of honey and you are embarking on

this messy adventure only once. Secondly, you can remove the capped frames and either; combine the unfinished frames from your other supers or replace them with frames the bees will ultimately have to fill.



Example of a frame of honey not ready to extract

Before you can extract, you must consider how to remove the honey bees from the frames. There are several ways to accomplish this.

If you are not extracting a considerable amount of frames, you can simply shake or brush the bees from the frame and place the frame in another super and place a cover on it. This will get a lot of bees in the air and can be intimidating to some.

Another method I have used is to blow the bees off the frames or out of the super with a bee blower or lower powered leaf blower. This also puts a lot of bees in the air.

Continued.

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More Biscuits, Please

You can also consider escape boards. I personally prefer the triangular shaped escape over the Porter type that goes in the hole in the inner cover. The escape is placed below the supers and the supers and top replaced. After twenty-four hours or so, the supers should be honey bee free. One disadvantage to this method is you need to handle the supers multiple times.

A method I'm not overly fond of, but preferred by many is the fume board. A fume board is basically a hive top with an absorbent liner. You place a few drops of repellent such as Bee-Go, Honey Robber, Bee Gone or Bee Quick on the absorbent liner and place on the hive. After a few minutes in the sun, the odor of the repellent drives the bees out of the super. Most of these products, other than Fischer Bee Quick contain a product known as Butyric. Butyric is a *non-food* safe chemical and smells horrific. Bee Quick is reportedly food safe essential oils and smells considerably better. These all work basically the same way. You will need to decide if this method is for you and if so, which is better suited to your needs.

If you have elected to extract honey now, there are several pieces of equipment you need to buy, borrow or rent. First, let's discuss; buy, borrow or rent. Eventually, you will more than likely want to purchase the equipment necessary to extract honey, but it can run several hundred dollars and now may not be the perfect time for said expense. I have suggested to several people in the past that it may serve best to go in with a friend or two to spread the expense.

Each of you can purchase a different piece of equipment and greatly reduce the monies required. And lastly, consider that a lot of local associations own equipment that they loan or rent to their members. That in itself covers the cost of your annual membership.

Now let's consider the actual equipment you may want or need.

Uncapping knife; this can be as simple as a serrated bread knife, an electric model thermostatically controlled or a vibrating knife with a heated oscillating blade. Eventually, you may have a need for a full blown uncapper, but most of us aren't there yet.

Uncapping tub or tank; an uncapping tub is simply a tub or tank your cappings fall into as you cut them from the honey frames. It can be a Rubbermaid type box with an added honey valve and a queen excluder as a separating screen or as complicated as a stainless steel tub with grates to separate the cappings from the honey.

Extractor; this is the meat of the game. There are plans on the internet to build one, yourself. There are plastic models that are very inexpensive and there are small stainless steel models that will more than adequately fill the need. The list goes on.

Honey strainers; these are finely meshed strainers designed to strain out the loose wax cappings that will inherently get into your honey.

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Still More Biscuits

Honey bucket; this is simply a food safe bucket with a honey valve. You can make it or buy it.

One final thing requires your attention before you begin your long awaited venture. Honey is food. Everything should be food safe equipment and be clean and sanitary. I cannot emphasize enough the importance of cleanliness. I have honestly witnessed people extracting honey in a sawdust floored barn. Don't do it, please. Your working area has to be clean.

With that said, let's extract some honey. Take a frame of honey, stand it on its end over your uncapping tank and slowly and deliberately cut just the cappings from the frame. If you lean the frame inward, the cappings will fall away from the frame. Be careful and do as little damage as possible to the honey comb. Your bees will thank you in the future because they won't need to draw out that frame a second time.



Uncapping a frame

Place the uncapped frames into the extractor until it is full. Some  extractors hold two frames or they go up to sixty or more. Once the extractor is full either manually spin it until the honey is extracted or turn on the motor and let the modern marvel of electricity do the work. History says if you run it a little longer than you would think you will have better success. At some point, you will need to strain the honey into a honey bucket.

There is one last thing to do. Separate your cappings from your honey. Whenever you do this, it will take a while for them to separate. Some people use a grill inside of their capping tank to let the honey drip from the cappings. I've seen people place them in a paint type strainer and spin them in the extractor and I seen people hand squeeze the paint type strainer full of cappings (remember to wash your hands). Once separated, strain your honey in the bucket and clean your cappings to make candles, use in your hives or sell.

And there is only one final thing to say..... Have fun! (And each of you owes me a jar of honey).



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And Finally

National Pollinator Day

This year's National Pollinator Day is set for Sat, June 21st, 2014 at the **GTM Research Reserve (Guana Tolomato Matanzas National Estuarine Research Reserve)** from 10a to 2p. This event coordinates with Pollinator Partnership's National Pollinator Week. There will be lots of fun educational activities for children and adults, including a live honey extraction demonstration by members of the St Johns County Beekeepers Association. Everyone is invited to this special event, so plan to attend. For more information, go to <https://www.eventbrite.com/e/national-pollinator-day-tickets-3318276053>.

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If you have a subject you would like to see in a future issue



If you have something going on in your bee yard or club you would like us to consider

If you have questions that you would like answered, let us know.

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Online at www.unklerays.com

JaxBees Beekeepers Short Course



Saturday, June 7th, the Jacksonville Beekeepers Association hosted a Beekeepers Short Course. It was a day of educational opportunities, free honey and fun for all

Our web page, www.unklerays.com will have the current issue of the Gazette as well as back issues beginning with issue 2. (Issue 1 has been retired)

Remember, your participation is important to the success of this newsletter.

If you have questions, please submit them.

If you can contribute to the plant calendar, please do so. What is blooming in your area?

The Editor

Ray Claxton

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