

# Beekeepers Gazette

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## Why are my Bees Swarming?

Hopefully, the past issues have helped you realize there are plenty of things you can do to help your honeybees get through the winter and to accelerate the spring build up.

The same can be said for the swarm season. You have the ability to manipulate the swarm process to your benefit, but first we must try to understand it.

The honeybees swarm due to an inherent desire to keep their specie alive. In the case of honeybees, the fact the queen has offspring does nothing for the specie. If the hive dies, so does the queen and her offspring.

Whereas, if the hive splits by swarming, there will be two hives. Now the specie continues.

There are several reasons honeybees swarm. The one that seems the most prevalent and the one we will discuss today is overcrowding.

As we have discussed in past issues, the springtime is a time of explosive growth. The reason is twofold. The hive is preparing for the spring nectar flow to store honey and secondly, it will begin to prepare for last year's queen to leave with a swarm, thereby re-queening the

hive with a young and vibrant queen.

Whenever there is nowhere for the queen to lay because of overcrowding, too much stored nectar or maybe even dirty, undesirable or old drawn comb, the bees will send a pheromone to signal the start of a swarm.

Once this process has started, many believe it cannot be reversed. The hive will swarm. Like it or not.

The bees will begin to make numerous swarm cells to ensure they have good stock for a new queen. You could see anywhere from 4 or 5 queen cells, to possibly 10 or more.

The bees will reduce the amount of food they give to the queen to get her down to flying weight.

The queen will begin to lay more eggs than normal to ensure there will be enough new bees to help replace those that will leave with the swarm.

On or about the 10<sup>th</sup> day, the bees will cap the new queen cells. Shortly thereafter, scout bees will begin to search for a spot for the initial flight of the swarm to land and get organized.

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## Swarming Continued

On or about the 14<sup>th</sup> or 15<sup>th</sup> day, or a day or two before the new queens will hatch, approximately 40% to 50% of the honeybees in the hive will swarm to a new location, taking the queen with them. If the queen doesn't readily go with them, they will literally force or push her out of the hive into the swarm thereby keeping the intended swarm intact. They will usually travel less than seventy-five yards to a nearby location to allow them to find a satisfactory location to make home.

Several things begin to happen in both locations, i.e. in the hive as well as in the swarm that has just left the hive.

First, let's talk about what happens in the hive.

The queen cells left behind will begin to hatch in a day or so and one of two scenarios will take place. If the bees accept the first queen to hatch, they will chew open the other queen cells and kill the young queens inside.

Another possible scenario is the first queen to hatch will begin to make a faint peeping sound, called piping. The remaining young queens still in their cells will answer her by piping in return. She (the first) will follow that sound to find their location and destroy the remaining cells by stinging them to death.

After one of these scenarios determines the most dominant and successful queen, she will go on her mating flight in a few days and the natural splitting process has been successful.

Now, let's return to our swarm that is hanging peacefully in the tree (metaphorically speaking). As stated earlier, the initial location the bees will land is normally close to the hive they left. The swarm is hanging here only to allow time for the bees to organize and find an appropriate location for their new home.

This is why whenever you witness your bees swarming or you observe a swarm in a tree or bush, usually in less than twenty four hours, it will have absconded.

The reason is, scout bees will immediately begin to look for an acceptable location for their new home. Whenever they find a location they feel is acceptable, they will return to the swarm and by means of the waggle dance (we've all heard of that, right) communicate the new location to the other bees. The other bees will visit the new location and a "Democratic" decision will be made. Then and only then, the swarm will move to its new location.

We should also discuss cast swarms, after swarms or secondary swarms. This may happen whenever the hive allows a second queen to hatch and the virgin queen swarms with a small cluster of bees. Sometimes the collective number of bees that have swarmed is enough to really stress the hive.

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## Swarming Continued

The previous explanations are slightly abbreviated as you might expect. Numerous volumes have been written on the subject of swarms, so the thought of being able to completely explain the process in a few pages would be impractical.

If you would like to learn more about this subject, might I suggest ***Honeybee Democracy***, by **Thomas D. Seeley**. It is a very good read.



## Questions and Answers

**Q.** How can I clean my equipment and/or frames? I have some black moldy areas and I am not sure what to do.



**A.** I believe in your case, where you are seeing moldy areas, bleach water will be appropriate.

Mix a solution of three or four capfuls in in a bucket of water and lightly scrub the mold from the hardware. You can dip the foundation / comb in the bleach water and shake the excess off.

Rinse everything thoroughly and let it dry.

The bleach will not harm your bees. As a matter of fact, bees enjoy a little bleach water.

**Q.** I placed a frame of plastic foundation in a hive that wax moths had stripped of comb and the bees will not build on it. What can I do?

**A.** It is possible the wax moths chewed all of the wax from the foundation, leaving only the plastic. The bees may not build out plastic foundation without a coat of wax. You should place a thin coat of beeswax on the frame to give them something to begin drawing out.

Another possible consideration is bees use their sense of smell for virtually every part of their life. If there are odors that are offensive, they will not work the foundation. It's possible the bees may be offended by odors left by the wax moths. I would suggest scrubbing the frame with bleach water to clean any residue that may have an undesirable odor.

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## Comments from the Editor

Hopefully, your hives are strong and growing stronger.

In the last few issues, we have discussed the basics of promoting growth. This issue is devoted to Swarms and Splits. In our area, this is the time for both.

I am hoping this issue will be helpful to each of you in some way.

With this burst of warm weather and several good sources of nectar, there will undoubtedly be swarm situations in the next couple of weeks, if not already.

It is my opinion that in our area, the time to begin assessing you hives for splitting is around Valentine's Day (February 14<sup>th</sup>).

You should be seeing copious amounts of drone brood beginning to hatch. Drones cannot mate until they are approximately three weeks old.

You will begin to see swarming conditions begin because the new queens will be ready to mate around the same time the drones come into season.

Now, you are beginning to see how springtime planning can make you a far more successful beekeeper.

This month, we have had several questions on inspecting a beehive. We are saving them and next month, we will attempt to cover the subject in detail.

This issue has several Public Service Announcements.

If they are not for you, they may be useful to one of your friends. Please spread the word. Until next month,

***Happy Beekeeping***

## New to the Gazette

Some changes have been made to the Beekeepers Gazette that I hope you will find helpful.



Beginning this month, our web page, [www.unklerays.com](http://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)

## Dates to Remember

Thursday, March 6<sup>th</sup> will be training and testing for the University of Florida's Master Beekeeping Program

Friday and Saturday, March 7<sup>th</sup> and 8<sup>th</sup> is the University of Florida's Bee College.

Details for both at [www.ufhoneybee.com](http://www.ufhoneybee.com)

Saturday, March 15<sup>th</sup>, Clay County Extension Office with the help of e NEFLHBA will have a Beekeepers Short Course.

For info, contact the David Nistler at the Clay Co. Extension Office at 904-269-6355 or [dnistler@ufl.edu](mailto:dnistler@ufl.edu)

Saturday, March 22<sup>nd</sup>, Nassau County Extension Office will host a Beekeepers Short Course.

For details, contact Amanda Burnett at the Nassau County Extension at 904-879-1019 or [mandab@ufl.edu](mailto:mandab@ufl.edu)

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## What can you do to prevent a swarm?

As discussed elsewhere in this issue, swarms are inevitable.

Hopefully, we can learn to prevent the conditions that would cause the honeybees to initiate the swarm process.

The first and probably the most logical way to prevent a swarm condition would be to prevent overcrowding.

Inspect your bees quite frequently in the spring and whenever you see your brood box 70% to 80% (7 or 8 frames) full, pull a frame or two of brood and bees out and replace them with built out comb. This will give the queen more space to lay eggs and the desire to swarm will be greatly reduced.

The frames of brood and bees you remove can be placed in weaker hives (We covered equalizing your hives last month) or used to make splits / nucs. (This will be covered elsewhere in this issue.)

I would like to make a note. I've read in a couple of beekeeping books the theory that in the spring you should never wait more than eight (8) or nine (9) days to inspect your hives. The reason is that the bees will cap a queen cell on the 9<sup>th</sup> or 10<sup>th</sup> day. If you see the cells before they are capped, you have an idea when to expect them to hatch. (Day 1- egg, day 3- larvae, day 10- capped cell, day 16- queen hatches) This theory always gives you a feeling of knowing what to expect, thereby possibly a hint of control.

Now, let's look at some smaller things that may

prevent a swarm scenario. I believe the success of a hive is a culmination of small things. There isn't just one fix to all of your problems.

First, let's consider your comb. I have seen a hive swarm with four or five frames of brood and five or six empty frames of drawn comb that seemingly, the queen could lay in.

My personal thoughts leave two theories. First, there may simply be an old queen and the conditions are ideal for a swarm or secondly, the old, undesirable drawn comb isn't appealing to the queen and her bees. The foundation may have traces of last year's diseases or problems or possibly some undesirable smell. Who knows?

I do believe you should discard any questionable foundation in favor of newer, fresher wax.

Here's another thing we should consider. There are times in early spring whenever you have a strong nectar flow and haven't added a **super** yet.

The bees will store nectar in all available cells, therefore causing a situation where there is nowhere for the queen to lay eggs.

The cure for this scenario may be as easy as adding a **super** without adding a queen excluder. If you add an excluder, she still has nowhere to lay eggs because she can't get through the excluder.

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## Preventing Swarms Continued

After a week or so, the bees will move the stored nectar up into the *super*, thereby giving her additional space in the brood box. Then, you can add the queen excluder.

Sometimes, even after doing everything you know how to, the hive will begin the swarming process.

Whenever you inspect your hive, there they are. Several capped queen cells and you are left thinking, "What I am I to do now?"

I believe the best move is to take a couple of frames of capped brood and the existing queen and move them into a nuc box and to a new location. The new box will give her plenty of space, therefore eliminating the desire to abscond and the hive has plenty of queen cells to supply a young queen to sustain the hive.

We will cover splits elsewhere in this issue.

But, let me say this. After doing everything we've discussed , there is still a strong possibility the hive will swarm. Sometimes you can't control nature.

However, there is a bright side. Your hive will have a new, vibrant queen and plenty of young strong brood. Your hive will grow stronger and still produce honey this year.

I believe the bees will do what they need to do, with or without our help.

## Let's Make a Split

In the article on preventing swarms, you were instructed to remove  a couple of frames of brood and bees, along with the existing queen and put them into a 5 frame nuc box.

**If you are a relatively new beekeeper and want to increase your success rate, use three frames of brood.**

You should add a frame of honey, nectar and pollen and two empty built out (if possible) frames.

Feed them sugar water profusely and there you have it; Your first split.

Whenever you inspect them in a week or so, you will see she has begun laying eggs and three weeks after that, you will see emerging brood.

What we've just discussed is the simplest, most effective way to split a hive. It was described as a way to prevent a swarm, but the process is the same for any split.

In a non-swarming situation, you can leave the queen in the parent hive and use a new queen or queen cell for the split.

The process is the same. Two frames of brood with plenty of eggs and capped brood (or three to increase your success), a frame of honey, nectar and pollen, two empty frames and a queen or queen cell.

Don't open the hive for 30 days. Be sparing on the smoke at first as you don't want to offend your new queen.

Another thing to consider in making splits is the numerous queen cells you have whenever your hive is about to swarm.

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## Let's Make a Split Continued

Usually there will be two or more queen cells on several frames. If that is the case, you can make a split using one frame with a couple of queen cells from the hive about to swarm and replacing that frame with one containing brood from another hive plus another frame of brood from the additional hive and make a split.

In an effort to clarify what I've just described, you have two hives and two nuc boxes.

First you move two frames of brood and bees and your existing queen to a nuc.

Then, you move a frame with queen cells and the appropriate bees from your pre-swarm hive to your nuc and a frame of brood and bees from your second hive to your nuc. Then a frame of brood and bees from the second hive into the pre-swarm hive to replace the frame with cells.

Now you have two hives, each with two less frames of bees, but empty foundation and two nucs that will grow into two more hives.

There are going to be situations whenever you want to make springtime splits and every hive isn't strong enough to split.

If you have multiple hives, you may want to take only one frame out of each and make fewer splits. Not all hives are split one to one. It may take a frame from two or three hives to make a good nuc. Now, we should refer back to the last issue whenever we discussed equalizing the hives.

If using a queen cell, do not open the box or inspect anything for 30 to 35 days. Fight the urge. You can easily  cause the bees to ball (kill) the newly hatched queen.

You are now prepared to make a split or two. Be forewarned. I have seen many beekeepers split a hive to death.

Go slow. You can be successful. Just don't overdo it.

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**We need your ideas for future issues**

**If you have a subject you would like us to consider**

**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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**The Editor**

**Ray Claxton**

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