SWARMING, ITS CAUSES AND STEPS THAT CAN PREVENT IT

There have been many books written with chapters about swarming and what causes the bees to swarm.
A few of the books that I have reviewed recently and gathered information about swarms and swarming from are:

ABC and XYZ of Bee Culture by the A.I Root Co.
A Guide to Bees and Honey by Ted Cooper
The New Complete Guide to Beekeeping by Roger A. Morse
A Year In The Beeyard by Roger A. Morse
Beekeeping for Gardeners by Richard Taylor

There is an article posted on our web site under the heading "For Our Members" that deals with swarms. It's title is "Are Your Bees Going To Swarm". You may find it helpful.

Also, the leading beekeeping magazines often have articles about swarming and one of the most recent I think is very good and well worth reading appears in the April 2015 edition of "The American Bee Journal" authored by Roy Hendrickson.

From the sources above and many others, the following notes represent a short summary about swarming, the causes and some preventative measures that can be considered.

WHEN BEES ARE PREPARING TO SWARM

Prior to swarming the hive will construct multiple queen cells, usually at the bottom of the comb into each the queen will lay an egg.
Once the cells are capped the hive is likely to swarm.
The queen will lose weight so that she can fly.
The hive will often limit or cease foraging
The bees will engorge themselves with honey which will sustain them as they build a new home.
The original queen will leave the hive with about half of the bees.
Most swarms will issue between 10:00AM and 2:00 PM often after a period of rainy weather.

After the hive swarms from the parent hive and the first new queen emerges from her cell, she will seek out and kill all of her rivals as they emerge from their cells. This new queen will mate and then lead the parent hive.

SWARM PREVENTION

In order to prevent your bees from swarming or at least limit swarming, you must understand what causes the bees to express the swarming instinct.
There are several factors that contribute the swarming impulse. Among them are:
The age and health of the queen and the amount of pheromones she produces
The race and genetics of the bees
The single most important is congestion and crowding of the brood nest.

The above information has been compiled by Brooke S. Binder Jr.

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HOW DOES THE BROOD NEST BECOME CONGESTED?

In the spring of the year the foraging bees are bringing in nectar and pollen and they need a place to store it so they put it in drawn comb in the brood nest.
The queen wants to lay eggs and she also needs room in the drawn comb that is in the area of the brood nest.
The hive senses that there is not enough room and that the brood nest is not large enough for incoming stores and eggs. If there is congestion in the brood nest the hive will make plans to swarm.
This may be a bit over simplified but essentially it is what happens. In the spring of the year it is your strongest hives that are the most likely to swarm, especially if the hive is headed by an older queen. Check the quality of the brood pattern.
Is the brood solid or is there a lot of nectar and pollen mixed in with it.
Are there swarm cells in the hive?

HOW THE BEEKEEPER MANAGES HIS OR HER HIVE CAN MAKE THE A BIG DIFFERENCE IN WHETHER A HIVE WILL SWARM OR NOT

Much of swarm management is little more than just good beekeeping. Good management requires that the beekeeper keeps a close watch on what is going on in his hives. It is not good enough to just look but through experience and reading we can learn to understand what we are seeing.
We don't want to stop the bees from foraging or the queen from laying eggs but there are a few things we can do. We can add drawn comb to the brood nest or next to or above it.
Don't even think about adding frames of foundation to the brood nest because it will do more harm than good.

The brood nest is often limited on each side by frames of honey or beebread. If the bees are still in the bottom deep in the early spring the brood nest may be limited on the bottom by COLD from a screened bottom board without a tray and a more or less open entrance. The queen does not lay eggs where the bees cannot keep them warm so drawn comb here is of no value to a laying queen in cold weather. If you have a tray installed under a screened bottom board don't remove it until the weather becomes warmer or you will effectively reduce the size of the brood nest.
This is how the brood nest area may be limited on both sides and the bottom.

If there is stored honey above the brood nest it will limit expansion on the top as well.
If you are feeding your colonies syrup or pollen substitute in the spring you may be contributing to the problem.
Bees start the winter at the bottom of the hive and eventually finish up near the top. In the early spring, brood nest expansion is limited by the inner cover,
Often the only drawn comb available is at or near the bottom of the hive.

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When it is warm enough to remove frames of brood from the hive they can be placed in the bottom deep super and available drawn comb placed above and to the side of them.
This can be done on a frame by frame basis or by switching the top and bottom supers. This process is known to most of us as reversing the hives. The idea is to provide drawn comb above and to the sides of the brood nest. Be careful not to do this procedure until all of the brood nest is in the upper super. If part of the brood nest is still in the lower super you will split the brood nest resulting in serious problems for the hive.
The bees need drawn comb. Not foundation. Drawn comb is a very valuable asset. If you do not have drawn comb and only foundation, do not place it in the brood nest. Foundation in the brood nest may serve to split the brood nest. Place it outside of the brood nest. Bees will only draw out foundation if there is a strong honey flow in progress. Foundation is often placed in positions 1or 2 and 9 or 10. Outside of the frames of honey.
Reversing honey supers in the spring time is basically a delaying tactic that can be used until the weather permits actually arranging the frames in such a way as to allow the brood nest to expand. Drawn comb is of great value if placed above or to the sides of the brood nest. As long as the hive has drawn comb above or to the left or right of the cluster it is unlikely that the bees will swarm if you provide it to them early.
If you have weaker and less populated hives with drawn comb that is not being presently utilized you may want to consider swapping frames with a crowded hive. Shake off the bees before moving the combs and don't transfer the queen. Remember that strong hives in the springtime are going to require much closer monitoring for swarming than the weaker hives.

Honey supers with drawn comb should be placed on the hive early in the spring. The added space will help reduce crowding and it gives the bees a place to put some of the nectar they are bringing in. It is much better to super early rather than too late. Early supering is a good hive management process that is much more important for swarm control than many people realize. Honey supers with foundation just above the brood nest are not much help. It is best to have at least a few frames of drawn comb in the lower honey super.
If you do not use a queen excluder it is very likely that the brood nest will expand up into the honey supers. If used correctly a queen excluder should not limit honey production,

Friends, swarming is not new. It has been going on for over 50,000 years and the above information is not new either.
My hope is that these notes will serve as a reminder for us to be paying close attention to our hives at t his time of year so that we don't create swarms for other lucky beekeepers to collect.

Personally, I think swarms are great..... as long as they don't come out of my hives.
But they sometimes do!

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