

Stahlman beekeeping notes for 2021

Issue # 12 When is it time to make a split?

Hives that survived winter are in various conditions from very weak to very strong. While some beekeepers' will be looking to split hives to replace those that died, others will be dealing with very strong hives and feeding such hives only encourages them to build populations faster than normal.

Later this spring I will address the problem of swarming but right now, the beekeeper with a strong hive must be considering what management technique to use to prevent their hive from swarming. It is a good problem to have.

Strong overwintered hives provide the beekeeper with opportunities that new beekeepers do not have.

- Strong hives can be split to make up colonies that have died. (No need to buy package bees to put into a dead-out hive).
- Some beekeepers can make up nucs to sell to beginning beekeepers at this time of the year. (A topic that might take up a complete note later on this spring).
- The opportunity to make hive increases also comes to mind.

There are several principles of beekeeping management I learned many years ago. To my family (commercial beekeepers) a weak hive was a welfare hive. Hives of bees in my family were expected to produce income.

I see beekeepers today facing the dilemma of what to do with a weak hive. They can be time consuming and often will lag behind other hives during the beekeeping season regardless of what is done to save the queen. **A weak hive with a good queen can be strengthened by taking a few frames of brood from a strong hive to help it build bee population. I used the term "good queen" to justify taking from a strong colony to justify the effort to save the weak hive.**

Most often trying to save the queen in a weak hive is just an effort to save a bad queen. The end result is often no improvement.

This question came into my mailbox this week. I have been writing about making splits because many of the issues on the web blogs are posting questions about strong hives and swarming. But this question helps me start a series of notes that will be timely in the up-coming weeks.

Hi Dana,
Quick question

Should I be combining my weak hive into a strong hive now before I do splits later or combine a weak hive to a split hive later?

JD

Many beekeepers are finding this situation as they check bees now. And this will be the starting point for the material I have been working on regarding making splits.

Do not make splits from weak hives! Splits should be made from strong hives.

To answer J D's question, I am not sure how many hives are weak but this is what I think. The weak hive is weak for a reason. Is it mites or the queen? Or could it be something else?

The first step before doing anything is to check for disease – especially American foulbrood. Check bees for mites: with a weak hive it is hard to get a good sample of bees but one might use the sugar roll test – this does not kill bees and will give a reasonable idea if the Varroa mite population is high.

In my situation I always take weak hives and add them to stronger hives rather than take frames from stronger hives to give to weak hives. There are exceptions to this -- for example I have a hive I believe is so strong it may swarm. Rather than split it into two weaker hives, I use the queen in the weaker hive to build up the weak hive with a bee population from the stronger hive. This is a simple process of moving the weak hive into the location of the strong hive.

The strong hive is moved to a location within the same bee yard. There are no frame exchanges made. C.C. Miller used this technique often to build up hives. It has worked well for me.

My father always called weak hives "welfare hives"! They take a lot of effort to save.

It is important to follow up the progress of the weak hive several days later. It should be fed with sugar syrup to encourage egg production from the queen and feed the new bee population. With more bees in the weak hive, the brood nest should grow in size. The queen can be evaluated several weeks later to make sure the brood nest area has grown. The heat generated by the bees is very important at keeping the brood nest warm (92-94 °F). If the brood nest (egg laying by the queen) has not improved – it is time to purchase a new queen for the hive.

On the other hand, time can be saved by placing the weak hive directly above the strong hive. Kill the queen in the weak hive and unite them into one stronger colony. Some people will place a sheet of paper between the two groups of bees – this does reduce some fighting that may occur.

This one hive can be split later resulting in getting back to two hives of bees. The advantage of making a split later -- this strong hive will make a honey crop while if the split is made just before a honey flow – the two colonies created by the split will actually gather less honey. More hives does not mean more honey.

It would be possible to take a hive ready to swarm and split it using as many queen cells as one could find to make five or six new hives or more! But each of those new hives will produce no spare honey, require feeding and each queen produced from those swarm cells will need a hive of her own.

I read of one individual who grew 36 hives out of one hive in one season. He used 5 frame nuc boxes to start each new split. It has been done and it is possible. Each new split [nuc] contained one frame of brood, a frame of honey & pollen, and three new frames of foundation. It required a lot of work (spent energy), (money – for equipment such as frames and sugar), and in the end (no honey but a lot of hives needing attention). About 2/3 of the splits did make it thru the winter and presented the problems all beekeepers face in the spring of the year – a few real strong hives and a number of weak hives. That was done in the 1890's. It might still be possible today – hope for good weather, good queens, treat for mite issues, and of course have the time and money to do it. With the average loss of bees overwintering during current times, one could sell a number of nuc's and still make some money – but not a fortune.

Back to the real world:

Individuals thinking about making splits must consider the goal they hope to achieve.

The easiest way to make a split is to take a strong colony of bees and divide it in two equal parts. It should be done before a hive begins building queen cells. [Once a hive starts queen cells, it is hard to prevent the swarming impulse to go away].

There are many beekeepers who have developed personal ideas on how this should be done. I am going to describe two. For a new beekeeper, this is the most confusing thing about beekeeping – ask one beekeeper how to do something and you get one answer. Ask another and you get a different answer. The bees don't have to think about what is happening – they have survived for a million years because instinct has prepared them for such event. Bees normally split several times during a bee season – we call it swarming.

Larry Connor in his book "Increase Essentials" says, "If you find a colony with swarm cells use them." Otherwise, you have two other choices: One is to buy a new queen for the planned split you make or let them raise a queen of their own.

To begin: we must have a strong hive of bees!



This is a double deep hive. It is full of bees.



This is the upper box and below is the bottom box of bees.

The queen is in one of the two boxes.

To new beekeepers this is equal to about 4 nuc's that one would buy.



When split, each of these boxes will be full of bees. I generally would not split a hive unless it has at least 8 frames of brood. The outside frames may be filled with honey.

A hive this strong without a plan for swarm management will swarm. Thus, the beekeeper can split a hive to prevent the hive from swarming. Splitting the hive may result in some loss of a possible honey crop. Other options could be considered if one is not interested in making a new hive. Checkerboarding is an example of one management tool which will be discussed in an up coming topic in these notes. As we get close to the honey flow season, I will share other methods to get a good honey crop including making splits that are strong and are capable of getting a honey crop.

Two methods for splitting a hive during the spring season

- (1) Starting a split with a new queen or with a queen cell.
- (2) Making a walk away split (let the bees raise a new queen).



The first method requires a beekeeper to buy a queen or use a queen cell to start a new colony. Usually, a queen cell this early will be a swarm cell.

This is referred to as a full colony increase. The beekeeper must pull frames from each box until the queen in the hive is found and if using queen cells -- isolate frames with swarm cells in the box without the queen.

The advantage of using a queen in the new split is the recovery time saved by introducing a laying queen into the new hive. Once the new queen is accepted a new hive will soon catch up with the split that has the queen in it.

I feel that it is best if the new queen is introduced to the hive created in a new location – not the original hive stand. The reason behind this that most of the old bees return to the original hive stand. In the case of using swarm cells to make up the hive, I see no difference in the hive location. If using swarm cells – a hive can have 20 or more swarm cells and many but not all need to be cut down and removed. The made-up hive with swarm cells might still swarm especially if left where all the foraging bees have returned.

A new hive will be more accepting to the new queen if the hive has a large population of younger bees staying with the brood. Don't wait a day or two to introduce the new queen. If some delay in introducing a new queen occurs, the bees will begin building replacement queen cells and once that action is taken by the bees, they often reject the new queen given to them.

[See comments at the end of this article on one method to get young bees into a hive box to be split.](#)

The split hives should be equalized. In other words, the brood in the hive should be split equally between the two hives created. The bee populations in each hive will explode quickly and a new second chamber should be added almost immediately.

One factor to consider is moving the newly made up hive several miles away from the original hive location. Most of the flying bees from the split hives will return to the original hive location. Make sure the moved split has plenty of bees. If there are not enough bees to cover the brood – cold weather can result in brood not covered by bees dying. That is called chilled brood.

The best time to make splits like this is after a honey flow. In fact, if a late honey flow is available, a split can be made earlier and a split will easily build a bee population to gather a good honey crop.

The Walk away split – sometimes called a dirty split:

To make a walk away split:

- All that is required is one strong hive and equipment for a second hive.
- It does not require finding the queen in a hive.
- It is quick and easy.
- The brood chamber must have eggs and larva in both boxes.
- The beekeeper knows that one of the deep hive bodies will have a queen in it but will not know which hive that is! A check several days later will reveal which hive is building emergency queen cells – that is the hive without a queen.
- The hive without the queen will raise a queen of its own. (At least they will attempt to raise a queen).

Problems as I see making a split in this fashion:

- The hive without a queen will be in crisis mode. It will try to raise a new queen but it will be the weaker of the two hives created. Some might say it is good because that hive will go thru a brood break which might be a method of mite control.
- If the queen is in the hive on the original bottom board that hive will receive all the flying foraging bees, and will be much stronger than the weaker split hive.

This results in making two hives – one weaker than the other. The hive without a queen will face a reduction in bee population. The weaker hive should survive in good shape if they can make a new queen and by fall build into a nice colony of bees. It should not be counted on to make a honey crop.

Now for an idea to get young bees in one of the boxes to be split:

When one is examining a hive to be split by pulling and looking at frames, move all frames that have open brood to the upper box above a queen excluder. Make sure the queen in the hive is located in the lower box along with frames of mostly capped brood. Young bees will move to the upper box where the open brood is located. These are nurse bees.

Young nurse bees are less aggressive than older worker bees. I have had a lot of fun over the years doing bee beard presentations. There is a trick to get bees that are less aggressive from a hive. This is it!

