STAHLMAN BEEKEEPING NOTES FOR 2025

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The Bee Season is Winding Down

There are now less than 100 days to Christmas. Bee work is now focused on getting ready for the winter season. I have a few queen mating nucs to over winter and I am trying to save the queens in these nucs and some of you with weak colonies might consider some of the management techniques I use to save weak colonies.

Colonies must have bee populations! Capped brood in hives now will shortly become the winter bee population that will carry the colony through to February and March of next year. I am going to share some photos that will illustrate what one should be seeing in their hives at this point of the 2025 bee season. Honey bees naturally store food near brood and above brood.

Number One thing to do now is identify weak colonies of bees. Can they be saved? Often late splits will have had good bee management but not have time to build up into strong colonies. They may or may not have adequate honey stores. Even a colony with a queen doing poorly can be saved. It is easy to determine the bee population in a colony at this time of the year.

This colony has enough bees to cover every frame in this deep brood chamber. It also has bees and honey in a medium super above it. It has not yet developed the tighter cluster seen when a colony is opened in cooler weather. The bees will cluster over brood to protect it from the colder temperatures.

This is a bee population I like to see in my bee hives. There is every indication that this colony has enough bees to keep the winter cluster warm when cold weather does arrive. This colony also has a good amount of capped brood in the honey super along with capped frames of honey. This is important for colony survival.

Over wintering fact to consider:

- It takes a fairly large number of bees to create heat for a colony to survive cold weather.
- Bees do not hibernate!
- Bees form a cluster to maintain heat and when it gets really cold the cluster tightens even more with the outer layer of bees insulating the bees toward the center of the cluster.
- Heat created by bees in the core of the cluster is radiated outward and upward. Thus, the cluster will move allowing the bees to reach food stored near-by. Some heat is lost and moves upward in the hive.
- Food stored above a cluster is easier for bees to reach when it gets cold.
- Warm air passes up and out of the hive through the opening in the inner cover. That is the way moisture issues are reduced and the hive kept dry during the winter season.
- It is also why one will see winter bees gathered around the inner cover hole even in cold weather.

I would refer you to the Dadant publication ***The Hive and the Honey Bee*** to read about cluster thermodynamics if you are really interested in the science of what is going on.

What would happen if a beekeeper could manage a strong colony of bees in such a manner to take advantage of this lost heat?

Enter something called a double screen board. I have written about the way to make early spring splits using a double screen board. However, it has a fall/winter use as well. The double screen board can come in handy when managing bees for winter survival.

Picture (B) shows a weak cluster of bees placed on the strong colony with the double screen board in place. The blue arrow points to the strong hive entrance. The weak hive must have an entrance so bees can fly freely without disturbing the lower colonies flight entrance. Some double screen boards provide an opening at the rear of the hive so no drifting of bees happens.

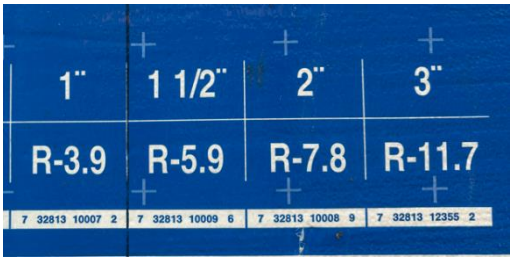
The double screen prevents the bees from each colony having individual contact. A queen excluder does not provide this protection because bees from the stronger colony can pass through an excluder and kill the queen in the upper weak colony.

Reduce air volume in the upper weak hive

Frame management may help conserve heat. Beekeepers can manage air space in any colony with something called division, dummy, or follower boards.

Follower boards are used for enlarging or contracting the brood nest according to the size of the colony. The best way I can describe one is it is a frame of material (generally wood) that can be moved like a frame. I make my own by inserting a sheet of insulation to replace frames.
The Dadant Beekeeping Catalog describes them this way. Use the follower board in place of a frame to condense a hive down and expand it as bee populations grow.

I generally move the follower board up against the outside wall of the hive. In addition to reducing air volume in the weak colony, it provides some insulation value as well.
One note about using Styrofoam. Bees will chew at it. I buy insulation board in one-inch thickness giving a R value of 3.9. It is also available in other widths. I wrap the exposed Styrofoam edges with duct tape.



By reducing the volume of space to be warmed, the weak colony will benefit more from the rising heat generated from the bee cluster below.

I use the boards to replace frames that **are not** filled with honey. Frames filled with honey serve the same purpose -- reduce air volume.

Comment: Weak colonies generally have a number of frames that have no brood or honey in them. These frames occupy open space and contribute little to a colony during winter. Feed weak hive to get empty frames filled with honey stores.

The bottom strong colony can be fed with a boardman feeder as shown here. The top weak hive can be fed with a top feeder, a tin, or jar of syrup placed near the inner cover hole and protected with an empty super over which the top cover is placed.

- **Top feeder**
- **The weak colony**
- **The Double Screen board**
- **The strong double deep hive with a lot of bees, treated for mites, and still being given sugar syrup. It may be necessary to examine the bottom brood chamber later by taking the top colony off and then returning it after the inspection. The upper colony should be easy to inspect anytime.**

A good wind break would help as well.