

2026 Stahlman Bee Notes

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Getting ready for spring

I know it is winter and we have quite a bit of cold weather to look forward to. Some of you have let me know that some hives have died already. It is time to move dead-out hive equipment inside where it can be cleaned up and made ready for this spring.

I have a beekeeping buddy who I will refer to as Sharon. I helped her get started in beekeeping and she has helped me so much to understand the struggles we as beekeepers face keeping our hives alive.

I am using the term “struggles” to describe keeping bees. These “struggles” are not confined to new beekeepers. There was a time when beekeepers faced hive losses but they were caused by easily identifiable sources. The one most likely to be observed even before the fall beekeeping season began is a weak colony.

As the first several issues point out hive bee populations are very important. A colony going into winter with a **small bee population** is at risk of failing for any of the weather situations that may cause a colony to die. Even if they have plenty of winter stores, the bees cannot produce the warmth required to stay alive. The bees might have been weakened by mites, viruses, etc. but beekeepers should know that failure of such a colony is a real possibility even before the winter season begins.

The major reason beekeepers face difficulty managing bees during the winter season is that the cold weather conditions prevent bee flights and hive inspections. If a queen is responsible for poor bee populations in a hive, nothing much can be done about it until a new well mated queen can be found to replace the old poor performing queen.

Something humans must learn about bees:

- Queens are created by honey bees. And they only produce queens when it is necessary to do so.
- Queens are raised when nurse bees start to feed new fertilized larvae with something called royal jelly. (I will be writing about queen rearing time – (articles about swarming, raising your own queens, and queen replacement in upcoming issues.)
- The time-line for raising queens ranges from early spring to the fall season. Once the bees no longer tolerate drones, a virgin queen born too late in the season will not be mated and all unfertilized eggs will produce drones.

Honey bees do not hibernate.

- At this time of the year, queens begin to lay eggs after a lapse of a month or so. This is very important because many of the winter bees begin to die.
- Once egg laying begins, honey bees require a greater amount of food than during the earlier winter dormant period of just keeping warm.
- To survive winter honey bees must conserve resources, thus when resources are not available for foraging bees, the queen reduces egg laying. Longer daylight hours and warmer days trigger a response that will ensure the colonies survival with the queen again laying eggs.

Honey bee Behavior

- I remember Walter Rothenbuhler had a test question for his students to answer. The question required a written answer. “The question – Why don’t bee breeders work on creating a bee that does not sting?”
The answer he expected – Honey bees have many enemies and without the ability to defend their nest, the honey bee would more likely not exist. Honey bees have existed from a time prior to human development on earth. They have many enemies that would steal their honey or eat them. Think humans as well as animals such as racoon, skunk, bear, birds, yellow jackets, and hornets to name a few.
- Honey bees will protect the queen to their own death.



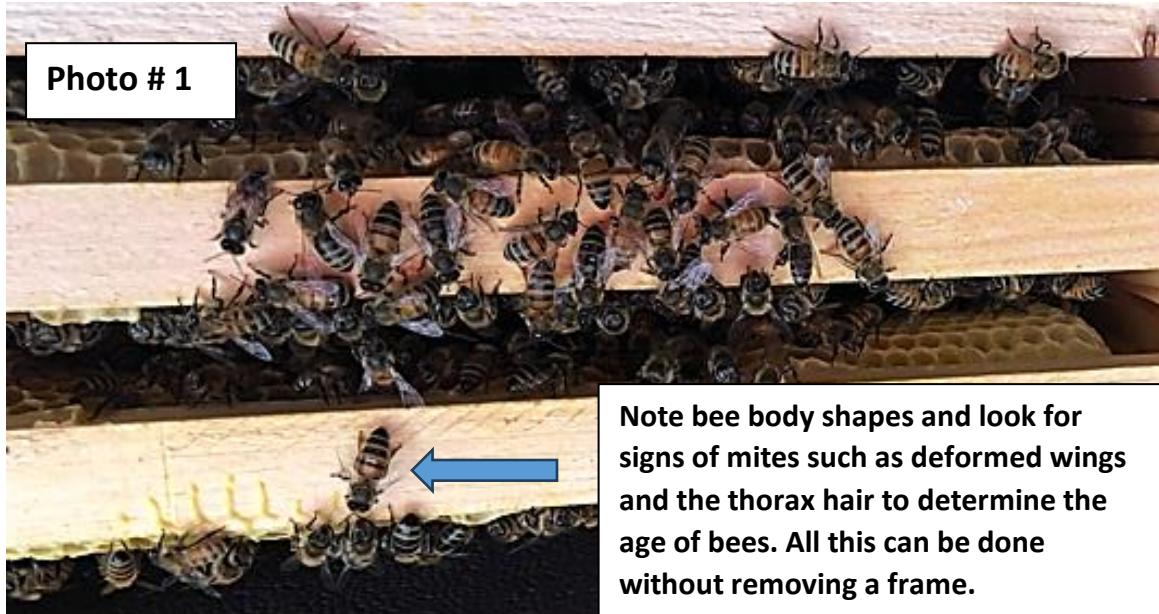
This shows a final cluster of bees that died during the winter season. Note a small number of bees still forming the queen’s court. Bees facing starvation continue feeding the queen even as food supplies diminish to nothing.

The court of bees around her provide food, groom her, remove her waste, and spread her

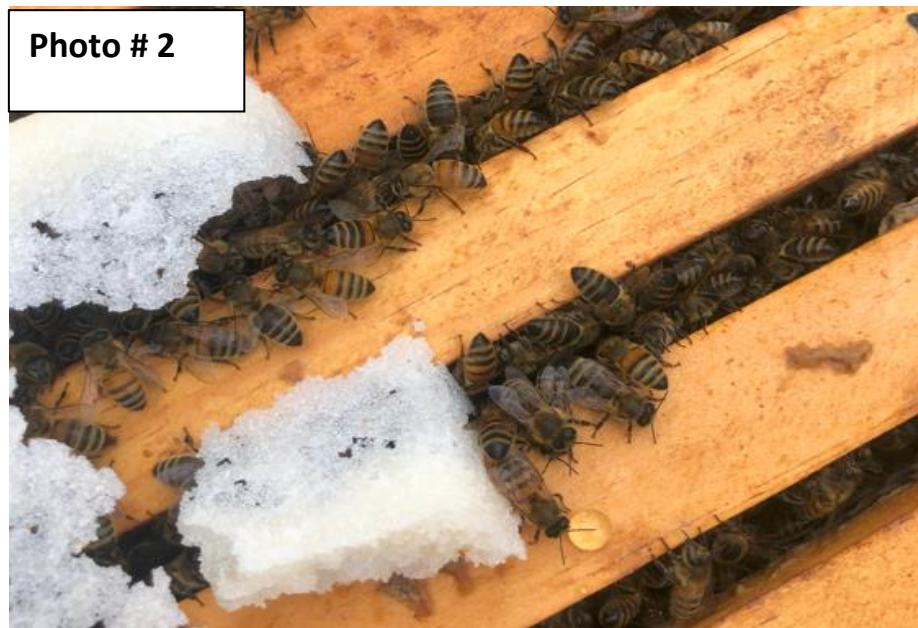
pheromones about the hive/nest. She will always be found in the center core of a winter cluster.

Bee populations and food are extremely important for bee survival. Thus, when doing a winter hive inspection, it is important to size up both bee populations and honey stores.

These photos are of two colonies of bees in very early January.



The photo above is of a colony gathered on three frames. They lack food and the total bee population is about the size of a baseball. Most of the bees are located on the center frame.



This second colony has a bee cluster about the size of a football.

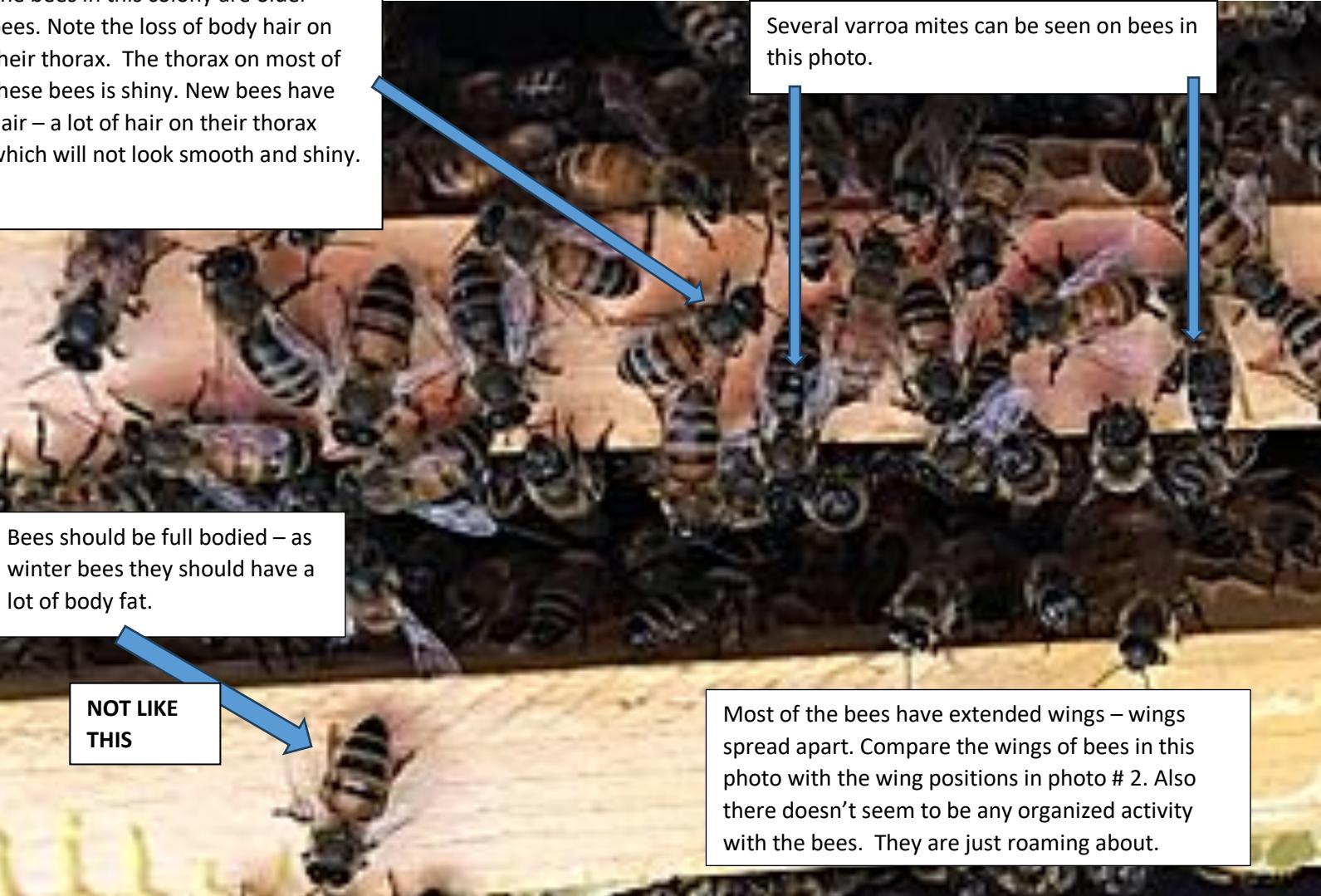
The challenge to keeping bees is knowing what to do in each of these situations. The bees in both these photos are in what is called the winter cluster. The hive in Photo #1 has a poor chance of survival and if it does survive it will be a colony with a lot of problems. The hive in Photo #2 has a good chance of survival.

A quick look at **individual bees** might be helpful for a beekeeper to decide –
Is this colony going to make it thru to spring?

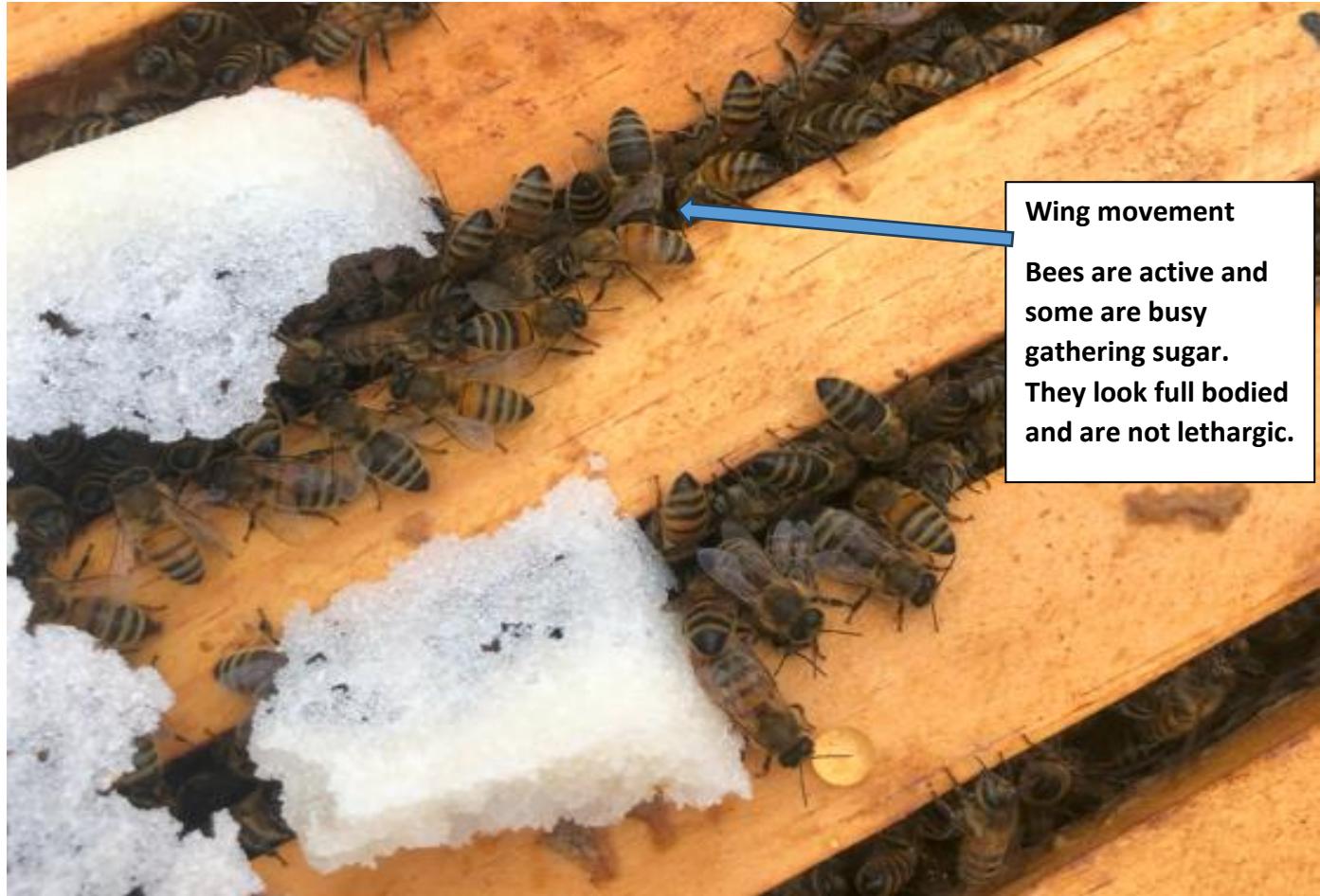
Let's see what is going on with the weak colony. I am using the term
“seeing” rather than looking.

The bees in this colony are older bees. Note the loss of body hair on their thorax. The thorax on most of these bees is shiny. New bees have hair – a lot of hair on their thorax which will not look smooth and shiny.

Several varroa mites can be seen on bees in this photo.



This photo is an enlargement of Photo # 1. Close up examination of the bees in a colony can reveal a lot about it's health.



Note -- bees are communicating with each other in this picture and check out the thorax on each of these bees. Body hair is important as it helps bees insulate the cluster and it is an indication to a bee's age. Rather than walking across the top bars these bees are working. Note some bees taking up a defensive position to check on the hive being opened. Compare the wings of bees in this colony against what you see in photo 1. Some bees are using wings to fan or circulate air – notice the movement of wings on several of these bees.

I have made a close-up picture of some of the bees in the foreground. Note how fuzzy they look and the position of their wings. The thorax area of these bees is covered with brownish hair. No gloss here. These are the kind of bees needed by a colony to carry the hive into spring.



My 2 cents on these two colonies.

I would not combine the Hive # 1 with Hive # 2. The presence of old bees and varroa mites will do harm to the colony in Picture # 2.

Adding old bees to a colony is not going to give a good colony any real benefit. In my opinion, those bees have a short time to live. One might feed the weak colony but that will not change the eventual damage already done to the bees in that colony. Varroa mite treatment is too late to save the bees as well. They are weakened to the point that I would count them as a

live hive with no future.



This is an enlargement of the thorax and head of an old bee.



This is an enlargement of the thorax and head of a young bee.

As these two enlargements show, there is a great difference in the prospect of bees within a hive that might result in a colonies chance of survival.