STAHLMAN BEEKEEPING NOTES FOR 2023

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BEEKEEPING NOTES WILL BE SENT OUT TWO TIMES A MONTH DURING THE WINTER SEASON

Bee schools are available for new beekeepers but what about those who have kept bees and have some experience? Learning continues and Planning for 2024 is important. Many advanced topics not covered in bee schools will be a challenge even for the more experienced beekeeper.

Three things I feel I must do each winter – the weather is too cold to work bees. I have put my bees to bed – so to speak and I have time to plan and think about 2024.

- **First, Last bee season was challenging. I ask myself what worked and what didn't work?**
- **Second, what am I going to do differently for 2024?**
- **What can I do now -- read, build, and pray my bees make it thru the winter.**

Every beekeeper should be asking similar questions at this time of the year. Bee schools often do not address many of the issues other than cover basic management.

I try not to be too pessimistic about the challenges facing me. It is never too late to seek answers to questions. Not everything I do results in the expected outcomes. Bee hives die out! Honey crops fail! Bees swarm! That Is beekeeping. I would hope that I have the skill and experience gained over many years to do a better job of keeping bees. But the realistic truth is the challenges facing me trying to keep honeybees alive is no different from what the new beekeeper faces.

There are 5 challenges that each beekeeper faces. No matter where one lives – these factors determine the life of a honey bee colony. It is a fact that times are not what they were 50 years ago. Management of a hive of bees requires more effort than in the past. There was a time when one could set a hive of bees out on the back of a lot and expect the hive to thrive and gather honey for the keeper. Research has been going on in the United States beginning in the 1880's and continues to this day. We can identify problems but we come up with few solutions. In the past, American foulbrood was the most serious problem of keeping bees. Many beekeepers today have never seen a hive with AFB and most likely

I often take a look back at the past years. Every year presents challenges – that is not new!

New beekeepers often have no idea of the past and I often think of the years I have watched fly past much like riding in a car looking at telephone poles fly by : zip-zip-zip.

There was a time when bees were managed quite differently from today.

Winter was a time to gather around a potbellied stove in straight-back chairs and share bee stories.

Winter was a time to put the bees away. If they survived – good! If not, there would be swarms – lots of them. Lining for bees was a practical art.

would not be able to identify it. It is the reason we have active bee inspection programs in states and rules for moving bees between states. The spread of Varroa mites has taken place and anyone keeping honeybees today must deal with it. Add to that Small hive beetles and future pests – all serve as challenges every beekeeper will face.

Five Challenges:

- **Introduced pests and pathogens into the United State. This includes future as well as current pests such as Varroa mites. Anyone keeping honeybees today must find a way to deal with Varroa mites. It is by far the greatest killer of bees.**
- **Land development, farm management and reduced foraging possibilities for bees.**
- **Over population of a foraging area due to the number of beekeepers keeping hives within flight range of other colonies. The concentration of honeybee colonies results in the spread of disease as well as loss of food sources required to maintain a colony. Add robbing opportunities for stronger hives to destroy weak hives.**
- **The extensive use of chemicals and their misuse --both by the general population, farmers and I would also include beekeepers.**
- **Most Americans have no idea of the higher standards to keep bees used in some European Countries. We use words indiscriminately – Survivor queens and Organic honey. Every queen sold that is alive is a survivor queen and as far as organic is concerned – one may claim they produce organic honey because the bees are not treated with chemicals, but bee gather pollen and nectar. They fly thru contaminated air and gather nectar and pollen exposed to environmental contamination. But the buying public will spend 25% more for organic food than food sold without the organic label. I mention this because when buying bees, there are no guarantees that the purchased bees will be productive and be from good stock. I see year after year beekeepers dealing with failing queens and mites. Sellers have no responsibility for aggressive bees or poorly mated queens. Or early mite detection shortly after hiving a package of bees. If the bees are alive when picked up – no refund or help is usually available a month later when a hive fails. No standard for what a nuc is – a purchased nuc could be frames taken from an existing hive (maybe not even inspected) and given a new untested queen making the nuc nothing more than a risky buy. A nuc like this is not equal to a hive of bees with an established laying queen. I might even add that some nucs are sold with old dark comb. No standard and the buyer has no idea of what they are taking home!**

Sorry for getting on my soap box to share some of the risk we all face when buying bee stock.

Did you know that if you are using thin wall hives (Langstroth style hives) you are being "cruel to your bees"? One researcher is out to prove that keeping bees in box hives over the last century is responsible for bee losses.

Cary Orange a beekeeping friend asked me to share my thoughts about research this person had written.

Evidently the factors above were not considered in his research.

Honeybees suffer unnecessarily in human-made hives, study finds: Science Alert. The article was published on November 27, 2023.

The article begins with this statement: Honeybees in man-made hives may have been suffering the cold unnecessarily for over a century because commercial hive designs are based on erroneous science.

The author states: My study shows that clustering is a distress behavior, rather than a benign reaction to falling temperatures.

Specifically, the author indicates modern hive design (commercial thin wall hives) may be considered poor welfare or even cruelty, in light of these findings.

The author says, "My study found cluster mantles act more like a heatsink, decreasing insulation. Clustering is not a wrapping a thick blanket to keep warm, but more like a desperate struggle to crowd closer to the "fire" or die.

He writes: we urgently need to change beekeeping practice to reduce the frequency and duration of clustering. (I did that for a number of years by moving my bees from Ohio to Georgia during the winter season).

The article appears in sciencealert.com written by Derek Mitchell, PhD Candidate in Mechanical Engineering, University of Leeds

Honeybees Suffer Unnecessarily in Human-Made Hives Study Finds Use this to search for the web article.

I am not a mechanical engineer but I would sure say that his thinking and research does not support all I have studied and experienced as a seasoned beekeeper. It should be fully vetted before something like this is published.

My thoughts are based upon what I have observed over many years. The cluster is a dynamic way for bees to survive. Bees in the outer layer move and exchange places with bees in the inner part of the cluster. The only time I have observed bees dead in a cluster is when they die of starvation or a cluster was so small it could not provide the heat required to survive.

I meet with beekeeping friends often. We exchange ideas and discuss goals and share informatuion (not all of us agree on what should be done – knowing that beekeepers have varying options is good.)

My answer to Cary's question:

On Tue, Nov 28, 2023, 3:03 PM DANA STAHLMAN <stahlmanapiaries@aol.com> wrote:

"Something to think about — but science is still looking at the cluster as a whole and according to my understanding -- the bees in the outer mantle exchange places with bees inside the cluster. I have never seen bees have a large die-off unless the entire bee population died of starvation or mites reduced bee health over all.

More research is needed to prove this hypothesis. Something for a young apiary student with sensors, video camera etc. to prove that bees die only in the outer layer. Research done in the 1930's proved an exposed cluster on rare occasion might survive but fell more likely victim to squirrels and raccoons and did not survive due to weather conditions such as rain, snow, and wind.

Sheltered bees do have protection. Thus the key to any species survival is as Freud said -- (sex, food and shelter)."

This is Cary's response to my comment:

Thanks, Dana! Enjoyed lunch with you and our bee buddies yesterday! Looking forward to doing that again soon. ☺ Cary

My thoughts:

Share your thoughts with me and don't be afraid to ask questions. Those questions keep me going.

Beekeepers can move bees inside for the winter – This was common in the early 1900's and it is still being done by commercial beekeepers in the upper Midwest states where the largest number of bee hives are located. Double wall bee hives were developed to protect bees and bees still died. Hive wraps can be bought to provide a hive some protection from cold but does not guarantee the hive will survive.

Honeybee losses have increased sharply since the late 1990's. Beekeepers kept bee hives alive – those hives with thin walls with loss of less than 10%. Since the introduction of Varroa mites 40 to 50% losses have become normal and expected. The answer to bee loss is not the man-made thin wall hive! It is directly related to hive management and the continued struggle to find something that will kill the mites but not the bees. Untreated hives face the greatest risk for not surviving a cold winter. I am hopeful that bees will develop resistance to the Varroa mite. Some progress has been made toward developing a resistant strain of honeybee and research in that direction is what will lower hive losses.

Finding a solution for mites, viruses, and pathogens will continue to be a challenge for all of us.