

## Hive checks

A couple of questions were posed to me the other day and I thought that I would take a few minutes to make mention of them in the newsletter because it involves some basic beekeeping principles and shows that there are as many ways to do things in a bee yard as there are bee yards.

One thing most all beekeepers do is hive checks. We check for this and we check for that and sometimes we just check. I am an advocate for regular hive checks and do mine every 10 days. Sometimes I check more often than that and it totally depends on the purpose of the hive check. Most of my hive checks are for swarm prevention and I know that it is very unlikely that a queen cell can slip by in the 10 day period between checks. 10 days is a schedule that is tough to keep track of because whoever set up the calendar did the days in groups of seven so the day of the week is always different. I find that I sometimes have to write on the calendar when I checked a particular yard. I can pretty much spend the greater part of the day in the bee yard during the hive check day so I know the whole yard was done on a certain day.

I was asked why I don't check on a particular day of the week so that it is easier to remember where I need to be. It is a very logical question and is a very sensible practice to do the weekly hive check. There is the predictability of the timing, as well as a couple of extra days built into the schedule in case something else comes up that needs doing instead. In fact weekly hive checks are an excellent practice to understand what is going on inside the hive. For the beekeeper that has only a few hives it is a wonderful way to pass a Saturday afternoon.

I think that the reason that I adopted the 10-day schedule is that once a month I get a day off from checking hives. A 7-day schedule requires four checks during a month whereas a 10-day schedule means only 3.

Keep in mind that the 10-day cycle is only good for swarm cells and supercedure problems. During most of the season I check on the same schedule as most other beekeepers.

When you hive a package you have to check in a day or two if the queen is released and then you have to check a week later to see if there are eggs. To lose the extra days without a queen laying eggs is a big mistake so more often is better here. During the setup of a new colony extra attention should be paid to the hive to correct anything that may be amiss. Such problems of pollen or nectar shortage, poor brood pattern, nectar bound brood nest and wazzling need to be spotted as soon as possible.

## Frozen Honey

On another note I got a letter from the Cooperative Extension office wondering about the effect of freezing temperatures on raw honey: Her letter my reply:

*I had a call from a client concerning a gallon of raw honey that got frozen. The freezing was not intentional and she wants to know what affect the freezing will have on the quality of the honey. I have been unable to find any information from my typical sources and was wondering if this has come up as a topic in any of the association meetings or newsletters. I would appreciate any guidance you can give me. Thanks.*

I have done a fair bit of reading on honey and have a few general points that you might relay to your client. A lot depends on definitions. Some people's raw honey is not raw honey by other people's standards and this may place some variables into the equation. Beehive temperatures can get into the mid to high 90s from the heat of the bees even in Alaska. Outside air temperature can get well over 110 degrees in the states. The enzyme content preservation is what most people are looking at when it comes to discussions of raw honey.

Honey does vary with enzyme content and type depending upon the floral source. It is thought that most of the enzymes will remain intact up in the temperature range of around 125 degrees or so depending on how long the honey was exposed to the heat source. The longer the heat source the more breakdown in enzyme content happens. Temperature exposure to low heat for long periods of time can break down enzymes as effectively as higher temperatures over short periods.

The ideal temperature to store honey is in the high 70s or low 80s.

As far as what I have been able to read on the subject, freezing has little effect on the enzymes that are present in honey. There is a fair bit written on the practice of freezing sections of comb honey to prevent it from crystallizing in the comb as it will do given enough time. There is a demand for comb honey (generally regarded as the purest form of honey) throughout the year. Producers of comb honey routinely freeze it so that it is available in the late spring or early summer when there is no nectar flow.

Your client should know that the temperature that is most commonly talked about for freezing comb honey is in the neighborhood of ten to twenty below.

I know that honey crystallizes fastest at temperatures near 58 degrees. Creamed honey is produced at this temperature after it is seeded with honey crystals to get it started. The colder honey is when it crystallizes, the finer the grain structure. Once honey starts to crystallize it will continue to do so unless the honey is held at a fairly warm temperature to make it go back to the pure liquid state. Here is where the low heat long time thing

comes in. In the attempt to run the crystallization process backward enzymes can be sacrificed. Temperatures used here seem to always be above 110 degrees in general practice.

Honey that has been frozen self seeds with very small crystals and will fairly quickly start to get cloudy. The honey is not spoiling, just changing form by crystallizing. It is very likely retained all of the enzymes as well as all of its flavor and aroma. If the honey is in a gallon jug I would advise pouring it into some new wide mouth canning jars and place it into the refrigerator for a couple of weeks and they will likely have some fine creamed honey. Once the honey has set up in the refrigerator for a couple of weeks it can be removed and stored on the shelf. At room temperature it should be quite spreadable, still raw honey, and not crystallize any further.

On the other hand, if the honey is not refrigerated it will continue to crystallize but the grains will be larger even to the point of being gritty sugar grains. Most people don't like honey this way so the refrigerator is the best bet I would think.

## **Hiving Bees From Packages**

For a lot of beekeepers this information may be pretty basic but I hope that there is something in here that might increase the survival rate of the new bees for even the old timers. One of the important things to remember is that every bee that goes into the colony increases your honey crop. Bees that are left in the package often do not make it into the hive even if they are only a few inches from the entrance. If a bee is colder than about 45 degrees it is very difficult for them to move. Our hiving temperatures are frequently near this temperature or even colder.

Package bees are under a higher level of stress and as beekeepers we need to do as much as possible to help them establish a new colony. The new home needs to be as clean, dry, and as draft free as possible. A few frames of drawn comb are very useful if the hive is new and the bees are starting on foundation. They also need a food source right away so that energy replacement is easy to obtain. Giving your bees a spray of sugar water prior to hiving helps out with the dehydration as well as the energy levels.

If the packages are not to be installed right away they should be kept in a cool dark place and occasionally sprayed with sugar water. Make sure that the bees have lots of air circulation and are away from potential air pollutants of chemicals and exhaust. A practical limit of about 5 days is about as long as you can expect to hold them prior to installation.

Spray the package lightly with sugar water again prior to installation to keep the bees from flying too much and to give them some of the energy that they will need as they get to know their new home.

When you get ready to shake the bees out of the package you might want to have an extra super on hand (an empty one) to act as a guide for the bees to land on the top

bars of the hive. Place the empty super on top of the hive after removing several frames to make room for the bees. This will make a short wall around the top of the hive and prevent bees from ending up over the edge and down on the ground.

Speaking of things down on the ground, don't forget to wear some tall boots or take measures to prevent bees from getting lost up inside your pant legs. A simple wrap with tape will help a lot.

Keep the queen protected from the elements during the hiving process and remember that it takes a few days for the bees to get used to their new queen. I have always figured at least 3 days together is a good rule of thumb to go by. I always start counting from the time that the package was put together so if the bees traveled several days in the package or they are not hived right away you might not have to wait as long. Letting her hang in the cage inside the super is a good idea. Make sure that the other bees can feed her and place the cage so that the feeder jar does not drip on the queen. Release the queen into a calm hive in a few days. Often you can see if the bees are attacking the queen through the cage wire instead of feeding her, this would be a sign to wait for an extra day or two.

Once the bees have been hived feed them continuously with supplemental sugar syrup and provide pollen substitute unless a pollen bloom is well underway.

*Steve Victos*

