

Equipment Storage

For those beekeepers that are not wintering over their bees and will start with fresh packages next year, it is time to think about the best way to store away all the stuff that we used during the summer. Perhaps the biggest problem that we face is the problems that can be caused by the mice. Mice (or voles) can destroy frames of comb by chewing through them in search of food. The pollen that is mixed with or covered with honey is especially attractive to them. All of your equipment that is free of bees can be stored either inside or outside, as temperatures do not harm it. I prefer to store mine outside because I don't have room for the car in the garage if I include a few hives. Some beekeepers simply screen off the entrance with some hardware cloth that can keep mice out. One-fourth inch mesh works well for this and allows some ventilation to the hive. Moisture in the hive can encourage the growth of mold so it is a good idea to get some air circulation going through the hive. If your bees are still alive this method also works because the bees are small enough to go through the mesh. A queen excluder placed on the bottom board will also do quite well with all the supers stacked over it. This is tougher for the bees to go through so if you are wintering over the queen excluder may not be a good idea. Wind can take its toll on freshly drawn comb if it is very cold during the time that the wind is blowing. I had a few covers blow off last winter and the frames that were on the top super had many places where the wind eroded the fresh comb that had been drawn a few months before. Most beekeepers know that wax is very fragile when it gets cold particularly the comb that has not been used a few times for raising brood. The stack of supers that falls over in the winter wind is very likely to sustain damage to the combs. If this happens care should be taken in the pick up to ensure that there is no extra damage is caused by the beekeeper. If you are going to do some winter maintenance on your hives and plan on getting them from outside storage later in the winter be sure to bring them in on a fairly mild day to avoid damaging the wax. There are advantages to the colder weather maintenance though... propolis removal is very easy as it pops right off when it is frozen.

Border News

You might be wondering what in the world I could put into the newsletter about borders, but there are a couple of things about the borders of our state and country that impact Alaskan beekeepers. First is the closure of the Alaska border to the importation of hives and comb. This has been in effect for a number of years and was brought about in the attempt to control American Foul Brood. There was a lot of AFB around prior to the closure of the state border that has since been brought under control. Though it is possible to get AFB from package bees it is primarily spread by infected hives. Be sure to mention this to any beekeepers that may be moving into our state that say they plan on bringing their hives with them. Keeping AFB out of our state helps us all.

On another note there has been considerable discussion on opening the Canadian border to the importation of bees from the United States. The Canadian border was closed to prevent the spread of the Varoa mite as well as the Tracheal mite but the mites didn't know that and went into Canada anyway. At this point the Canadian beekeepers feel that they have as many mites as the folks do down south so there is no point in keeping the border closed anymore. Right now Canadian beekeepers import packages of bees from New Zealand and queens from Hawaii. The supply does not meet demand, so opening the border is seen by a number of Canadian beekeepers as a big boost to the beekeeping industry there. What this means to the Alaska beekeepers is that there may soon be competition for those packages from California since the small hive beetle isn't there yet. It may be possible that we will need to place our orders earlier and expect higher prices in the future. I don't think that it will impact this next summer's bees but likely will the year after that if the border is opened soon. Prices are already pretty high due to the shipping involved to Alaska. The folks in Fairbanks paid \$77 a package last year.

Creamed Honey New Zealand Style

The following article was taken from a New Zealand beekeepers site and written by Nick Wallingford. I have edited some portions out. For a full version you will find it at: [Http://www.beekeeping.co.nz](http://www.beekeeping.co.nz).

Have you ended up some years with jars of honey granulated so hard that you couldn't even get a knife into it? Honey so hard it tore the bread

every time you tried to spread it? Honey with gritty bits of sugar crystals in it?

It's still honey, of course. Nothing really wrong with it, other than inconvenience and the chance of putting some people off honey forever!

The 'creamed honey' sold in New Zealand would have to be the source of the most often repeated myth about honey. No foreign materials have been added to honey to make it granulate smoothly. No icing sugar, white sugar, flour, cream or lard (yes, I have been told that's what beekeepers add to their honey!) or any other such things.

There is no reason at all that you, as a hobbyist beekeeper, should not have a go at making your own creamed honey, rather than simply rely on good luck to get a smoothly granulated honey. Though the results might be somewhat variable, you'll have a good time learning a little more about your hobby.

Creaming honey is simply controlling the natural crystallization process. Almost all honeys will eventually naturally granulate, most within a few months while others remain liquid for longer. In England, such naturally granulated honeys are called 'set honey'.

The speed and the texture that the honey granulates is mostly a product of the ratio of the two main sugars of honey, dextrose and levulose. For a reason never clearly explained to me, sugars often have two names, confusing things very nicely, thank you. Dextrose is also known as glucose and levulose is known as fructose. And just to add to the confusion, levulose is also known to many people as fruit sugar.

If a honey has a high dextrose to levulose ratio, it will granulate rapidly with a fine crystal. If it has a high levulose content, it will granulate slowly and often with crystals large enough that you can feel their sharpness on your tongue.

To 'cream' honey, the beekeeper mixes in a percentage of honey that has already granulated finely. This honey is called a 'starter', since its crystal structure will start the liquid honey to granulate in the same manner. In order to speed up the granulation, the starter needs to be thoroughly mixed with the liquid honey, and then the container needs to be kept cool. Not cold, not refrigerator style cold, but simply cool. The ideal temperature is about 14 degrees Celsius (57 degrees Fahrenheit).

Keeping the honey at this temperature causes it to granulate as rapidly as possible, and since it has already got a nice grain started, the entire volume will granulate the same as the starter you introduced. It should be stirred occasionally during the process. Once the granulation is well established, the now cloudy looking honey can be run into its final containers. Again, it should be kept cool to assist rapid granulation.

In practical terms, you begin the process by finding some finely granulated honey. This might be some from last season that you have kept back or you could even buy it from another beekeeper or the shop. I like to add as much as possible, even up to 6 kg or so for a Polypail of honey, but you probably don't really need this much. If you like, you can start out with a small amount of starter and bulk it up by carrying out the process twice.

Stir the starter honey thoroughly into the liquid honey. It won't be easy, but you need to completely spread the granulated honey thorough the liquid. Afterward, keep it cool by placing your bulk container (well covered, of course) in a cool room, such as a basement or cold closet.

Stir it several times over the next week. It should start clouding, as the granulation spreads rapidly through the honey. You can now run it into the containers in which you will be distributing it, and again, keep them cool. The honey should be nicely creamed, set with a fine, smooth grain, within a week or two.

Kiwi beekeepers have been carrying out this process for over 60 years. They figured out that long ago a practical scheme for controlling the granulation in honey.

Credit for the 'scientific' approach to creamed honey goes to an American, a Dr Dyce who was a beekeeping professor at Cornell University. He described a complex and detailed method to produce creamed honey that differs little from the basic description given above. He did meticulously give temperatures and amounts, such as the ideal temperature to heat the honey before adding the starter, to make sure there were no natural crystals present in it.

I've always felt that we as Kiwi beekeepers never really got all the credit we really deserved. The way I understand it, Dr Dyce visited New Zealand and saw the process in action several years earlier!

As I mentioned earlier, your results may be somewhat variable. Its possible that, even after following all the directions, your honey might still set hard as a rock. Doing it as a hobbyist as you are, you can't control all the factors involved, but the odds are that you'll produce a better product than just trusting to natural granulation.

Creamed Honey Swedish Style

The following is taken in part from an E-mail post to the Bee-L list on October 28th last year and was submitted by Mats Anderson of Sweden describing how they make creamed honey over there. I have changed some of the grammar and spelling. The original can be found in the archives of the discussion group at: <http://listserv.albany.edu:8080/archives/bee-l.html>

First of all, the honey is harvested, extracted and strained without any heating or pressure involved. Larger operations will use a settling tank and different straining arrangements and maybe some heating to speed up the process, but the honey is not heated above 30 degrees Celsius (86 F).

Now, the bulk of the honey stays in a settling tank, drums or whatever you use. For simplicity's sake, I'll give you an example based on 100 kilograms of honey:

CREATING THE SEED HONEY

Immediately after extraction and straining, the preparation of the seed honey starts. The seed honey is a small amount of honey that is allowed to crystallize under optimal conditions. The seed is 3% of the honey to be seeded, in this example, 3 kilograms. It is poured into a small bucket and cooled to 10 degrees Celsius (50F). I put mine into the refrigerator and that works fine.

After cooling for a few hours, add 0,3 kilograms of crystallized (creamed) honey into the bucket and stir well, using a power drill or similar arrangement. After that, put the bucket back into the refrigerator. Now take the bucket out every 12 hours and stir the seed honey for a few minutes. Within 2-7 days, it will have a nice creamy consistency and that's when it's ready to be used.

MIXING THE SEED HONEY WITH THE REST

After the seed honey is ready, it is first mixed with another 6 kilograms of the other (still liquid) honey. The purpose of this is to simplify mixing the seed with the remaining honey. After this mix is completed, pour the seed honey (now 9 kilograms) into the container with the remaining honey while stirring. It is essential that the seed honey is well mixed into the honey immediately. Stirring must continue until the seed is completely mixed into the honey. After that is completed, the honey should be left to crystallize at a temperature of 5-15 degrees Celsius (41-59 F) without any further action. Within a few days, crystallization will be under way and in 2-3 weeks, the honey will be hard and very smooth with no crystals detectable to the tongue.

If stored above 15 C (59 F), the honey tends to get bigger crystals. If stored below 5 C (41 F), the honey will crystallize very slowly. 10-12 C (50-53 F) is the ideal storing temperature at this stage.

If you like, you can leave this honey for 24 hours and then pour it into jars. You will get a firm, smooth and beautiful honey that can be stored for years. Since it is so firm, it has a tendency to develop a frosty pattern on the inside of the jar that some people don't like. However, it is a proof of a low water content in the honey and assures a best-before date that is several years into the future. I tell this to my customers and many of them ask explicitly for the frosty honey.

BOTTLING OF THE HONEY

The fully crystallized honey is carefully heated to 30-35 degrees Celsius (86-95 F) for a day or two and then stirred until it is semi-liquid. It is left for a few hours for any air bubbles to dissolve and then poured into jars. The jars are then stored on a flat surface in a temperature of 5-10 degrees Celsius (41-50 F) for 1-2 weeks. After that, the jars are ready to be sold.

Try this and be proud of this excellent product that can be stored for a very long time without having to worry about it. One last comment that is very important: the water content of the honey must be below 18-19% (normal ripe honey) or the honey will lose its consistency and ferment. This usually happens about 6-9 months.

Selling Your Honey

I have had a number of calls this year about how to sell honey so I thought that it would be a good article to put into the newsletter. There are so many places to sell the products of your summer fun and labor and here are a few that fit well with the beekeeper that has a few extra pounds to sell.

Perhaps I should start with the simplest one of all, which is to simply put a notice on the community bulletin board with your name and number.

Craft bazaars are also a good place to sell your honey. Very often your local school will have a low-key holiday bazaar with reasonably priced table fees. Take a box of plastic spoons for some taste samples. If you can get some that great taste to them they will know what real honey tastes like.

Local restaurant counters or on the counter of the small local store that you frequent are also good places.

Next year be sure to put some in the SABA booth at the fair!

You don't need to meet any special requirements to sell unprocessed honey if all that is done to the honey is to strain it through a cloth to remove hive debris and wax partials. If you add anything to the honey for flavoring then you will need to have a certified kitchen. Creamed honey can also be sold without a certified kitchen, as it is pure honey with no special processing.

Last newsletter we discussed labeling requirements so we will not repeat any of that information here but we did not mention business licenses to comply with local and state regulations. I am not sure what is involved for a very small-scale operation where a person wanted to sell a few pounds to pay for his bees, but for a larger operation state and local business licenses certainly figure into the picture.

However you decide to sell your honey, keep in mind that you are not in competition with the honey that is on the store shelves. You know the difference between your own product and the other stuff that they call honey in the supermarket. It tastes different and smells different because it is different! You know that your product is far superior to anything that comes in on a barge and you should fix your price accordingly. A beekeeper should know and understand his own honey as well as the alternatives that people can buy.

Mass produced honey is a blend of honeys that come from agricultural practices, only some of which is strictly devoted to honey production. Many beekeepers use hives for pollination services and sell the honey that the bees produce as a supplement to the pollination contract. As beekeepers we know

that each flower has its own smell and its own taste. What the bees are foraging on determines the taste of our honey. I have a lilac that grows on the south side of the house that one of my hives was working almost exclusively and they put up several frames of lilac honey this summer. I could smell the lilac in the honey and stripped off the bur comb for a treat one afternoon. It was the most awful honey that I have had in years. It did have a wonderful smell though... On the other hand Alaska Spirea honey is about the best stuff that you can put in your mouth.

My point in this is that we as beekeepers know that honeys taste different. It is like going into a paint store, you can get a beautiful blue or a red or any color of the rainbow that you want. Picture each honey type as a color in a paint store. The small beekeeper sells the pure colors unique to their area. The supermarket sells a blend of all of them. I would call it a sweet muddy gray. Your consumer should know this.

Another issue is the imported honey that is blended into the American product (with some kind of weird logic we can call it American honey if slightly more than half of it is American). Recently Chinese honey was found to have unacceptably high levels of banned chemicals in it. The average consumer has no idea what chemicals are in the supermarket honey, but I know for sure what is in mine and that is a big advantage.

About the only thing that supermarket honey has going for it besides the price is that it is reluctant to crystallize. Your customers should know that honey will crystallize and it is not spoiled when it does so. Large scale honey packers heat the honey so that it is runny enough to go through their pressure filters and to retard crystallization. They filter out all the pollen grains and anything that can form a "seed" that a crystal can form around. In doing so they remove and denature the enzymes that are naturally present in the honey and of course remove the natural pollen that helps fight off allergies by keeping our immune system stimulated.

Warming your honey to about 125 degrees or so will prolong its shelf life free of crystals but it will still crystallize much quicker than honey from the supermarket. Let your customers know that the honey that you have needs to be stored in a warm place to get the most life from it. If you want to avoid the crystallization problems altogether cream it before you sell it.

Steve Victors