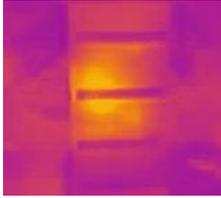


WINTER FEEDING

What do honey bees do over the course of winter?



As the temperature drops, the bees will form a winter “cluster”. Think of a swarm, only inside the hive. The cluster allows the bees to keep warm. As winter progresses, the cluster will work its way up through the hive boxes, eating the food available to them as they go.

Early winter will usually see the cluster go broodless for a period of time. As spring approaches, the days get longer and the temperatures start to rise, the colony will start to raise brood for the new season. The bees will keep the center of the cluster warm enough to raise the new brood, which will take over the workings of the hive as the winter bees die off.

How much food will a colony go through over the course of winter and why should I feed?

This is a tough question to answer. As with everything about beekeeping, opinions vary. Estimates on the amount of food a colony will consume, and therefore how much they should have going into winter, will vary between 40 to 100 pounds, depending on who you ask and what references you are reading. Variables include, but are not limited to: size of the cluster, whether they are trying to rear brood, their overall health, ability to fly and find outside resources, how long your winter is, etc.

Regardless of all those variables, I always recommend that you place a dry sugar feed at the top of your hive as a backup food supply. The reason? Because the cluster will work its way up through the frames, towards the top, eating food as they go. Once they reach the lid, and if it’s still cold enough to keep them in a tight cluster, they will consume all the food they can reach, then may sit there and starve.

Many are horrified to realize that their bees starved with honey located two frames over, or in the box below them. This is the nature of clustering. The bees can’t leave the cluster to get the food and bring it back – it’s too cold. And, there may be an additional component that they are trying to rear brood, which prevents the cluster moving from the brood’s location.

This is where the backup supply of sugar becomes a critical component, helping your bees survive the rest of winter.



The picture shown here is a colony that went into winter in a single deep. They did not have an abundant supply of stored honey.

I set them up in the “Winter Camp Method” (discussed later) by laying newspaper across the frames and then spread a thick layer of white sugar over the entire newspaper. As you can see, they consumed almost all the sugar at the point this picture was taken.

The picture was taken early January. If the sugar had not been provided, they would have starved. If I had not checked on them to replenish it, they would have starved. By feeding, this colony had the sustenance it needed to survive until spring.

Notice how much of the newspaper is chewed up? The sugar covered the entire newspaper, meaning that the bees had to spread out to get to the sugar. This will be noted upon later.

What are feeding options for winter?

Keep in mind, we are talking about options for a “dry” feed. You *do not* want to feed syrup during winter as it can add moisture to your hive, and we don’t want that. Options for dry feed include, but are not limited to:



Loose sugar (mountain camp method): This method has the advantage of being the easiest to set up. It’s quick and easy to replace the sugar, if necessary. The downside is that if you need access to your bees over winter (a winter mite treatment, for example), then the loose sugar is messy.



Sugar bricks: White sugar with just enough moisture to turn them, literally, into bricks. Recipes abound on line. They have the advantage of being movable without the messy component that loose sugar has.



Fondant: I can’t speak much about fondant as I don’t make fondant or candy boards. However, the advantage is ease of feeding. Again, recipes can be found on-line.



Candy boards: As stated before, I don't make candy. But if you have the talent for such concoctions, they are successfully used by many beekeepers for winter feed. If your candy board takes up the entire area inside a spacer (as shown here), make sure you put a block (or a jar) in the middle when you pour the candy so that there is a hole for ventilation. Yes, you can have more than one hole. No, it/they do not have to be in the middle.



Brood/Pollen patties: Patties are a supplemental feed used to help stimulate brood rearing. Whether you choose to feed patties throughout all of winter, or start after the first of the year, you'll need to decide if patties will be part of your feeding program and whether you want to make them yourself (utilizing a dry protein substitute), or have ready-made patties on hand. Again, recipes can be found on-line. Most store well in the freezer.

How do I set up winter feed?

Placement: I always recommend that winter feed be placed directly on top of the frames of the uppermost box. Again, opinions may vary, but I am not a fan of any barriers between the bees and the food (I have one exception to this rule, which I'll address later).

For example, why would you place your sugar on top of your inner cover and make the bees go through the hole to access it? Such a barrier can be detrimental to the cluster. The bees have to go higher to get to the hole, and spread themselves farther to reach the sugar as it's consumed. Additionally, why put dry feed into a top feeder and ask the bees to make that awful trek? Remember, if it's too cold to break cluster, then the food should be as close as possible to the cluster for ease of access.

Space: To make room for the food you'll need a spacer of some sort. Spacers can be purchased, but can also be easily made if you have the tools and inclination. Another option is a quilt box. Most designs include a space below the screen/canvas where the sugar has room to sit.



Be sure to choose/make a spacer that will fit the type of feed you are planning to use.



Winter Chip Boxes also have the added advantage of moisture absorption by placing wood chips above the screen, seen in the picture.

Is there anything you shouldn't do?

If you are leaving honey supers on so your bees can consume all that wonderful honey over winter, then for Heaven's sake, leave the queen excluder in the garage!

Leaving the excluder on with all the honey frames above it means the queen can't follow the cluster as it continues its journey upwards through the hive. The bees, in turn, won't abandon the queen. The result is they will remain at the excluder level, consume all the food they can reach, then sit and starve.

If it bothers you that you may come back in the spring and find brood in your honey supers, then take them off now and be prepared to utilize more of the feeding options listed above.

Aforementioned exception for feed barriers

Now that you've read my rant on queen excluders, I have an exception for you. Queen excluders can be used as a *support* for your sugar feed.

The rules are:

- That other than the sugar/candy/whatever, there is no other food/space above the excluder (like an entire box full of honey). As there is nowhere for the bees to go once they reach the food supported by the excluder, the queen and workers will stay safely united.
- If the excluder is made entirely of metal, make sure it's not warped (leaving gaps on the edges between the box and the excluder). My preference is a wood-bound excluder, as they don't tend to warp in this fashion.



Being metal, excluders have the advantage of holding their structure, as opposed to a screen support product, which may sag. Also, as the sugar "circle" gets wider, the bees can move with it, rather than being hampered by the solidity of a raised-panel inner cover. Remember the example above where the bees had eaten all the sugar? They were able to spread out to reach it because they were still in contact with the cluster and could stay warm.

I'm still more in favor of placing the sugar directly onto the frames. But, for those wanting an easy way to move sugar out of the way, this helps.