

# Overwintered Colonies

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*There's lots of things you should be doing now, and soon, to insure your colonies do the best they can.*

It's mid-Winter in Northern locations. You might see a few bees at the entrance if it is calm and sunny or even flying on warmer days. You know that the bees have probably been producing brood since a few days after Winter Solstice in December, and for the past month and a half have been consuming an enormous amount of honey to generate an enormous amount of heat to maintain brood temperature at a tropical 95°F. You also know that there is protein in the bee bread stored in the brood combs, as well as digested proteins and fats stored in the worker bees' bodies that give them the food to produce the next cycle of brood. By mid February there has been time for nearly two full brood cycles, and the new bees are replacing some of the old field bees that are dead on the bottom of the colony cavity.

Because of the brood rearing the activity of the Winter cluster is much greater than what it was pre-Solstice, when the bees kept the cluster at a cooler temperature, about 57°F. With the honey consumption and brood rearing, the bees have a very busy plan for growth and development for the new season. Your job as a beekeeper is to assist the bees, but not do anything that will interfere with this goal.

Lots of beekeepers want to feed at this time of the season, and this is an excellent idea. But many are confused as to how to feed, and the method they choose may not be as much help as they think.

Until natural food is available in the late Winter to early Spring (from willow, maple and other plants), beekeepers should keep the colonies quiet by minimizing the amount they disturb the hives. After the natural food is available it is time to expand the colony management practices as the weather allows.

## **Before Natural Food Is Available**

On rare warm Winter days your bees are being observed at local bird feeders, feed lots, and even sawmills, searching for protein and sweets in trace amounts. On a rare Winter day when temperatures reach the high 40s and low 50s, the bees will be making cleansing flights with gusto. If there's snow, it will be spotted. You return home with spots on your bee suit or jacket. This is natural, and not a sign of dysentery or nosema. If there is defecation inside the hive, this is an indication of dysentery (diarrhea), but there is not much you can do about this since it is often a function of the period of confinement,

not nosema. If you crack open a colony when it is cold and see frost on the inner cover, or condensation, you have a moisture problem, so give the bees a bit of upper ventilation (a stick, nail, popsicle stick under the inner cover) to get the moist air out of the hive.

At this time of the season there are fewer feeding options than later on. You may want to use a protein patty with a high level of sugar – this will stimulate the bees with a little protein (which they need for brood rearing) and also keep the carbohydrate level high. The most important thing to remember when feeding protein patties is to place them IMMEDIATELY ABOVE the brood area. At this time of the Winter the bees are usually at the very top of your stack of hive bodies. Add a feed rim, feed a very thin patty under an inner cover, or carefully move some of the insulation you may have placed on the top of the hive. The key in doing this is NOT to disrupt the bees any more than necessary. Remove the cover, place the patty on the brood area, and close the hive. If you think the lid is rocking on the feed a bit, push it down a bit and accept that is probably better than not feeding. Now is NOT the time for a lot of manipulation and moving things



*Calm and peaceful, a cluster of bees in Vermont beekeeper Mike Palmer's hive in early December. The colony is not producing brood, so the cluster temperature is about 57°F. In early January this colony will begin brood rearing, regardless of the outside temperature. The key to good winter survival is a healthy population of winter bees (this cluster covers six to seven frames) and good food reserves.*

# Experience has shown me that most colonies will reverse themselves as the season progresses.

around. Open the hive, place the feed, and close the hive. Total time should be less than 30 seconds! If you can work without smoke that is wonderful, since smoke will stimulate the bees to take up honey stores and get them all worked up when there is no reason to do so.

This is not the time for top feeders, since the bees must leave the cluster area to get to the food. After the natural food comes in this will be more effective. Some beekeepers pour dry granulated sugar (not confectionary) on the inner cover for food. Strong hives will generate moisture to liquefy the sugar, and take it down. Weak colonies do not have the strength to do this. Many hives fed dry sugar are unable to use it all, so there is a waste factor. But, when in doubt, to feed sugar or don't feed sugar, it is an insurance policy and may save a few hives. Again, the brood area must be right under the inner cover opening to use the sugar with any efficiency.

Some beekeepers feed bees dry bee protein powder in trays inside empty bee boxes or in a variety of feeders to let the bees act on their pollen foraging urge, as well as get some protein into the hive. When the late Winter forage is slow to open but the bees are flying about, a feeder placed in the apiary will let the bees get a great deal of food. This does not keep a hive alive if it is out of sugar or honey, so this method is best for strong colonies with good stored carbohydrate food. This can be an amazing feeding experience, with tens of thousands of bees packing the powder, flying over the feeding station. Place the feeder inside the apiary so they can find it and do not have far to fly. If you have bees at the back of the farm, feed as close as you can reach if the snow is high and you cannot reach the bees. In much of the Midwest you can have 50 degrees one day and a foot of snow the next!

## Feeding After Natural Food Appears

Some beekeepers never feed their colonies once floral food is available in Nature. Unfortunately the period from late February to early April is when many colonies die, especially strong colonies that had ALMOST enough food to survive to the next Spring. Other beekeepers recognize that this is a very important time for feeding, and expand the feeding options to one-to-one sugar syrup to act as a simulative feeding method. The bees will process some of this mixture to stored sugar syrup, but also digest a portion with stored, fed or natural protein. This results in the production of royal jelly, the raw material needed for brood rearing. This stimulation will spike the amount of brood, and such colonies will need to be monitored carefully for swarming, usually four to six weeks after the growth increases. Watch for the development of large

amounts of drone brood – I cannot think of any better indicator that the bees will be strong and ready to swarm. It is pretty unusual for colonies to swarm without going through a period of heavy drone production.

It is a balancing act. Feed too much and the bees swarm, don't feed enough and colonies die. Experienced beekeepers know that any carbohydrate feeding will not be lost. Feed is either stored or converted into bees, and more bees mean more pollination or more honey production. Or both.

And, for the record, feeding bees does not make bees lazy or dependant. They will rush to the trees, shrubs and flowers whenever they can to collect Nature's food. But on cold nights and rainy cool days they will have the food reserves they need to build successfully. When you think about the cost of the bee equipment, the bees themselves, their queen, and the amount of time you put into your bees, a few quarts or gallons of sugar syrup is a pretty low cost insurance policy to maintain your colonies. As the temperature increases look for mold growth in the feeder containers, and remove and replace with fresh sugar syrup if the bees are still feeding. Colonies do not need any further assault from non-beneficial microbes than they already get!

## Early Spring Workup

After foraging starts it is a good idea to clean out the dead bees from the bottom board of the hive. Some beekeepers use a stiff wire or coat hanger to remove the pile of dead bees at the bottom and entrance. This is not a bad idea during the late Winter, when the pile of bees can become a deterrent to proper flight. Remember to replace the entrance reducer if there was one in place. This will come off a bit later when flight activity picks up.

Once the season warms into the high 50s and low 60s you may want to do a thorough cleanup of the hive. If you have a helper, carefully lay the hive on its side (but only if there is no feeder inside to spill syrup over bees and everything!). Remove the bottom board or screen bottom board. Remove all dead bees. Some beekeepers have a dry hive bottom to replace the covered with damp moldy bees. Set this back on the hive stand, and adjust it for level with any Spring soil heaving. Place the hive bodies back onto the bottom board and put the hive bodies back in place. This can be a good time to scrape the tops and bottom of the frames with a little smoke and some quick work.

## Hive Body Reversal

A majority of the books I sell mention the concept of reversing hive bodies. The idea is simple: the bees have moved up into the upper box to get to the food supply. By placing the top box on the bottom board and the bottom box on top the cluster, the colony will be able to move up as the Spring flow kicks in and the bees need room to expand.

Experience has shown me that most colonies will reverse themselves as the season progresses, moving into the top of the lower box and growing downward. With that in mind, I give you permission to reverse hive bodies as long as:

1. You do not separate the brood area into two areas. If the brood is in two boxes, do not rearrange it!
2. You do not separate the brood area from the food

area. I have had newbees ask me how to put the top feeders BETWEEN the hive bodies (you don't!).

Reversal works with deep and medium sized equipment. Watch carefully with repeat visits.

#### Records And Decisions


As the early Spring moves into mid Spring, make two lists of colonies. The first group is strong and growing nicely. Plan on these as production hives, to manage with your best swarm prevention methods. Give them plenty of expansion room, drawn comb on top the hive, and open up the entrance so they get plenty of ventilation.

The second group of hives are the good (but not fantastic) hives that can be split for Spring increase and built up over the season for a later nectar flow or to over Winter as nucs. During your first two or three visits to the apiary, about 10 to 20 days apart, should point the direction for the future of each hive. Weak hives rarely explode, so combine them with something strong.

You are now getting into the most exciting part of the season, swarm season and the first nectar flow. **BC**

*February is a traditional reading month, and as an author and book publisher I can make a few suggestions. Look at Norm Gary's new book for Hobbysts, and Tom Seeley's book on Honey Bee Democracy. Check out the website [www.wicwas.com](http://www.wicwas.com). See you in the Carolinas, Georgia, Florida and Texas over the next few months. Have a great season.*

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