

WINTER MANAGEMENT OF HONEYBEE COLONIES

By: Carey Mitchell

1. Feed
2. Insulation
3. Awakening

1. **Feed:** Fall sugar water feeding of 2:1 syrup may be supplied to the colonies in need by using pint or quart jars turned over top bars, and set on 3/8" riser blocks to let bees access jars over top bars

Pollen supplement patties may be fed in the same manner, over sticks on the top bars. If the feeding is done in warm weather, the patties should be kept small (>2" square) and monitored by turning them over to look for hive beetle larvae. If the small patties are changed every three days, the patties taken off the hives can be placed in the freezer to kill beetle eggs and larvae, then put back on the hive in three more days, until consumed.

Useful recipe for pollen supplement patties:

- 4 parts granulated sugar
- 7 parts pollen substitute/supplement
- 2:1 sugary syrup with Honey-B-Healthy added (per package)

Mix dry ingredients (sugar and supplement) in a bowl until combined: add 2:1 sugar syrup a little at a time until soft 'cookie dough' consistency. Place 1 1/2" balls of dough between 2 pieces of wax paper. Roll flat to 1/4" – 3/8" thick. Refrigerate to store. (Thanks to Kent Williams for this recipe)

Relocation of brood area to the bottom hive bodies, that is, below all the stored pollen and honey supers, will allow for upward progression of the cluster through the winter months. As winter advances, these emptied storage frames may be moved outward by the beekeeper, and full frames moved inward, without breaking the cluster.

To ward off the chance of the clustered colony hitting the cold, empty top of the hive, with no way to move laterally, a sugar pile or cake can be placed on top of the top bars of the uppermost super or hive body.

Sugar Pile: Cut a single sheet of newspaper to fit over frames top bars, with a 1/2" gap at all sides. Pile dry granulated sugar on paper to 1 1/2" deep mound at middle, then press lightly on the center of the mound to slightly flatten it. Spritz the entire top surface with plain water from a spray

bottle, until the outer layer begins to show signs of sticking together. If the hive inner cover is solid, with a center hole, the pile can be opened by poking a hole with a finger. If the pile does not fully let the inner cover sit down, an extension ring may be added to the hive to allow room. A protein patty may also be added in the pile.

Sugar Cake: A frame made 2" high, by the hive body outer dimensions, and covered on one side (top or bottom) with plywood, is filled with dry granulated sugar, and room is made in the center of this box for a paper cup, or similar device, to leave a hole in the cake for ventilation. The sugar is smoothed even with the sides, and then the entire cake is wet just short of saturation, without actually dissolving the sugar. The cake is left to dry, and the cup, or block, in the center is removed and the plywood removed, leaving four sides of wood, surrounding the sugar cake, which is placed over the top hive body for the bees to access as needed. A small piece of protein patty may be placed in the open center.

2. **INSULATION:** The colony must have ventilation throughout the seasons, and winter is no exception. While the bottom board, screened or solid, does not change, the top or outer cover, should be rainproof, and an insulator, such as foam board, or double outer cover, can help retain the colony's heat. Any insulation applied to the colony should be placed outside the hive body so moisture from the colony's respiration is not trapped and condensed inside, to later melt and drip on the cluster. Any closure at the bottom must allow air to enter the hive, but exclude rough winds and rain or snow. A wet bottom board can be nearly as deadly as condensation above the cluster.

3. **AWAKENING:** As the year ends, and the weather in middle Tennessee starts to become more unbearable, the honeybee colony starts to make plans for a new year. Some colonies may have brood nearly non-stop, while others may only cluster closer. Knowing when the colonies in your apiary are ready to awaken, will help you to help the bees. While the cluster may still form around brood which may have been started, food must be available to the colony to sustain them. Frames may be moved to bring nutrition closer while temperatures are moderate. Sugar syrup at 1:1 ratio may be fed to help with water needs, and protein patties added if pollen is in short supply. If the colony is growing, empty frames may be needed to give brood space. Monitoring the colony progression is a good idea. By the end of January, normal brood rearing is many times well under way.