

Spring Management

By Tony Jadczak, Maine State Apiarist

Wintered honey bee colonies should be checked by early or mid-March for the amount and position of honey stores. Remove the outer cover and note the position of the cluster. In moderate temperatures, strong hives will often have bees present on the inner cover, chewing and/or drinking the water from the insulation material that was placed above the inner cover the previous fall. In cold temperatures the cluster should be located in the center of the hive body beneath the escape hole of the inner cover. The amount of honey stores can be estimated without actually removing the inner cover by tipping the colony. If the weight is sufficient and the cluster is centered in the second hive body or situated in the lower hive body, the hive should be closed and checked again in two or three weeks.

Hives that have the cluster positioned along the hive body wall should be centered. If possible, center the cluster on a day with minimal wind and temperatures near 40 degrees. Center the cluster by removing two or three frames of honey from the wall of the hive and move the remaining honey and cluster into the gap. Try to move the frames of clustered bees with minimal disturbance. This is best accomplished by sliding two or three frames along the frame rest (at a time) using the hive tool as a pry bar against the hive wall or adjacent frames. Place the remaining frames of honey in the newly created void.

Colonies that are low on honey stores with large bee populations must be fed to prevent starvation. In late winter it is best to feed frames of honey to populous hives that was saved from the previous year or obtained from dead hives provided it is free of American foulbrood. Individual frames of honey are positioned on either side of the cluster, whereas a hive body or super filled with honey is stacked above the cluster. Do not stack hive bodies or supers with only a little honey above the cluster because the bees may move into these partially filled boxes and starve.

If honey isn't available, the best bee feed during late winter/early spring is sugar candy or commercially prepared fondant. Candy can be fed to hives via candy boards, by placement above the inner cover or situating it above frames below the inner cover. Candy boards are constructed from $\frac{1}{4}$ inch plywood or Masonite cut $16 \frac{1}{4} \times 19 \frac{7}{8}$ with a $\frac{3}{4}$ -1 inch wood rim fastened to the perimeter. The candy board looks like an inner cover without the escape hole. The candy slurry is poured directly into the candy board and once hardened is fed to hives by replacing the inner cover with it (sugar side down) beneath the outer cover. The candy slurry can also be poured into molds such as pie tins or cookie sheets $\frac{1}{2}$ - $\frac{3}{4}$ inch thick that will fit into the inner cover rim after hardening. Grease the tin with vegetable shortening and line it with wax paper before pouring the candy slurry for easy removal and storage. Hives that are fed candy should be rechecked every 10 days to two weeks and fed as needed.

Following are several recipes for sugar candy:

1. Boil 1 pint of water, add 5 lbs granulated sugar and heat to 240 degrees. Stir the solution frequently in order to prevent burning or caramelizing the sugar. The solution will eventually clear during the boiling process when the temperature approaches 240 degrees. Remove the sugar solution from heat and cool to approximately 180-200 degrees and pour into the prepared molds or candy boards.
2. 12 lbs sugar, 1 1/2 lbs liquid glucose, 1 1/4 quarts water, 1/4 tsp. cream of tartar. Boil to 238 degrees, cool, pour.
3. 15 lbs sugar, 3 lbs glucose or white corn syrup, 1 quart water, 1/2 tsp. cream of tartar, boil to 240 degrees, cool and pour.

Note- Higher boiling temperatures result in a harder candy.

In emergencies, granulated sugar can be fed to populous hives that are low on stores. The granulated sugar can be fed above the inner cover or situated on newspaper directly on the frames with the aid of a feed rim or under an inner cover.

Beekeepers should visit colonies again during the later part of March or in early April. A quick check of the brood pattern will give an indication of the queen's performance and colony condition. All stages of brood should be present and be uniform in appearance without symptoms of disease, parasites or evidence of queen failure. Symptoms of queen failure include: drone brood in worker cells and/or spotty pattern or the absence of brood. The amount of honey stores should also be estimated since honey consumption will dramatically increase with brood rearing. Hives that are light on reserves can now be fed a 1:1 or 1:1 1/2 (water: sugar) syrup. Feed the syrup from above the cluster via a 1 or 2 gallon feed jar or pail inverted above the inner cover escape hole. Miller (hive top) feeders also work well. When using pails or buckets, protect the syrup container with an empty hive body. Avoid entrance type feeders because they are inefficient in cool temperatures while the bees are clustered. If the weather permits, bottom boards can be cleaned during this inspection. Do not reverse brood chambers at this time and keep the entrance reducers in place.

Populous hives that require feeding must be checked frequently once feeding commences and the syrup replenished as often as needed. If syrup is fed in 1 or 2-gallon containers, a weekly check is usually sufficient. Typically, supplemental feeding stops at dandelion bloom if the weather permits since the bees are able to regularly forage for nectar. At maple, dandelion or fruit bloom unwrap colonies and reverse the hive bodies if necessary to encourage population buildup. Keep the entrance reducers in place until late May or until early June when the nighttime temperatures moderate.