

CONNECTICUT BEEKEEPING

#3 Seasonal Management Guide for Beekeepers



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SEASONAL MANAGEMENT GUIDE FOR BEEKEEPERS

This information is intended for new beekeepers as a guide for management operations in the apiary. It is agreed among Connecticut's beekeepers that there is as much as a 3 week variation in the climate from the southern coastal regions to the northwest hills. Since there are yearly differences in the onset of spring and blooming times of major plant species important to bees, determining exact times for management operations is difficult. Therefore, we have included the major management operations into broad seasonal categories.

We have left a space on each page for your own notes concerning management decisions and what the bees were doing on particular dates. Below, is a simple chart you can prepare for your own area indicating when flowers are blooming. A blank chart has been provided in the back of this publication so that you can make copies. If you record the bloom times of the same plants for a few years you can develop a better plan for managing your colonies. Some of the important plants you may want to observe are alders, skunk cabbage, pussy willows, apples, dandelions, clovers, sumac, locusts and goldenrod. Your area probably supports other key plants as well. Often, a watchful beekeeper can tell by the smell of his or her colonies or the color of the pollen the bees are bringing in which plants are in blossom. Make notes on your chart about what was happening in your colonies: swarm cells discovered, first pollen coming in, honey surplus, etc.

After a few years of observation, a pattern should be evident and you will be able to predict when to expect swarming, when a nectar flow is likely, and how much time is left in the season to prepare the colony for the winter. A word of caution. **NO TWO SEASONS ARE EVER IDENTICAL.** In some years, a bumper crop of honey is produced, while in other years, supplies are low. In most years, colonies produce their major honey crop in May and June, but sometimes there is also a major nectar flow in late summer when goldenrod is blossoming. A colony can starve in August due to lack of nectar flow, while in other years, there may even be a small surplus of honey. Although colonies are supposed to swarm in May or June at the latest, they also have been known to produce swarms in September! Bees have their own "rules," and it seems we are still learning what they are.

BLOSSUM PERIOD CHART FOR 19__

	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
Apple		■ ■	■ ■ ■				
Dandelion		■ ■ ■ ■ ■ ■ ■ ■					
Clover			■ ■ ■ ■ ■ ■ ■ ■				
Goldenrod						■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■

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EARLY SPRING - (SNOW COVER - NOTHING IN BLOOM)

Feed colonies if necessary as soon as weather permits.

Look for signs of excessive Nosema or dysentery.

Remove or close up any dead colonies to prevent robbing and, therefore, possible disease spread

During March, feed pollen substitute or supplement syrup with fumigillan to help minimize Nosema.

Prepare for any placement of lost bees with packages or nucs.

Remove any overwintering menthol or Apistan strips at least 1 month before honeyflow to prevent contamination of marketable honey. Closely follow information on all pesticide labels.

LATE SPRING - (DURING DANDELION BLOOM - MID TO LATE APRIL)

Remove mouse guards (entrance reducers) about the time when dandelions blossom.

Take down windbreaks and unwrap hives about the same time.

Move top brood box from hive and switch it with the bottom brood box on a windless day when temperatures are 55°F or above (called reversing). Remove dead bees and trash from the bottom board. Place foundation in the center of the upper deep for brood nest expansion. Check weather forecasts, as bringing brood down near the entrance may kill some brood if the weather turns cold. This reversing of the brood boxes often prevents swarming.

Check for laying queen and adequate honey and pollen stores. Feed again if needed.

Unite any weak or queenless colony with another. Feed light colonies until honey flow.

Clean bottom boards, and replace broken frames, worn or damaged foundation. Clean excess propolis from frames and replace damaged hive parts. Do this about apple blossom time on a warm day (70° F).

Look for signs of swarming. The old queen swarms after the cells are sealed. If you cut all the cells, your hive could become queenless.

Requeen where needed. Some beekeepers prefer to requeen in April, while others follow this step in late August. Some beekeepers rely on natural supersedence and never requeen, which is best if you plan to maintain your old stock.

EARLY SUMMER - (ABOUT APPLE BLOSSOM TIME)

Add a queen excluder and two to four shallows to the two deep brood boxes to allow plenty of room for honey and pollen storage. Some beekeepers add one empty shallow at a time making sure all the frames are 1/2 to 2/3 filled before adding an additional super. This is a matter of choice, but requires additional trips to the hive to check the bees' progress.

Unite weak colonies with strong ones or add frames of sealed brood to weak colonies. Brood can be taken from hives that may swarm or from hives with many bees.

Add honey supers as needed.

Keep propolis on frames and hive bodies in check.

Provide adequate ventilation.

LATE SUMMER -EARLY FALL - (EARLY GOLDENROD BLOSSOM)

Remove surplus honey and queen excluders if you have not yet done so.

Some beekeepers prefer to requeen in late August- early September instead of the Spring.

Add extender patties to the top bars of each hive (see recipe, page 4).

Treat all colonies to prevent disease. Medicate with terramycin, either in extender patties, in 2:1 sugar syrup mixture or by mixing with an equal part of powdered sugar and by sprinkling the outer edges of the top bar. (Follow label for directions)

Treat each hive with 1.8 oz (50 gms) of menthol for tracheal mite control. Day time temperatures need to be above 60-70°F, and all honey for human consumption should be removed. Follow instructions on the label. Leave menthol in the hive for a minimum of 14 days. Menthol may remain in hives during the winter but remove it one month before honey flow (mid May is our main flow) to prevent contamination of marketable honey.

Feed bees a 2:1 sugar: water syrup containing medications of Fumadil B for Nosema and terramycin for foulbrood (unless you are treating the bees with terramycin by another method). Continue feeding until they no longer take it. Two gallons of syrup gives about 10 lbs. of honey stores.

Unite weak colonies with strong ones.

During early October, add mouse guard (entrance reducers) to hive. Mice move in after a hard frost.

Invert the inner cover to reduce moisture (if you have a grooved inner cover). Otherwise, you may put 1/4-5/16 inch props under the front edge of the inner cover to allow moisture to escape.

Test bees for Varroa mites. Treat with Apistan strips if mites are present. Follow label directions.

EARLY WINTER - ASTER BLOSSOM

Check winter stores . Bees need about 60 lbs or more, 2 deep supers of honey for the winter.

Install windbreaks around hives if they are not naturally protected.

Tip the hive forward slightly to prevent rain from running down the bottom board and accumulating in the hive. The rear of the colony can be raised slightly by shimming.

Vent the hives by drilling 1/2" hole in the upper corner of the upper deep hive body or by elevating the front outer cover about 1/4" by adding a thin strip of wood under the cover on top of the inner cover.

Wrap or insulate colonies before severe weather arrives (Not all beekeepers agree that this is necessary)

Put weights (15 to 20 lbs) on top covers to prevent wind from blowing them off. (Rocks or small stones work well)

LATE WINTER

Tip the colony to determine the state of the honey stores. If the colonies are light in honey stores, emergency feeding is necessary to prevent starvation. (See recipes, page 4)

Clean, paint and repair equipment.

During late February or Early March, add pollen substitute patties to hives. If you start feeding the honey bees, you must continue to do so until nectar is available. Use a 1:1 sugar syrup solution in the spring. 1:1 syrup stimulates brood rearing, 2:1 syrup boosts honey stores.

RECIPES

EXTENDER PATTIES

(Terramycin TM-25 formulation)

2 pounds crisco (shortening)
4 pounds sugar
6 oz. TM- 25 formulation Terramycin

For 2 to 3 patties use:

4 level teaspoons Terramycin TM-25
3/4 cup shortening
3 cups granulated sugar

For Volume users - extra patties can be stored in the freezer

6.4 oz. (one packet Terramycin Tm-25
4 1/2 pounds of shortening
9 pounds of granulated sugar

(Terramycin TM-10 formulation)

2 pounds crisco
4 pounds sugar
15oz TM-10 formulation Terramycin

MIXING INSTRUCTIONS

Mix the terramycin and sugar, cut in the shortening and cool in the refrigerator. When cool, divide into doses - large ice cream scoop size per colony, roll between wax paper to form 1/4 inch thick patties and place on frames just above brood. There is no need to remove the paper when placing the patty in the hive. The bees will consume one of these patties, paper and all, in about 3 weeks. Extender patties are also available pre-mixed from several beekeeping supply companies.

Recent research confirms that one of the most important benefits of extender patties is that the bees get the crisco on them while removing the product from the colony. This and other oils interfere with tracheal mite migration from one bee to another. Granulated sugar is thought to be best since this allows a particle size easy for the bee to grab on to and manipulate.

EMERGENCY FONDANT CANDY

15 lbs sugar
3 lbs white Kayro Syrup
4 cups of water

Dissolve the sugar in the water by stirring and heating the mixture until the temperature rises to 242 degrees Fahrenheit on a candy thermometer. Let the syrup cool to 180°F then beat until thick. Pour the candy into molds lined with wax paper. The molds should be about 8 x 10 x 3 inches. Place the cake of candy on two small half-inch strips of wood in an empty super above the cluster of bees. Cover the candy and the space around it with cloth or newspaper so as to keep it warm.

POLLEN SUBSTITUTE PATTIES

1 quart 2:1 sugar syrup
1 pound pollen substitute *

Prepare a sugar solution by dissolving 2 parts by weight of sugar in 1 part hot water. Add 1 quart of cooled sugar syrup to 1 pound of the pollen substitute and mix them together. Press the mixture between two sheets of waxed paper (patties should be firm and not run) and place the patty over the combs where the bees are clustered.

* Pollen substitute may be purchased ready mixed or prepared by mixing 1 part by weight dry skimmed milk, 1 part by weight dried brewer's yeast, and 3 parts by weight soy bean flour.

SUGAR SYRUP MIXTURES

Sugar syrup recipes are in ratio of volume, i.e. 2 cups of sugar mixed with 1 cup of water yields a 2:1 mix sugar syrup.

A mix of 2:1 is used to boost stores, especially in cold weather where excess moisture condensing inside the colony cover would be detrimental. The bees will take the sugar syrup and make it into honey which will be without the flavor and color of normal honey. As the bees work this sugar syrup into honey, moisture will be given off which will have to be removed from the colony by ventilation. Be sure there is adequate ventilation when feeding a colony. Note: this mix will withstand temperatures below 0°F without freezing so it will not have to be removed on cold nights.

To make a 2:1 mix it is recommended that the water added to the sugar be just under boiling temperature. Too much heat causes the sugar to caramelize which can cause digestive problems for bees. Mix the solution until all of the sugar is dissolved. Be sure to allow the mixture to cool to near room temperature before feeding it to the bees.

A mix of 1:1 or even 1:2 is recommended for spring feeding to stimulate brood rearing and maintain honey stores. These mixes are readily made since sugar easily dissolves in so much water. Adding warm water will be sufficient to dissolve the sugar. In order to better simulate a small steady nectar flow, just a few holes can be made in the cap of a gallon jar feeder.

MEDICATIONS AND TREATMENTS FOR DISEASE AND PARASITES

American or European Foulbrood Prevention

Terramycin (in powder or extender patty form are the preferred methods of application) When terramycin is mixed in sugar syrup (an older method of application), the terramycin breaks down in a few days and is no longer effective.

Nosema Control

Nosem X
Fumidil B

Tracheal Mites

Menthol crystals 50gm packets

Extender patties, with or without terramycin, have been shown to significantly reduce the number of tracheal mites in colonies.

Varroa Mites

Apistan strips

