How to Harvest Bee Cocoons

Harvesting cocoons is important because pests build up within the holes. If you don't separate the good guys/gals from the bad guys/gals, the bad ones inevitably win out and your bees suffer. So does your yard.

About late September through November is a good time to harvest and although it's OK all of the way into spring, September/October is recommended so that you can easily refrigerate your hibernating cocoons.

Step 1: Sort Your Nesting Material

For tubes, if the tube is empty, set it aside and use it next season.

Check the mud plug of the tube for any holes. Then examine the length of the tube for holes. If you find holes, this typically means some pests have invaded your cocoons. Set these aside.

Step 2: Open the nesting material: tubes, reeds or wood trays

With corregated take apart wood trays, the easiest way to do a simple cleaning is to take a screwdriver to scrape the cocoons out of the groves and then use a wire brush to brush the worst of the debris out of the block sections. They don't have to be ultra clean. Next year's bees will clean out anything they don't want, and they will appreciate the pheromones left behind.

Step 3: Inspect cocoons

Gently place your healthy looking cocoons in a box or bowl. You should find nothing that is harmful to touch.

If you find chalkbrood, be careful how you handle this spore, as this is a serious issue. Keep the chalkbrood spore away from all healthy cocoons.

Defined Cocoons. Male is smaller and Female is larger. Blue orchard bees have brown cocoons, Japanese horned face bees have silver. Note the brown fecal matter from the larva.
Feces should be brown/black, straight, not curly. If curly, this might be from the pest stelis whose cocoon is similar to the mason bee.

Undefined ~ wispy silk There's a bee in there, but it didn't build what it should have Everything else should be: mud, leftover pollen balls, feces, and perhaps pests.

Yellow fluffy material is an indication of blossom mites which can build up in your yard.

Leftover Unusual Mud Pollen Feces (hole in cocoon)

Other beneficial insects such as wasps or leafcutter bees.

Dispose of all items, including the pests. You should have cocoons and any unusual larva left in your container.

Illustration 1: Blue orchard bee/Japanese horned face bee

How to handle harmful pests

Remove your nesting material when the mason bees are inactive, usually around mid June. This prevents other species from nesting on top. Store the nesting material in a garage or shed until ready for harvesting, using a bug free netting to reduce pest invasion.

Pest control is the primary reason for harvesting. We want the bees to thrive, not just survive for next season's pollination. The more healthy bees we can produce, the better the yield for our fruits and plants. It's an easy way to protect our food supply. A lot of pests should have you concerned. In general, nesting material left outdoors and unprotected past June are susceptible to pests.

How to clean your cocoons

You'll find different perspectives on how to best clean your cocoons. Some online resources tell you to wash

cocoons in water or clean them with sand.

Sand Wash Method

- Place cocoons into a bowl of sand.
- Gently stir the cocoons into the sand to coat them.
- Sift the sand out with a colander or other sieve-type device.
- Your cocoons should now be relatively free of mites.
- Dispose of, or treat the sand to kill the mites it now contains.

If you found chalkbrood, we advise you to wash all cocoons as the spores may lurk in the walls of the nesting material or cocoons. AND open all of your nesting material. This is a nasty spore that needs to be tackled before spring. If the mites are not gone, use the water wash method.

Illustration 2: Chalkbrood

Water wash method

Mason bee cocoons are fairly waterproof and can take quite a soaking. Prepare one large bowl with about a gallon of cold water. Add about a tablespoon of 6% concentration bleach solution (some sites advise a cup). Prepare a second bowl of cold water without bleach for rinsing or use running water to thoroughly wash off the bleach.

- Drop the cocoons into the bleach bowl and stir the cocoons around for 3 to 10 minutes. Using a strainer or sieve, move the soaked cocoons to the rinse water or running water and stir them again for about a minute.
- Finally, remove the cocoons from the rinse and place them on towels to dry.
- If there is chalkbrood, treat any blocks in the same manner, allowing the sections to thoroughly dry before putting them back together.
- Before you place your cocoons in hibernation, ensure that the cocoons have dried adequately. They should not be wet to the touch. If you can, dry the cocoons outside or in an unheated building where it's cooler and not inside your house where some mason bees might think it's spring due to the warmth!
- There are many options to this method. The main points to keep in mind are: Don't use soap, keep the bees cool, rinse completely, dry them thoroughly before refrigeration.

Why refrigerate your hibernating cocoons

Bees hibernate best in a steady cold environment. Your refrigerator is a great place for your bees to overwinter. Refrigeration slows their metabolism and their use of stored fat. You don't want your bees emerging hungry before spring fruits and flowers start blooming. This is their source of nutrition. If you let your bees survive on their own, they will respond to changing temperatures even though food sources are not yet available. Fewer of them will survive.

Refrigerator option:

In October through November, place your cocoons and unopened tubes in a refrigerator with temperatures around 38-40°F degrees. Humidity is needed at about 50- 70%. A small bit of oxygen is also important. (Don't close the lid on a Tupperware container without adding holes.)

Modern frost-free refrigerators are very dry inside. Most have a moisture content of about 20-30% which is fine for a few weeks, but will dehydrate your cocoons unless kept in your crisper drawer.

If stored in a garage refrigerator with fruits or vegetables that ripen, consider that ethylene gas is created which can kill mason bees. Open the refrigerator door occasionally. This option allows you to determine when you want your cocoons released in the spring. Monthly, it couldn't hurt to check the cocoon's condition. Is there

adequate water? Do you have mold growing on the surface of the cocoons? If so, this mold has transferred from another source within your refrigerator. It really can't harm your hibernating bees if it's just a mild case. Wash the cocoons with 1 tablespoon of bleach to about a cup of cold water for 30 seconds to a minute. Rinse the cocoons in cold water and dry them off with a paper towel before placing them back.

Natural outside option:

Store your cocoons and unopened tubes in an unheated garage or shed where rodents can't eat them. Plastic tubs will suffice. Ensure that there are a few small holes for air to enter. A problem with this option is that when you have a brief warm period, your bees may begin to emerge prematurely.

A little of both?

Keep your mason bees outside until late winter, then place them in your refrigerator. This allows you to determine when to release your cocoons vs. relying on a sporadic spring. A hibernating bee can survive 6-7 months; thus, you should be able to hibernate your mason bees through April. If you keep the cocoons in hibernation into May, you will see less survival.

For more information, go online to the following:

www.crownbees.com

www.fernandrosemary.com

Or download the free booklet, How to Manage the Blue Orchard Bee