



May 2015 Bee-Mail



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Mason bee activities

Do you have enough holes?

For most of you, your mason bees are about halfway through their lifespan. They are looking for their second hole to nest in. If there aren't enough holes, your bees will nest elsewhere.

Look at the diagram to the right. The left 8 holes are mudded over. Some bees are still nesting in their first hole while others have started their second holes. Although it looks like you have plenty of holes left, you are mistaken! If bees finish their first or second holes and there are no available empty holes, they will fly away and nest elsewhere.

If your nesting holes are about 40% filled, I suggest that you should consider getting some [additional holes](#) quickly!

Unopened cocoons?

If you have cocoons that haven't opened yet, you have three options to consider:



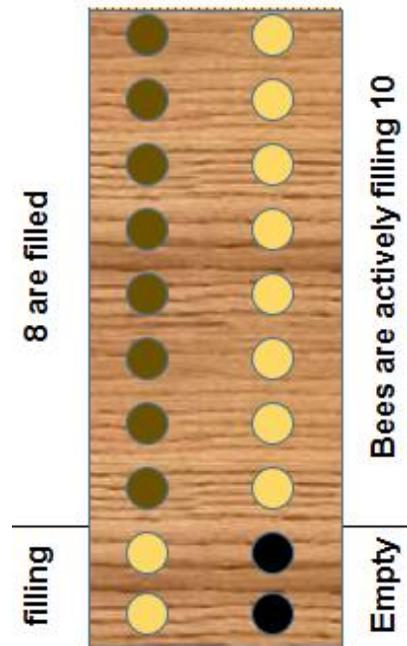
1. Leave them alone.
2. [Cut open the cocoons with scissors](#) and rescue the bees inside. Your bees are too weak to open the cocoons themselves. Place them on a sponge with 50/50 honey/water for them to refuel themselves for their first flight.
3. Throw any unopened cocoons away. Your bees are either dead, too weak to get out, or filled with mono, a parasitic wasp (See next section).

Your mason bees should be actively flying through most all of May!

Watch out for Mono!

Monodontomerus, (or mono for short) is an interesting pest that has a really strong ovipositor that can penetrate paper tubes, thin reeds, cracks in plastic trays, etc. The pointer thing at the back side is actually a sheath for the flexible ovipositor. Once she feels the larva within the egg chamber, she deposits about 10-15 eggs within the larva body.

Our unsuspecting mason bee larva continues to grow with the wasp larva growing inside the mason bee larva as well. Once the mason bee cocoon has been spun in June, the wasps burst out of the mason bee larva (remember the movie Alien?), mature into adult wasps, chew through the side walls, and then repeat the infestation. Here's a video of a [mono in action](#) captured by George Pilkington, a teammate of ours in the UK.



In the left phot, mono larva look like this in a cocoon. Mono itself is about a quarter inch big.



If you are raising your mason bees in thin-walled white inserts and you leave them out while mono is present, you have a potential disaster waiting to happen. All full inserts at this point should be replaced and protected in a [BeeGuardian bag](#) or something similar. (Try not to upset the order of the nesting holes. Mason bees know precisely where there nesting hole is. If it's now in a different spot, it gets very confusing for her and she may leave for a hole that doesn't disappear!)

Mono is a nasty pest that can be controlled. Throw away all or cut open cocoons that haven't opened up. Protect your nesting holes in June by placing them in a BeeGuardian bag and storing them in a garage or shed until fall harvest.

Leafcutter bees are ready now

We have incubated some of our leafcutter bees for three weeks and are they now just emerging. These are small bees! The males have really cool green eyes and long antenna (right bee) while the females are black eyed and shorter antennas. Swap out larger mason bee holes for [smaller leafcutter holes](#) for success.



If you raised leafcutter bees last year and have these hibernating in your refrigerator, get these bees warmed up now. Leafcutter bees need about 3-4 weeks at 84°F (29°C) for fastest development. If the temperatures are varied, it can take a few more weeks before you'll see bees emerge.

Before ordering leafcutter bees, please realize they are a hot temperature bee. They fly best in the mid 80's and higher. A leafcutter bee will fly in cooler temperatures to pollinate, but will do so slowly. Our Crown Bees staff had good luck with the partially incubated leafcutter bees here in the Pacific Northwest last summer, where are temps are typically in the low to mid 70's.

When ordering your bees, consider these questions:

- What are you pollinating and when will it be in bloom? *Just because you planted your beans now does not mean you need a bee pollinating yet.* Think about *when* your plants/flowers and vegetables will be flowering.
- Will it be warm enough for the bees when you receive them?

We'll have the bees available between now and mid-August. You can receive bees at different times of the summer. Order some for June and some for July!

Note: We only place a limited amount of bees in our incubators. We try to forecast orders 3 weeks out. If you ask for immediate shipment of your leafcutter bees we will do our best to mail them as close to your requested date as possible. If you didn't give us the three week forecast, we may not be able to mail them to you right away.

Crowd funding results

I'm very thankful with the results of our Crowd Funding. Through a very large marketing campaign by some really phenomenal teammates at [Garden Media Group](#), we raised about \$22,000. Their contacts through the gardening industry are immense. In reflection, this was a hard to understand campaign. We were asking people to invest in our future food supply which doesn't provide immediate gratification.



Many of you understood this vision and supported us. I truly thank you.

Next steps

We're sending out rewards soon and have begun developing the BeeWithMe.net website. By next Bee-Mail, we hope to have it running in a beta stage to test for bugs and receive suggestions prior to formal release.

We've heard many different groups tell us to accelerate what we're doing. Sustainability for our food supply in our communities is important we're told. We agree.

I need help with a book

I'm writing a book titled "The Mason Bee Revolution" which is scheduled to be completed this year. My editor thought that we should include a few side stories of how mason bees have helped out yards on the east coast.

If you live on the east coast and have a good "before" and "after" story involving mason bees, can you send me an email with your story and phone number? Jill Lightner, who is helping me write the book, will interview a few of you over the phone for possible inclusion

in the book.

Thanks!

Some orchards have tough issues with mason bee

I wish I had only good results to write about our placing mason bees in orchards. We are only now learning the nuances of how to use these bees wisely.

Timing bee emergence isn't easy

We found that warming mason bees up for a week prior to releasing them in an orchard doesn't always pull them out of hibernation. The blossoms in an orchard don't always bloom the same week each year. At times a farmer will see a heat wave which has the orchard spring into bloom within days. The opposite occurs with cold fronts and a week or two delay in bloom. Timing mason bees to emerge at just the right time isn't easy with weather variations like these.

We had a lot of successful pollination and also had quite a few "failures" where the bees didn't emerge when they needed to.

I believe this has a lot to do with the stored fats in the bees. Our bees may have been too healthy with too much fats available. A bee with one third of their stored fats left doesn't need to emerge. I believe if the bees have no stored fats left, they'll emerge quickly anytime between November and April. If they have fats, they will be slow to emerge.

It may be possible to speed the development of bees during the summer by slighting overheating them so they become adults faster. By placing the bees in a slightly cool refrigerator (45°F/7°C) the metabolism would be high and the bees would consume their stored fats at a faster rate. This would have them with empty fat reserves in February. ...and thus easy to emerge quickly.

I'm coordinating a meeting between researchers with the USDA/ARS Fargo & Logan Bee Labs to see if we can devise an equation that will help us do the right thing for next year.

Chemicals in orchards cause issues

Jim Watts, a peer of mine, placed mason bees in two identical orchards about 20 miles from each other this past March. Same cherries, same mud, same bees, same weather, and same holes. One orchard did great. The other had no bees nest whatsoever.



The farmer was extremely upset. "The bees didn't do what we had said they'd do." When Jim got back into his truck, he smelled like chemicals. Jim got back out and asked the farmer what he had been spraying in his orchard. "Nothing. You said not to spray so I didn't." Jim asked why his clothes smelled so bad after only walking 30 minutes in his

orchard. "Oh, my neighbors raise apples on all sides of our cherry blocks, and they sprayed."

My hypothesis is that honey bees are chained to their hive. They MUST live in their hive and are forced to fly through hazy chemical-filled air. Mason bees can choose where they want to live. If it stinks, they can fly elsewhere and nest there. I don't think the bees died, rather, I believe the stench of the chemicals was repulsive to them and they all left.

The frustrating part of this has Jim selling 10,000 bees to a farmer who did what was asked of him. His neighbors did the damage. Who should pay for the lost bees? Jim or the farmer? It's a tough one. It will wind up being Jim.

Bumble bees



Many gardeners want a wonderful summer pollinator for a long period of time. The eastern states have the advantage of being able to buy high quality bumble bees that will last for 10-12 weeks of pollination. These bees are used both for commercial and backyard pollination.

We have the [*Bombus impatiens*](#) available for ordering. Because our teammates have to grow the queen and her brood from scratch, the wait period for these bees can be up to 10 weeks. We've been successful in getting them delivered sooner, but we caution you to think ahead!

We have the BumbleBarn as a great protection for the bees. It lasts for years and provides great ventilation.



A wonderful article to read

Gwen Pearson is an awesome writer who eloquently bridges the language gap between entomology (the study of bugs) and gardeners. She's an entomologist herself.

She just wrote [a wonderful article](#) that I believe is a must read and should be shared through your social media contacts.

Essentially, she helps the readers understand there are 4,000 other species of native bees across North America that need attention. We tend to focus on just the honey bee at a detrimental cost to the native and wild bees. *(Bee picture is by Alex Wild)*



Here's the start of her article:

“SAVE THE BEES!” is a common refrain these days, and it’s great to see people interested in the little animals critical for our food supply around the globe. But I have one quibble: you’re talking about the wrong bees.

Honey bees will be fine. They are a globally distributed, [domesticated](#) animal. *Apis mellifera* will not go extinct, and the species is not remotely threatened with extinction.

The bees you should be concerned about are the 3,999 other bee species living in North America, most of which are solitary, stingless, ground-nesting bees you’ve never heard of. Incredible losses in native bee diversity are already happening. [50 percent of Midwestern native bee species disappeared](#) from their historic ranges in the last 100 years. Four of our bumblebee species [declined 96 percent](#) in the last 20 years, and three species are believed to already be [extinct](#). A little part of me despairs when I read in a scientific paper: “This species probably should be listed under the Endangered Species Act [if it still exists](#).”

[\(Read the whole article\)](#)

In our next issue...

- Protecting mason bees for summer
- What leafcutter bees are pollinating

Thank you for caring about raising solitary bees! Your success is important to us.

Dave Hunter, Owner