

# MASON BEE HOMES

Mason Bees, the Super-pollinator

It takes 30,000 honey bees to pollinate 1 acre of land.

It takes 400 Mason Bees to pollinate 1 acre of land.

Mason bees are friendly; they rarely sting.

The female Mason Bee visits about 1875 blossoms a day!

## How To Make a Small Mason Bee House

Mason bees (or blue orchard bees, or *Osmia lignaria*) nest in tubes, not hives.

Container or house: You can use many things to house your mason bees: a tin can (big one), a waxed milk carton, a brick, a piece of wood with holes drilled in it, a wooden box. In every case, the container needs to be at least **7.5 inches deep**. If you use a piece of wood, you will drill tunnels into it: the bee prefers a hole about 1/4 inch wide but drill the holes 3/8th inch if you are fitting a tube into it. You want to fit tubes into your house that are **at least 7 inches long**.\*

**\* important that tubes are at least 7 inches long because female bees incubate in the back 3-4 inches and males bees incubate in the front 3-4 inches. If your tube is too short your mason bees will not be balanced in terms of gender.**

Tubes: Once you have a container, you need to make the tubes. Use plain brown paper: that's the best. (newspaper and other papers have dyes that are not good for bees) Cut strips 7 inches long by 2.5-3.5 inches wide. Roll the paper over a regular pencil and tape it closed in a couple places. Make enough so they fit snugly into your container. A one litre milk carton will need about 30 tubes. Put tubes in your container. The back of the container needs to be closed- there needs to be a 'back' at the end of the tube to block light-- tubes are open on one end only.

Weatherproof: Your house needs to be waterproof and to provide a bit of protection from wind. If your container is 7.5 inches deep and the tubes 7 inches long, you'll have a half inch overhang. If you want to protect your tubes from birds, you can put a screen over the front but make sure the mesh is big enough for bees to go in and out.

Placement: Put your container at least 4 feet off the ground facing east (south is too hot for the bees in the Okanagan). Do not put your container in a tree; rather screw it to the side of a garden shed, house, fence or similar broad, flat surface. You want to make it easy for the bees to find their home when they are flying fast. Make sure it is stable and doesn't swing around in the wind.

Nesting material: Mason bees are called mason bees because they use mud made of clay/soil and water to line their tubes and separate each laid egg. Keep some mud and soil near their house that is damp and muddy.

*This handout was created by Lori Mairs for Bee Central with help from Brian Campbell.*



## Life Cycle of a Mason Bee

March/April: cocoons hatch and adult bees mate and begin to forage	<i>Provide a house with tubes and lots of water and dirt to make mud so females can make their mud partitions in the tubes for their eggs.</i>
April/May: bees forage and lay eggs in the tubes (females seal up each egg and a ball of pollen with a mud partition)	<i>Provide lots of flowers and flowering trees for pollen. Keep some muddy patches near their house.</i>
May/June: eggs grow into larvae in the tubes and eat the pollen	<i>Adult Mason Bee life cycle begins to come to an end and they begin to die off.</i>
June/July: larvae weave cocoons in their little partitions in the tube	<i>When you notice the bees are no longer coming back and forth to their mason bee house, bring the house inside <u>your</u> house - this will prevent parasitic wasps taking over the cocoons and birds from preying on the larva.</i>
July/August: larvae inside cocoons begin to develop into young bees	<i>Continue to store the house somewhere warm and dry indoors (a closet or cupboard is fine.)</i>
Sept- February/March: young bees inside the cocoons “hibernate”	<i>Remove cocoons from tubes (see below) in mid to late fall and then store in a cold and dry place (refrigerator).</i>
March/April: cocoons hatch and adult bees emerge to begin cycle over again	<i>When early blooms are beginning, put cocoons outside and reinstall the mason bee house with new tubes in it. A good time is when you see the apricots beginning to bloom.</i>

## Caring for your Mason Bees

It takes about 2.5 hours a year to care for your mason bees.

- **In early June**, when most of the ends of the tubes are filled with mud and the female bees are no longer coming to the house, bring the house indoors and just leave it alone, somewhere high and dry (top of fridge, cupboard, garage, basement). Do not unravel tubes- leave the cocoons in the tubes and in their house- the larvae are developing inside the tubes.
- **In late September or October**, take the tubes out of the house and carefully open the tubes up. Gently remove cocoons, clean them off in a sieve—water with just a drop of bleach won’t hurt them-- get rid of any cocoons that are damaged or just shells- these aren’t viable. Dry them off for a couple of hours on paper towels. Then put in a small box or plastic yoghurt container with holes in the lid. (There are good YouTube videos about all this!)
- **In winter**, keep this box or yoghurt container in a dark cool place: fridge, cold garage or unheated basement is fine (the bees can emerge from dormancy in as little as 3-5 hours at room temperature, so cool and dark is important). Fridge is good!
- **In the spring**, when you see the very first blossoms in bloom (apricots, plums, willows) make new paper tubes for your mason bee house. Get your mason bee cocoons and take them outside. Put them in a paper bag that is open on one end or in a box with a hole in it (make sure they stay dry until they hatch- DO NOT PUT THEM IN TUBES!). Place them in the garden near where you put your bee house. Put your mason bee house up where they can easily find it; add fresh new tubes for them to lay eggs in. Remember to scrape a hole in the ground down to wet earth and provide water so they can start building again.
- **March- June**: Watch the action as the bees work tirelessly pollinating and provisioning for their young in the mason bee house! You’ll soon see the tubes plugged up with mud! Keep muddy patches near their house and keep lots of flowers for them!