

# Bee Gardens:

## *Create Habitat in Your Backyard*



*Bees are in search of a quick sip of nectar, some tasty pollen and maybe some building materials to take back to their nests. All the while, bees are pollinating flowers, which allows for fertilization, which then creates the fruits, seeds and nuts that we eat.*

## General Bloom Guidelines



- Native pollinators tend to be attracted to **blue, purple** and **yellow** flowers.
- Flowers with short tubes or no tubes at all are more likely to attract a variety of bees.
- Short-tongued bees and hover flies are attracted to small shallow flowers such as *Brassicacae* (cabbage family), *Umbelliferae* (carrot family), and *Compositae* (sunflower family).
- Long-tongued bumble bees are attracted to flowers with deep corollas and hidden nectar spurs such as larkspur, columbine, snapdragon, bergamot, delphinium, bell shaped flowers, mint and *Solanaceae* (tomato family).
- Leaf Cutter bees are attracted to beans and peas (legume family).
- Bees are generally **not** attracted to double bloom varieties; they usually produce showy flowers with less pollen than single bloom varieties. Heirloom varieties are preferred.

## Mason Bees Like:



- Plants that bloom in April to early June. They prefer blooms that are most abundant in May because that is when they are collecting nectar and pollen for their nests.
- If you are trying to pollinate fruit trees, don't have flowers that are blooming at the same time around the area of the fruit trees. However, you will need flowers available for the bees after the fruit trees are done blooming.

## Bumble & Honey Bees Like:



- Plants that bloom for spring and summer because bumble and honey bees are active the entire growing season and will need a constant supply of food.

## Use Native Plants

**The most important consideration in creating a bee garden** is how to use a maximum number of native annual and perennial wildflowers, which naturally grow in your region and provide continuous bloom. Native plants have evolved and adapted to the local climate and soils and they require less water and fertilizer than showy exotic plants. Heirloom plants and seeds are older varieties of plants that generally produce more pollen and nectar for bees. Plant breeders often breed exotics for aesthetics and not for the plant's capabilities of producing pollen and nectar. Daffodils, dahlias and many other flowers look pretty, but provide no food for our busy pollinators.

***By planting bee-attracting plants and flowers, you can also attract a diverse array of other pollinators and wildlife. Butterflies, wasps, flies, hummingbirds and other pollinators will give you a bountiful harvest of fruits, vegetables, seeds and nuts. Keep an eye out, and enjoy the comings and goings of pollinators in your backyard!***

# Do More:

## *Simple Tasks to Encourage Pollinators*



*Apart from beautiful flowers in continuous bloom, all bees require places to hide from predators, to locate a mate and to establish nests. Pollinators need you to help provide safe havens from predators, parasites and chemical pesticides.*

## Follow These Easy Steps to Ensure Pollinator Habitat:

**CONSTRUCT AND INSTALL NESTS** for pollinators in your backyard. There are many designs for nesting boxes for species such as mason bees and hunting wasps.

**LEARN TO IDENTIFY BENEFICIAL INSECTS** and their nest sites and let them flourish in your garden. This allows for a balanced population of spiders, ladybugs, bees and other beneficial insects to fight against the pests in your yard.

**PROVIDE A WATER SOURCE**, like a birdbath, small pond or a dripping faucet which insects can access. Bees need to drink clean water too!

**PROVIDE MUD** for mason bee nests by digging a hole as wide as a shovel, past the organic layer and into the mineral layer of the soil. The mineral soil can be easily packed by the mason bee.

**LEAVE DEAD WOOD** in your backyard. Dead wood provides shelter and nesting space for many beneficial insects, including leaf cutter bees and mason bees. They make their homes in old beetle burrows. Entire trees or even branches will suit this purpose.

**KEEP SOME EMPTY SPACE** in your yard. For bees that keep underground nests, it is important to keep a small patch of uncultivated and undisturbed ground which is accessible to them.

**FLOWER FOOD FOR BENEFICIAL INSECTS** can be added to your yard by planting high nectar-producing plants each year. Native plants are great for indigenous pollinators! Let plants go to flower to attract pollinators in your yard.

**REDUCE PESTICIDE USE.** Look towards other options first. Organic controls such as soap sprays and pest control techniques with natural parasites are good starters. Some pesticides are less persistent and have been proven safer for pollinators. Follow the application instructions. Apply at night when bees are safe in their nests and use as little as possible.

**ESTABLISH GREEN CORRIDORS.** Work with your neighbours to include several backyards in a bee habitat creation plan, giving bees a larger area to nest and forage in.

For more information, contact:

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# Our Pollinators

## NEED A HOME!



Indigenous bees such as the Blue Orchard Mason Bee provide a vital service to our backyard vegetable gardens and our fruit trees. Although the bee helps to produce over 1/3 of the food crops that we eat, these helpful insects are seeing a population decline due to urban development and a widespread use of chemical pesticides. There are a number of things you can do in your back yard to help provide homes for these invaluable pollinators. In turn, they will help *you* by increasing the fruit and vegetable yield of your backyard garden and fruit trees.

### Soil Dwellers

Bumble bees are an example of a local soil dweller. They prefer to nest underground in undisturbed, sandy banks that are free of vegetation. The soil should be left undisturbed all year long as the queen bee needs a peaceful place to overwinter once the summer's activities are done. Artificial homes can also be made for bumblebees to nest in. Most designs include an entrance tube that leads to an enclosed chamber which is filled with unbleached cotton. The queen uses this cotton to nest in.



### Quick Tips For Creating Safe Bee Habitat

- = Build an orchard bee nesting box and ensure that there are nesting materials available in your yard.
- = Leave dead wood such as branches and tree trunks in your yard that wood dwelling bees can nest in.
- = Ensure that there is a source of water and undisturbed soil in your yard. These are used by bees as a food source and to make mud for nesting.
- = Stop using chemical pesticides on your lawns, gardens, and trees. Learn about less harmful methods of pest control.
- = Grow a diverse array of flowers, plants, and trees to attract and feed these native bees.
- = Work with your neighbors to create nectar and habitat corridors for native bees.

### Wood Dwellers

Local wood dwellers include the Blue Orchard Mason bee, Berry bees, Carpenter bees and Leafcutter bees. These bees nest in horizontal holes that are 1/4" to 3/8 large and made out of wooden materials. They prefer to nest in sunny, dry places that are protected from predators. Their preferred nesting spaces include holes in dead tree trunks, pithy-stemmed plants such as bamboo, reeds, sumac or goldenrod, fallen branches, or nesting blocks that are made from untreated soft wood.

### Quick Tips For Blue Orchard Bee Care

*(FROM THE BC FRUIT TESTERS ASSOCIATION'S PUBLICATION*

*"BLUE ORCHARD BEE")*

- =Have nests out by the time plum and cherry trees start to blossom (mid - March in Victoria).
- =Do not move nests after bees start to emerge or they will probably go elsewhere to lay their eggs
- =To prevent movement of eggs and possible damage to them, do not disturb until after July 1st
- =Nests should be light coloured material to reflect heat
- =Crows and woodpeckers will sometimes attack nests.  
To prevent this, place chicken wire in front of them
- =Keep spider webs from blocking nest entrances
- =Nests can overwinter outside as long as temperature doesn't drop below 0°C

# Simple Blue Orchard Mason Bee Homes



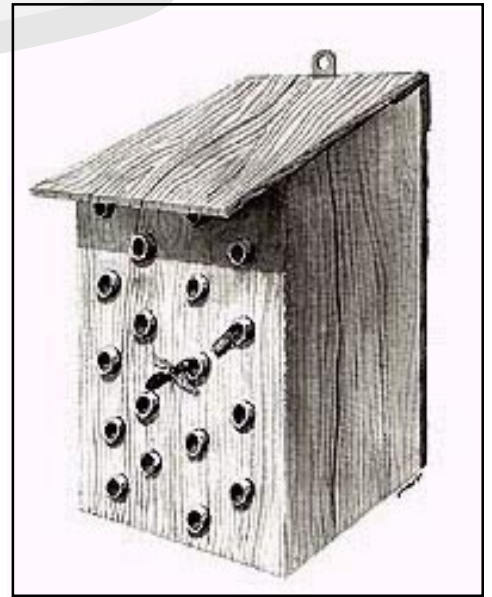
You can help out local pollinating heroes such as the blue orchard mason bee by offering simple nesting homes in your yard. Although they are easy and inexpensive to make, Vancouver Island and the Lower Mainland both have bee box suppliers who sell backyard bee habitats.

## Nesting Box Suppliers in B.C.

Victoria: LifeCycles (250)385-5800

Cowichan Valley: Jon Willow (250)748-2717

Vancouver: Bee Diverse (604)936-3919



THE BLUE ORCHARD BEE NESTING BOX

BUT if you have the time and materials to make your own bee box... GIVE IT A TRY!

## Building A Bee Nesting Box...

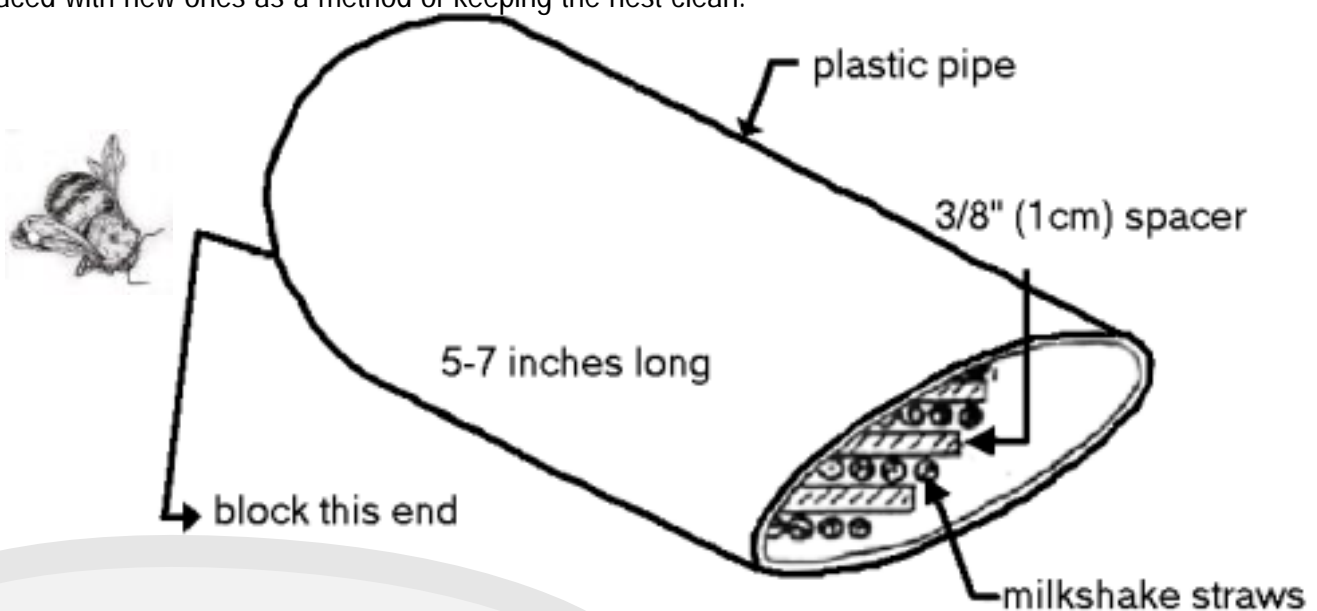
It is important to build bee boxes for our backyards because the blue orchard mason bee will only lay eggs in perfectly sized, pre-existing holes. She will not make these nesting spaces herself and will potentially lay fewer eggs if there is no habitat provided. Nesting boxes are easy to make and the benefits to having these insects in your yard is unsurpassed by any other pollinator. Once the box is up, you can expect to see bees in your yard starting early spring. To make your own bee box, here's what you need to do:

- 1. Find an old or new 4x4 block of wood that has not been treated.*
- 2. Using a 5/16" drill bit, drill deep holes into the wood being careful not to drill through to the end. The bees will be happiest if the holes are about 6" deep.*
- 3. Ensure that the holes are clean as these critters tend to be very finicky about their nesting areas. The female orchard bee will go in and out of these holes during early spring to lay thier eggs and build protective mud walls between the future bees.*
- 4. Using a hook, hang up the block in an area that is South or East facing and exposed to morning sunlight. The bee box should be about 4ft off the ground and is most efficient if it is placed near the trees and plants that need pollinating.*



## Building A Bee Tube Home:

Nests can be made for blue orchard mason bees out of tubular paper or plant material (such as bamboo). These materials are preferred as they tend to have more air flow but the bees will also nest in plastic straws. Nests should contain a number of tubes that are bunched together. The holes should be 7.5 mm (5/16") in diameter and 9.5mm (3/8") between them (see diagram below). The tubes should be 3 to 6 inches long and the back end of each one needs to be sealed off. Paper tubes are easy to make by rolling up newspaper around a 5/16" of an inch dowel while you can find plastic straws nearly anywhere. Once you have picked your tube material, they can be packed together inside a milk carton, coffee can, PVC pipe, or a 2 litre pop bottle. The container should provide an overhang so that the tubes are not exposed to rain. This type of home is easy to construct and the tubes can be replaced with new ones as a method of keeping the nest clean.



## Nest Maintenance :

Cleaning your bee nesting box is very important in order to prevent infestations of parasitic mites and avoid fungus growth. Tubes can be replaced every year or two while nesting boxes should be cleaned once a year. To effectively clean nesting boxes, we recommend that you have *two* boxes. In the early spring, when you see the hibernating bees begin to emerge from their nests, cover the bee box with a paper bag or cardboard box. Poke a hole in this cover so that the bees can see the light and find their way out but will not be able to re-enter the nesting holes. Ensure that you have installed a new (clean) bee box near the original one so that the emerging bees can find a new home. In the summer, when you are confident that all of the bees have emerged from the first bee box, take it down and begin the cleaning process. Nests can be cleaned with a mild bleach solution or by heating them in the oven at 65°C or 150 °F for an hour. Allow the cleaned box to cool and store it until next spring when the second bee box (which is now housing bees) will need to be cleaned.

## Things to keep in mind:



- Bee boxes should be mounted on a fence, wall, or post facing a south or east direction. This is so that the hibernating bees can be warmed by the morning sunlight.
- The nesting box is most effective if it is placed between 3-6 feet above the ground.
- Grow a diverse array of plants and flowers in your yard. This will attract indigenous pollinators to the safe nesting place that you have offered and maintained.
- Stop using chemical pesticides in your yard. There are many organic alternatives which are safer for our environment, our productive insects, and ourselves.

This information has been brought to you by:



## LifeCycles Project Society

LifeCycles is a non-profit organization dedicated to cultivating awareness and initiating action around food, health, and urban sustainability in the Greater Victoria community. If you have any questions or comments about the bee project, or any other projects that we support, please stop by our office or give us a buzz:



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