

October 2012 Missy Anderson: Orchard mason bees

There are 140 native species of bees in North America and 200 in the world. The Mason bees are pollinators and do not make honey. The female is the size of a honey bee; the male is smaller. The coloration is black with a blue sheen, almost like a large housefly. You can tell the difference between them by the antennae. There is no queen, no hives, no honey. They live to pollinate and reproduce. Their preferred home is made up of abandoned holes or cylinders and they are gregarious, liking to live together. Their home has one way in only, with mud blocking the back. The female backs in to lay one egg at a time and then seals the entrance with mud. They make "bee bread" from pollen and nectar to eat.

These bees have a short active time, from mid-March when they come out from hibernation, to mid-May or June to coordinate with fruit, flower and berry blooms. They hibernate the rest of the year in about 37-39. Mason bees will not usually sting and only the female can sting because the male has no venom. They carry the pollen all over themselves. The male is smaller and has a white mark on his head. Males emerge first, eat, mate and die in 3-4 weeks. The female first mates, eats, lays the eggs then dies about 10 days later. Up to 700 bees are needed to pollinate a small orchard...Honey bees have 20,000 to 50,000 in a hive and travel farther than Mason bees who only travel in a 300 yard circle around their home. Set up the bee box in the middle of such an imaginary circle, making sure there are plenty of flowers within this range.

The female determines the sex of the offspring. Usually, it's 40% female to 60% male. The female lays one egg at a time in the nesting hole, uses mud to seal it. One egg is laid every two days with the total being around 20 eggs. This continues for 8 weeks with the female, who does ALL the work, visiting 40-60,000 blossoms. When the larvae hatch, they eat the food that the female has left. From April to June, 5 larval stages are completed. Don't move your bee box because the bees won't be able to find it. In the summer, the larvae molt into adults and in the fall, they are programmed to hibernate. Types of boxes to use are: wooden, cardboard (not so good in the PNW; plastic, and make your own cylinders. Bring the box inside in mid-to-late-June. To protect against rodents, put wire mesh on the front. Other predators are birds, mites, wasps, and nest fungus.

Nesting sites need to be dry and sunny and in March, need protection from wind and movement so tip the box down slightly. A south to southeast exposure to warm up to 80 degrees is best. To attract Mason bees, plant for all seasons using native wildflowers. Color matters: blue, purple and yellow are good. Big leaf maples are great, but fruit trees aren't necessary. Also, encourage organic practices such as some bare ground and decaying trees with holes. You can choose between three different size boxes. Missy demonstrated how the bees

are stored in the refrigerator and place in the bee box cylinders. You can rent bees from Missy for \$1.50 per bee at rentmasonbees.com and you can pick them up in Bothell from Missy. You can roll your own cylinders about 5/16" opening (pencil size), close off one end with clay and place them in a bee box. Use several layers to keep out wasps. Use bleach water to clean box to avoid fungus and silicone sand for mites on larvae or bees.