

## How to Use Bee Houses for Cavity-Nesting Bees

Christine Casey, Haagen-Dazs Honey Bee Haven  
UC Davis Department of Entomology and Nematology  
October 2014

Thirty percent of California's native bee fauna are solitary bees that nest above ground. These bees are referred to as *cavity-nesting*, since they lay their eggs in twigs, abandoned beetle galleries, and other tree cavities. Leafcutter bees (family Megachilidae) and mason bees (*Osmia* spp.) are two of the common cavity-nesting bees that occur in urban gardens; both provide important pollination services.

### How do the bee houses work?

An egg is laid in the cavity and provisioned with pollen and nectar that serves as food for the developing bee; the egg is then covered with protective material: mud and leaf pieces are the most common. The process is repeated until the cavity is full. Watching a block as a female flies in and out to bring food and protective material is fascinating. The new bees will emerge later that summer if the bee has more than one generation per year, otherwise they will overwinter in the cavity and emerge the next year.

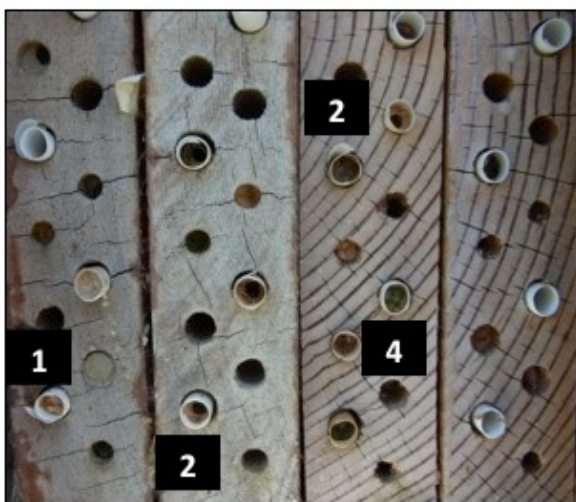
### Where should I place my block?

The back of the block should be solid. The block or nesting tube should face east to southeast and be protected from the afternoon sun. They should be secure so they do not move in the wind. An overhang to protect it from rain is beneficial.

### Why are there paper straws in the block?

To prevent disease, blocks should only be used for one year unless they are lined with paper straws that fit the diameter of the hole. Straws are removed yearly, thereby cleaning the cavity. Be sure to purchase straws specifically for bees, as regular paper straws do not work (an internet search for "mason bee inserts" will turn up many sources). Straws can also be removed for inspection to see if they are being used.

Another option is purchased bamboo nesting tubes (an internet search for "mason bee reeds" will turn up many sources). These are preferable to cutting your own, since purchased inserts are cut at the node to ensure they are closed at the back. At the Haven you'll see these in PVC tubes.



**Bee blocks and nesting tube in use.** Note a cavity filled with mud (1); cavities with an exit hole indicating the bees have left (2); cavities filled with leaf pieces that have dried (3); and cavities just filled with fresh green leaf pieces (4).