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NATIVE SOLITARY BEE HOTEL INSTRUCTIONS

INTRODUCTION TO THE NATIVE BEE HOTEL

Thank you for choosing a bee hotel that is a safe, clean, and healthy home for wild bees. The bees need proper nesting habitat and you are helping us get to know our native hole-nesting bees. The bee hotel is actually a bee house because every bee that nests within is there to stay and most hole-nesting bees are only actively flying as adults for 4-6 weeks of the year.

North America is home to about 1,000 different species of hole-nesting bees. In the wild, hole-nesting bees nest in standing dead trees, the ends of broken branches and reeds, and logs. Wild bees come in a variety of sizes and need a nesting hole that is just the right size for them. Some wild bees prefer to chew their way through pithy stems or solid wood.

Our bee hotel mimics wild nesting places and is designed to be maintained with the health of the bees in mind. Nesting reeds, tubes, and pithy stems can be opened for cocoon harvest. Nesting materials should be inspected in late fall and new materials should be placed before spring begins.

Bee houses are also attractive to solitary hole-nesting wasps, who are also looking for nesting sites. Solitary wasps are beneficial insects that prey on garden pests, which lowers pest populations. Solitary beneficial wasps behave similarly to solitary bees in their nest-building habits, except they provision egg chambers with insect prey. The presence of beneficial wasps in your bee hotel is an indicator of the vitality of your garden or farm.

Bee activity typically begins in the early spring when cherry trees or dandelions bloom and lasts until late fall. Of course, you can install the house at any time during this season. Remember to be patient as bees and wasps rely on scent to attract them to the hotel. It may take some time for solitary bees and wasps to find and mark your house with their scents.

PLACEMENT OF YOUR BEE HOUSE

Crown Bees' houses are designed to protect from rain and wind. Think about where hole-nesting bees may have previously thrived: natural nesting sites like your backyard, near bushes in a meadow, or within a park.

- Select a location that faces the early morning sun to awaken and warm your bees.
- If summer temperatures are very hot, ensure house is in afternoon shade.
- Hang house on a sturdy wall, fence, or flat surface.
- Position the house at eye level, about 5-7 ft. (1.5-2 m) from the ground, for easy viewing and to protect the bees from pests and predators.
- Locate the house within 100 - 300 ft. (30-91 m) of a pollen source.
- If you have a bird house, position your bee house out of its line of sight.
- To protect from birds, use $\frac{3}{4}$ -1" chicken wire, creating a bubble of 2-3" from front of house. This gives the bees space to maneuver for landing and take-off.

PLACEMENT OF NESTING MATERIALS

- **Solid Wood Boards:** Large carpenter bees in the *Xylocopa* genus prefer to chew their own nesting tunnels in solid wood. Install the boards vertically along one side of the bee house. The pre-drilled hole has been drilled at an angle, ensure that this angle is pointing down. Push the boards towards the back of the bee house to protect from wind and rain.
- **Nesting tubes or reeds:** Place tubes or reeds in bee house with open ends facing out. Push some nesting tubes deeper into the house for an uneven 3D pattern. This helps the bee find her selected nesting hole – she finds her nest initially by sight and then by smell.
- **Pithy Stems:** Stems do not have a front or back end and these can be placed randomly throughout with the other nesting holes.

INVITABEE Plus+™ for Mason Bees, INVITABEE™ for Leafcutter Bees

Crown Bees developed the InvitaBee Plus+ spray to attract spring mason bees and summer leafcutter bees to your bee house. Mason bees and leafcutter bees both use their own scent pheromones to mark and find their nesting site. Research has shown that the Invitabee Plus+ for Mason Bees is attractive to any of the 350 different species of mason bees in the *Osmia* genus. Scents last for about 3 weeks after application.

- Wearing gloves, point the nozzle of the mister towards the holes and spray.
- **For Mason Bees:** do not spray until daytime temperatures are 52-55°F (11-13°C) and blooms are open.
 - 1st application: Before bees begin nesting, apply 3-5 sprays on nesting reeds or tubes.
 - 2nd application: If no bees are nesting, spray nesting reeds or tubes again. If bees are nesting, apply a few sprays to the inside walls of the bee house.
- **For Leafcutter Bees:** Leafcutter bees start to emerge when weather warms to 70°F during the day and blooms are open.
 - If you installed your bee house during leafcutter bee season and no bees are nesting yet, apply the first application of the leafcutter formula with 3-5 sprays directly on nesting reeds or tubes.
 - 2nd application: If no bees are nesting, spray 3-5 times on nesting reeds or tubes again. If bees are nesting, apply a few sprays to the inside walls of the bee house.

OBSERVE BEE NESTING ACTIVITY

Watching a hole-nesting bee approach her nesting hole is a lot of fun. Most native bees are solitary and this means that they are gentle and do not mind your presence near their house. Your bee hotel is a wonderful chance to conduct your own observations about native hole-nesting bees because we are all still getting to know our native bees. Researchers and farmers would like to know what kind of nesting materials each hole-nesting bee species likes to use, such as cut leaves, vegetation, mud, resin, plant fuzz, pebbles, or a combination. Nesting material preference is an important fact that will help us know how to take care of our native bees. Consider taking pictures or video of your wild bees and share them with Crown Bees, we will happily share your observations with our native bee enthusiasts.

HARVEST AND STORE COCOONS

Solitary bees, like any other creature, are a host to a variety of diseases and parasites. Opening nesting materials to harvest cocoons in the fall is one simple way to remove diseased and infected larvae or cocoons, which reduces or eliminates outbreaks and helps to maintain the health of your bee population. Our nesting materials are designed to be opened easily and safely and are made of natural, local materials. We do not recommend nesting materials such as drilled blocks of wood (cannot be opened or cleaned), bamboo (natural but exotic, not always opened safely), or plastic straws (unnatural and does not breathe). See our website for how to transition to natural and safer nesting materials.

Crown Bees is continuing to learn how to raise our native hole-nesting bees. We are currently seeking advice from the academic community for the best practices for harvesting and storing wild cocoons. In the meantime, check our site as updates to recommendations arrive. As always, nesting materials should be stored in a cool, dry location that is similar to, or mimics, outdoor temperatures at the end of summer when hole-nesting bee activity has stopped. Cool temperatures keep the bees' metabolism low which provides healthier bees the following season.

CONNECT TO THE NATIVE BEE NETWORK

Please consider joining the Native Bee Network (NBN), a citizen science project that connects gardeners and scientists to the needs of our native bees. Your observations will help guide us on how to raise native hole-nesting bees. Your contributions can revitalize and rehabilitate local native bee populations. The ultimate goal of the program is to find the perfect local bees for gardens and farms within that bee's natural range.

NBN is one way to learn how to identify your hotel's bees and learn from other native bee raisers in your region.

SIGN UP FOR BEEMAIL

Sign up for Crown Bee's monthly newsletter to get how-to reminders, tips for success, native bee news, program updates, and special promotions. crownbees.com/beemail

To learn more about mason and leafcutter bees visit www.crownbees.com.