



HOW TO MAKE NEST BLOCKS FOR BLUE BANDED BEES

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Australian Native Bee Research Centre
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AUSTRALIAN blue banded bees (*Amegilla*) can be encouraged to nest in small portable nest blocks. Follow these step by step instructions and make your own nest blocks for your native blue banded bees.

After five years of experimentation, I have found a simple way of making lightweight nest blocks for blue banded bees from clay and PVC downpipe. In good conditions, the bees will nest enthusiastically in these blocks and dozens of nest holes have been recorded in a single block.

These nest blocks have been used successfully by Melissa Bell during her research on blue banded bees for greenhouse tomato pollination at the University of Western Sydney - Hawkesbury (see *Aussie Bee Online* articles 2 and 9). These nest blocks were also studied by Mark Greco of the University of Western Sydney - Hawkesbury, using his amazing CT scanning technique that revealed the intricate nest tunnels built by the bees through the blocks (see *Aussie Bee Online* article 7).

Would you like to make some nest blocks for the blue banded bees that visit your garden? Here's how the nest blocks are made:



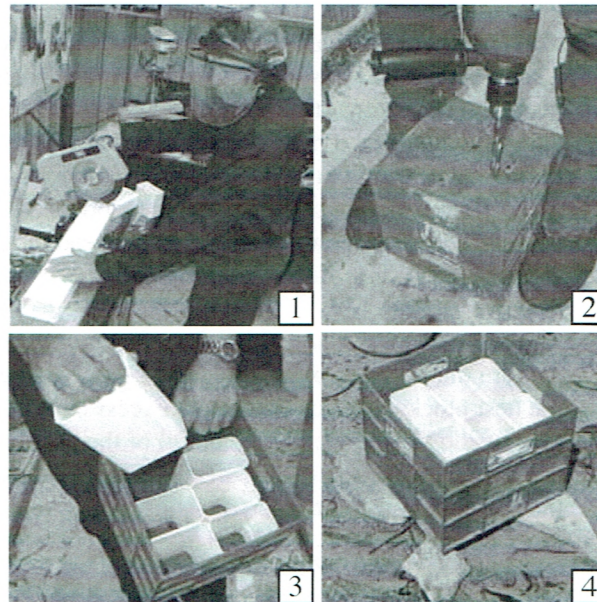
Getting Started

1 Buy some white PVC downpipe with a rectangular cross section: 10 cm x 6 cm. Cut the pipe into 14 cm long pieces with a hand saw or power saw (using appropriate protective equipment).

2 Drill drainage holes in the bottom of a 23.5 cm wide cube-shaped plastic storage box.

3 Stack six downpipe sections in the plastic box, open ends up. Wedge the pieces together snugly with scrap timber.

4 Elevate the plastic box about 3 cm above the ground with flat stones or strips of timber to allow water to drain out of the finished nest blocks.



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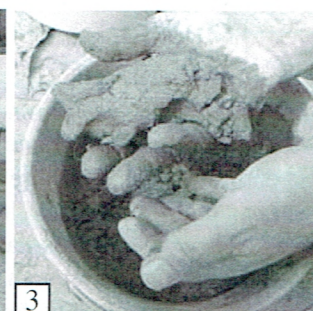
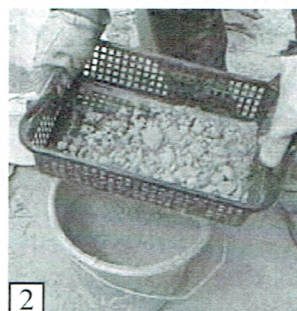
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Preparing the Clay

A fine powdery clay makes the best blue banded bee nest blocks. However, if you cannot find a natural deposit of this, you could buy some fine tennis court loam.

- 1** Dig out the required amount of clay and remove any large stones or sticks by hand.
- 2** Shake this material through a coarse sieve into a bucket to remove any pebbles, lumps and vegetable matter. A plastic storage basket made of a flat plastic mesh with 5 mm wide holes makes a suitable sieve. These can be bought cheaply at a discount shop.
- 3** Slowly add water (about a cup at a time) to a half bucket of sieved clay, blending it by hand until you get a clay mixture that can be modelled in your hand like plasticine.



Making the Nest Blocks

- 1** Fill each downpipe section in the plastic box with this mixture, up to about 10 mm from the brim. Press the mixture in gently with your fingers. Allow to dry for 1 - 2 hours until most of the water has drained out of the blocks but the mixture is still moist.
- 2** Add two starter entrance holes to each block to encourage the bees to nest. Space the two holes evenly in the centre of the block about 5 cm apart. Use a standard sized ballpoint pen to make the holes: remove the cap and push the sharp end of the pen about 10 cm into the clay. If the clay is too wet, the hole will fill up with water and you will need to redo the hole later when it dries out more.
- 3** After the blocks have dried for a few more hours, turn the plastic box on its side and gently wiggle the nest blocks out. Scrape off any excess clay from the outside of the blocks. Be careful of the back of the blocks as the clay there will still be soft. Stack the blocks and allow them to dry thoroughly.



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Setting Up the Nest Blocks

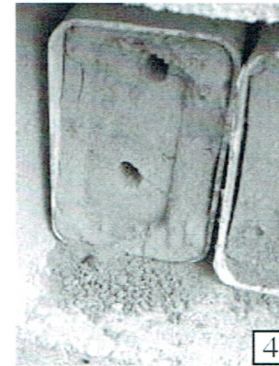
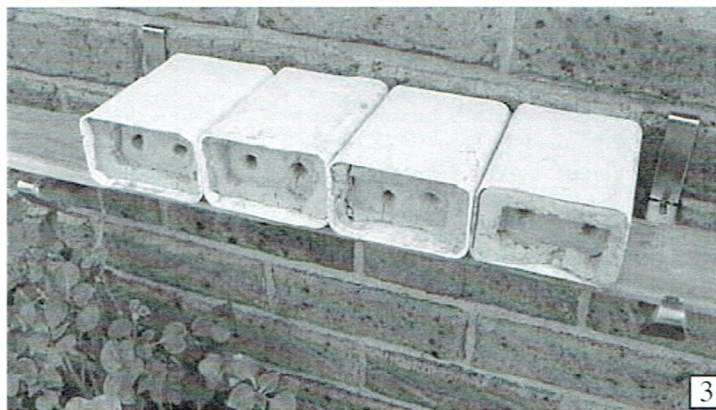
1 Position the blocks in a dry sheltered location with morning sun in an area where you normally see blue banded bees flying (eg near some flowers that they visit in the garden). Stack the blocks on a low, level, stable foundation made out of pavers or house bricks. It is best to build a small wall with the blocks in each location, about two blocks wide and ten blocks high, because these bees are attracted to the sight of multiple nest holes. Sometimes the bees may also dig nest holes in from the back of a block, if they can access that part of the block.

2 Secure a long trailing stem such as a strong piece of grass or a potted vine hanging down from the top of the blocks. If you are fortunate, the bees will choose to roost on this stem at night, and you will have a wonderful additional treat to watch. It will also encourage bees to nest in your blocks.

3 If you have blue banded bees nesting in soft mortar in brickwork in your house, you could try encouraging the bees to nest in some of these nest blocks instead. Set up some nest blocks on a support in front of the bees' holes in the mortar. Hardware shops sell screwless brackets for brick walls that can be used to mount a narrow shelf onto a brick wall. [However, note that this kind of bracket may not suit all brick types. You should place no more than a single row of five blocks on a board supported by a pair of brackets to avoid excessive weight. Always follow manufacturer's directions.]

4 A small heap of clay powder underneath a nest hole is a sign that a bee has begun to use that hole. It may take a season or two before the bees start to use a bank of blocks consistently. These blocks work better if placed close to existing nests of blue banded bees.

We hope your blue banded bees appreciate your handiwork and that you get many hours of pleasure from watching the nesting behaviour of these beautiful native bees. 



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