

MASONBEES UK

GUARDIAN NEWSLETTER

**** WINTER 2017 ****



NEW YEAR, NEW METHOD?

Up until this season, our over-winter care of bee cocoons was using refrigerated storage at a constant temperature.

New research suggests there may be a better way. It appears that bees kept at such temperatures over winter emerge with less vigour than counterparts who have experienced greater extremes of temperature during their diapause.

We know that Mason bee cocoons are capable of tolerating a large range of temperatures over the winter months, but the notion that they could require a temperature fluctuation over winter in order to develop properly is certainly quite startling.

We have now adapted our over-winter protocols, dispensing with refrigerated storage and opting to emulate natural conditions, (diurnal hibernation), as closely as possible. More information will soon be available on masonbees.co.uk.

2016: THE YEAR IN REVIEW

2016 was a perfect storm of sorts for creating one of the most traumatic times we've had in the last twelve years working with Mason bees. We started with cocoons produced in 2015, which were generally much lighter in weight than in previous seasons, which we

now believe was due to delayed development as a result of the cold summer in 2015.

Releasing these cocoons in 2016 coincided with night frosts, which slowed down emergence if the cocoons were not incubated. This meant that the already low-vigour bees were fast running out of their food reserves. Many of the bees were emerging in May rather than April, missing the key blossom period. They had little energy left after eating their way out of the cocoon; many of them flew away or didn't survive.

The bees that tried to nest appeared to do so successfully, but these were then hit by the worst parasite attack we have ever seen! The major culprits were the Kleptoparasitic Fly and Blossom Mite. The combination destroyed many of the developing cocoons; loss in many cases was as high as 80%. Virtually all Guardians who returned cocoons were affected by parasites.

Ultimately, we ended the year with our bee stocks dramatically reduced, but having once again learnt so much.

Academically, 2016 has been extremely illuminating with experts in institutions both in this country and abroad paying more attention to the Mason bee and other *Osmia* species. It feels like now real time and effort is beginning to be spent internationally on studying the Mason bee and that can only mean we're on a route to success in 2017.

TOP TIP: TIMING IS EVERYTHING!

It's vital to coincide the bees' emergence with blossom being available. We now know the time interval between bee and blossom emergence needs to be 3-5 days, not the 10-14 days we thought previously.

To help ensure that the bees emerge in this smaller window, we now recommend that cocoons be incubated prior to release at the first sight of blossom. Cocoons should be incubated in a warm room overnight and placed outside in the release box first thing in

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the morning. The bees normally emerge up to midday so it's really important to release emerged bees in the morning!

In order to make this process easier, we are developing a new version of the Release Box, which will be available for purchase in 2017. All Guardians will receive a discount code via email when the Box becomes available.

RECIPE FOR SUCCESS?

This year, our most successful producers have achieved cocoon multiplication factors of 10X and more, i.e. 10 cocoons produced for every bee released. However, many of our long-established producers have also seen their productivity fall dramatically over the last three years. We are trying to find out why!

We have produced an updated checklist for all Guardians which we hope will improve consistency of results throughout the scheme and give the best chance of success for the bees in all of your gardens. The new guidance document can be found online at our website, masonbees.co.uk.

NESTING TUBE NEWS...

We are continuing the development of the Nesting Tubes and Tube holders because we believe we have yet found the optimum design for all conditions.



We have been trialling new, longer Nesting Tubes, (and holders) which have proved to be a huge success - they are producing more, larger cocoons per tube!

In our trials, standard size Nesting Tubes have been placed in longer Nesting Tube Holders, which has produced better results than standard tubes in standard length holders. If your garden is exposed to stronger winds, for example, we believe you will get better

results with standard size Nesting tubes in a large Nesting tube holder.

We have noted over several seasons that the bees tend to nest in older, re-used tubes first, i.e. an old outer tube with a new inner. This could be due to a pheromone effect, the bees leaving a substance to indicate to the next generation that this is a safe place to nest. For this reason, we ask you to only send in the filled inners of the Nesting tubes and re-use the outer layer where possible, as this will increase your chance bees using the tubes.

WE STILL WANT YOUR TUBES

It's still not too late to send us any Nesting Tubes at the address below.

MASONBEES UK
FREEPOST RFTX - CCET - YREH
5 MELROSE DRIVE
SHREWBURY, SY2 6QS

With the very high predator loading this season, it is very important that we empty them to get rid of the parasites. If you have any filled or partly filled tubes please send them in as soon as possible.

No tubes to send back? If you have nothing to send us but would still like to stay part of the project, just let us know!

Email contact@masonbees.co.uk and we'll send you a free stock of cocoons so you can have another go next season!

Please note that we only intend to send Guardians inner tube refills as a replacement for filled tubes returned to us.

Complete Nesting Tubes and Nesting Tube outer layers are supplied upon reasonable request or by purchase from our website only.

Guardians who have sent us complete Nesting tubes will receive recycled replacement Nesting tubes in return this year.