

# Effective pollination with bumblebees

## How to use your Bumblebee Box Hives

### INTRODUCTION

Many garden fruit and vegetable crops such as tomato, sweet bell pepper, aubergine, courgette, strawberry and melon depend on insects (e.g. bumblebees) for the transfer of pollen. Without effective pollination, they cannot develop properly and sometimes do not develop at all – especially those grown in a greenhouse.

Bumblebees can ensure highly effective pollination, which leads to higher quality produce, higher yield, and bigger and better shaped fruits and vegetables. Furthermore, good pollination can help fruits to ripen faster.

To let bumblebees do their work as effectively as possible, it is important that you deal with them in the right way; after all, you are dealing with fragile living creatures! By following this guide, you can preserve the quality of the bumblebees and ensure the highest possible effectiveness.

One indoor Bumblebee box hive will cover 800-1000m<sup>2</sup> – meaning that one box is likely to be sufficient for most greenhouses. Outdoor boxes will cover up to 1500m<sup>2</sup>. Ideally, introduce bumblebee boxes 4-7 days before the flowering period begins.



# HOW TO USE YOUR BUMBLEBEE BOX

## Indoor and Outdoor

### STEP ONE

#### Check and Prepare

- a) Read this guide fully before placing your bumblebee box.
- b) Check for activity when you first receive the box. In the unlikely event your bees are inactive, please report to us by calling 01522 246491. There should be no more than three dead bumblebees inside the hive.
- c) Bumblebee boxes will have a natural odour of pollen, sugar water and the bumblebees themselves.
- d) The cotton inside should be white and clean – however some pollen on the cotton is normal and should be expected. There should not be too many holes in the cotton. However, if you do see multiple holes, this may indicate transit damage – please contact us in this instance on 01522 246491.
- e) Introduce the bumblebees as soon as possible but always within 18 hours of receipt. If you cannot use them straight away, make sure you store the product in a horizontal position. This is because the product contains sugar water and keeping it in a horizontal position will prevent it from leaking. Also store it in a dark room at a temperature of 15 - 22°C and ensure good ventilation of the storage room to prevent high CO2 concentrations.
- f) Manually remove any flowering weeds in the garden to avoid the bees becoming distracted by these instead of your crops.
- g) Make sure that the entrances to the bumblebee hives are clearly visible to the bumblebees and to you – do not place the hive so that the exits and entrances are facing a wall or are hidden.
- d) It is advisable to place the boxes near crops, but also in or close to pathways – either between lines of crops in a greenhouse, or on a pathway between plants in a garden – i.e., not hidden among plants.
- e) Always place bumblebee box hives horizontally because of the sugar water they contain. This will prevent the sugar water from leaking.
- f) If you already have honeybee hives, keep the bumblebee box 100m away from honeybee hives. Although they will happily coexist, the separation is necessary to prevent the honeybees from being attracted to the sugar water inside the hive.
- g) Do not place the box in direct sunlight – ensure sufficient shade, ideally in the shadow of the crop / plant, or create some shade yourself using other materials.
- h) Make sure the undersides of outdoor boxes are kept dry – ideally by placing them on a crate or stack of stones for example. They do not need to be a specific height from the ground, but it is advisable to ensure they are out of reach of curious children or pets so that there is no risk of knocking the box.
- i) Choose a location that is sheltered and free from strong winds or secure the box using weights / placing a stone on top of the box.
- j) Protect indoor greenhouse bumblebee boxes from condensation and rainwater to prevent damage.
- k) Be mindful of high temperatures in greenhouses in summer months. Avoid overheating the hive in the summer when glasshouse heat can be intense – the ideal flight temperature for a bumblebee is between 10°C and 30°C. If temperatures do get very high, bring the hives lower down into the crop so that as little sunlight as possible reaches the hives. Always place hives in the shaded side of the greenhouse and never place them near heat sources. Note that bumblebees will become less active when temperatures are above 28°C.

### STEP TWO

#### Placement Choice

- a) Bumblebees orient themselves by sight. Therefore, place the bumblebee hive(s) in a highly visible location so they can easily find their way back. This applies to outdoor and indoor placement.
- b) It is important that there is sufficient contrast between the hive and its surroundings so that bumblebees can distinguish the hives. As our bumblebee boxes are yellow, avoid placing them against a yellow background.





## STEP THREE

### Activation

- a) Bumblebees rarely sting, but it is always best to be prepared. Although you should leave the hive alone once set up, it is wise to wear protective clothing while setting it up and opening the box. This should include a beekeeper's hat with a net veil, and a protective jacket and gloves.
- b) Once you have chosen the perfect position for your hive, let the bees calm down. Wait 30 minutes before opening the hive doors. When you open the doors, bumblebees should actively emerge. The queen is often hidden below the cotton.
- c) Give them the space to do their job and try not to interact with them or touch the hive once it is set up unless you are repositioning it.

## STEP FOUR

### On-going Maintenance

- a) Do not use pesticides or other chemicals anywhere near the hive.
- b) The hive is equipped with enough food to support the performance of the bees for their natural lifecycle under normal conditions. However, a shortage of pollen can have a negative influence on the bumblebees and their ability to pollinate. If you do notice a shortage of available pollen in the landscape, you will need to feed the bees manually using additional pollen which can be bought with your hive or from the Agrigem website.
- c) Simply fill a cup with 55ml of pollen, open the box and sprinkle it through the grid in one corner of the box, ensuring no pollen is left on the grid
- d) Ensure your bumblebee box is not disturbed and interaction is kept to an absolute minimum.
- e) When the hive empties at the end of the season, please recycle it responsibly.

## QUESTIONS?

If you have any questions, please get in touch with our technical team:

 **01522 246491**

Or complete the form on our website.



## PROFESSIONAL HORTICULTURAL USE

Please contact our specialist technical team if you are using bumblebee box hives for the first time in a professional horticultural capacity.

 **01522 246491**