

## Management of Bumblebees

Several studies have proven the effectiveness of the bumblebee as a blueberry pollinator. However, when talking to producers, some questions are frequently asked. In order to simplify and clarify the use and management of bumblebees as pollinators, I am pleased to offer the answers to these questions as well as some recommendations. My team and I conducted studies and field observations, which we'd like to share with you.



### How high should the colonies be placed in relation to the ground?

The colonies can be placed directly on the ground. In the case of blueberries, for which pollination is done early, the colonies can be placed on a wooden pallet, but this is not absolutely necessary. Boxes should not be placed in a low lying area where water could accumulate. Results of our studies indicate similar activity levels at heights up to 32 inches. Note that our studies were conducted at a maximum height of 32 inches.

### In what direction should the box openings be oriented?

No studies recommend any particular orientation. However, preliminary results suggest that activity is greater when the colonies are positioned in an east-west orientation; an east-west orientation is therefore preferred.

### How do I assess the activity of the colony?

Activity should be assessed between 10:30 a.m. and 3 p.m., when temperature is equal to or greater than 15°C and the winds are less than 20 km/h. Note the number of bumblebee entries in a colony over a period of three minutes; do this three times for each colony. Then, calculate the average of the three data obtained and divide by three to get the number of entries per minute. An average of 0.5 entry per minute a few days after the introduction to the field is acceptable. Activity should increase the following weeks. We noted a decrease in activity when temperature exceeds 26°C; the bumblebees must cool the colony.

### Can my colonies be placed in the blueberry field before the blooming period?

From our observations in blueberry fields, it is possible to introduce bumblebees in the fields up to one week before blooming occurs, if there are some wild flowers nearby. If blooming of blueberry flowers is slow, bumblebees particularly enjoy dandelions, chokecherry trees, etc.

### What should I do if my colonies are delivered before the blooming period?

It is preferable to receive the colonies early. This allows the producer to have complete control over the time of introduction to the production site. In this situation, it is possible to take advantage of the extra time to strengthen the bumblebees by placing them in proximity to wild flowers. Once flowers account for 5% of your production site, you can introduce bumblebees following the procedure for moving colonies.

### Is there anything I should avoid doing when I receive my colonies before the blooming period in my production field?

Keeping the bumblebees in a cool, dark storage area for a few days while waiting for the blooming period will not harm them. However, there are no advantages to doing so compared to the two aforementioned options, i.e. introduce them to the production field directly or to a wild flower field.

### How do I go about moving my colonies?

It is easy to move the colonies; in the evening, simply place the door in the "in only" position and wait 36 to 48 hours. Then, move the door back to the closed position. Thereafter, the colonies can be moved and the door placed back in the "in/out" position. It is important that there be two consecutive sunny days during the 36 to 48-hour waiting period.

