

Using native bees as pollinators in Berries

Steve Maginnity, The Australian Native Bee Company

- The focus of this article is on the use of native bees in berry crops on the Mid North Coast of NSW
- The article highlights the key things to consider when using native bees

My name is Steve Maginnity and I am the owner of The Australian Native Bee Company. We have been operating a pollination service utilising the native bee species *Tetragonula carbonaria* for several years. The crops of focus for pollination with our bees are Macadamia, Blueberry, Blackberries and Raspberries.



Native bee species *Tetragonula carbonaria*

Photo credit: The Australian Native Bee Company

Hive placement

When positioning hives it is important to face them in a North East direction to take advantage of the morning sun. The sooner the ambient temperature gets above 18 degrees Celsius the sooner the bees will begin foraging.

Stocking density

Stocking density is critical to the efficacy of pollination. Where native bees are being used in conjunction with honeybees, growers have been using approximately 20 native bee hives to the hectare. This number will increase if only native bees are being used in the crop.

Tunnels

Tunnel length can impact pollination results. Native bees have a preference to work the ends of the tunnels and are found in smaller numbers in the centre of tunnels.

The proximity to the tunnels is another factor to consider. Hives should be placed close to the tunnels but at far enough of a distance to avoid chemical spray drift where possible.

Chemical usage and application

Non-specific insecticides should not be used while native bees are foraging on the crop.



Figure 1. Blueberry tunnels showing placement of native bee hives.

Photo credit: The Australian Native Bee Company

Timing and type of chemicals used in the crop is crucial for the health of native bees. Not all fungicides are safe to use whilst bees are present, and it is important to read the safety data sheet for the chemical to determine if it is safe to use whilst bees are present.

Night time spraying AFTER the bees have finished foraging for the day is best practice. Morning spraying can mean that the chemical can still be wet on the plant when bees start foraging, hence is not ideal. Native bees do not like to forage on the crop when they can sense some chemicals and may avoid the crop for a period of time after application. Agronomists and beekeepers should also be consulted to work out the best chemicals to use whilst bees are present.

Monitoring bee activity

Native bees have different flight patterns to European honey bees. Native bees like to fly through the crop rather than above it. Native bees - on average - forage on individual flowers for significantly longer than European honeybees.

Contracts

Contracts between beekeepers and growers help ensure the best result for both parties. Better pollination is the goal for both the grower and the beekeeper so it is important that they work together to achieve the best results.