Bee Alert

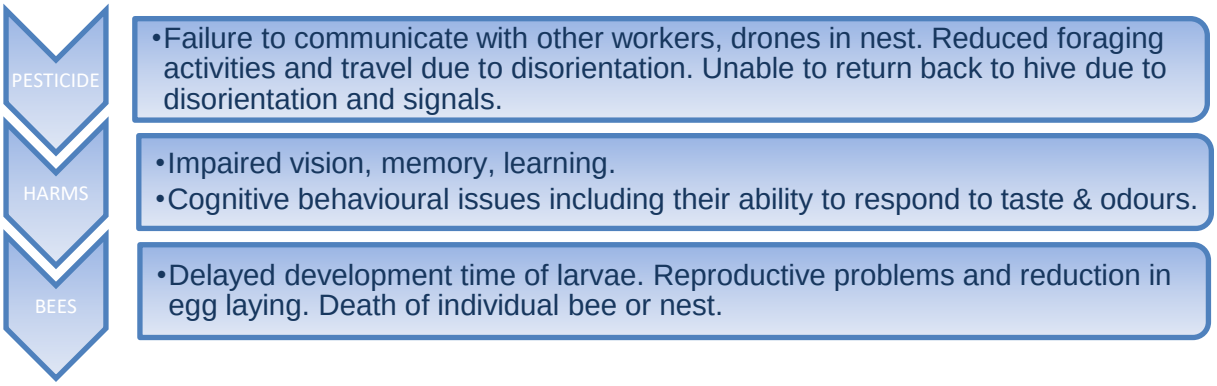
Pesticides and Spraying

The two types of pesticides that can be most harmful to native bees are SYSTEMIC and CONTACT insecticides. Systemic insecticides are designed to be taken up by plant tissue and are widely used in seed crops. As the plants develop and grow, the insecticide plays its role and spreads throughout all parts of the plants, so the plant will become toxic to any insects that land on, gnaw, chew, suck, touch or ingest it. Systemic insecticides can directly affect the central nervous system of native bees.

Among the chemicals that are dangerous to native bees are those brands with neonicotinoids. These are nicotine-derived pesticides and, although banned in states of America, they are still widely used in Australia. The chemical constituents (Imidacloprid, Clothianidin, Thiamethoxam) all have the ability to attack the central nervous system of insects and have also been reported to cause Colony Collapse Disorder (CCD) in honey bees.

With contact insecticides, native bees are vulnerable to plants that have treated surfaces. This can occur through direct spraying, spray drift and also from ingestion of poison from pollen or nectar sources. It is important in any situation where spraying pesticides is involved, to give some thought to what pesticide you use, how toxic is it to yourself and how toxic is it to native bees.

Poisoning what happens to the bees?



Reducing the Risk to Native Bees

Native stingless bees will fly in a peripheral zone of up to 500sqm if nectar or pollen sources are unavailable in their immediate area. Prior to spraying it is essential that you know exactly what is going on around your environment and within this range. Poison is toxic to bees and symptoms of poisoning can show up early in a hive. Even just one poisoned bee can contaminate an entire hive through transfer.

If spraying is unavoidable, then the best times to spray are prior to any flowering of plants or following flowering. While this may not always be possible, the next best time to spray chemicals is early in the morning, or late evening and on a cloudy day prior to any bee activity or foraging commencing. This will also be dependent upon the season and temperature. Spraying should occur when the stomates on the leaves of the plant are fully open and the plant can absorb all of the chemicals, and the leaves can dry before native bee foraging commences, although it should be noted that chemical absorption by bees can still occur after 2 days.

For contractors, development of an ”Integrated Pest Management” program (IPM) will ensure the bees get the best chance of survival. This can include a seasonal spraying calendar for the particular crops, weeds or pastures you will be spraying. Only spray the weeds in bushland when plants are not actively flowering. Developing an IPM will help you discover what the safety precautions and constituents are in the chemicals of choice for your particular program. It will also ensure that chemical cocktails and the variable surfactants that are used will be identified as bee safe or bee dangerous. Understand the risk posed to bees by chemicals, read the label and instructions, and consider how toxic the chemical is to bees.

Bee Safe Practices

PESTICIDE HARMS BEES

- Use bee safe chemicals....check the weather....use an anenometer to measure the wind speed and direction. Spray in appropriate conditions to avoid spray drift. Prior to spraying check to ensure property owners are "Spray Aware".
- Tell your neighbours that you have bee hives, ask them to let you know when they are spraying so you can move your hives into a buffer zone or lock them up and provide protective covering.
- Inspect area for bee activity prior to spraying - are bees present.
- DO NOT SPRAY plants that have bees foraging on pollen & nectar sources.