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European wasps in orchards

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Distribution

The European wasp, *Vespula germanica*, is a native of Europe, North Africa and Asia but is now found throughout the world, including Canada, the United States of America, South Africa, Argentina, Chile and New Zealand. Human assisted transport of hibernating Queens in packaging material and other items contributed to this spread. The European wasp was first found in Tasmania in 1959 and on the mainland near Melbourne in 1977. The European wasp is now widespread in Australia and is an established pest in New South Wales.

Pest identification

European wasps have a black and yellow body, triangular markings on the abdomen, yellow legs and black antennae (Figure 1). They have clear wings and fly with their legs held close to their body. Worker wasps are about 15 mm long (similar to the size of a bee), Queens are usually larger but not often seen.

Figure 1. A European wasp.

European wasps live in large communal nests (Figure 2 and Figure 3), of which only the entrance hole may be visible. These nests will often be either underground or in cavities in walls, logs or trees. The worker wasps leave the nest to search for food and are attracted to meats, sweet food and drink.

Figure 2. A European wasp nest, external view.

Figure 3. A European wasp nest, internal view.

European wasp life cycle

Winter

Cold weather typically kills the worker population, although in milder climates the entire nest can survive the winter. Mated queens overwinter alone in protected sites such as wood heaps, under bark, in clothing left outside or buildings e.g. sheds and garages.

Spring

The Queen leaves the protected site once daytime temperatures exceed 12 °C, seeking a nest location and sugary food sources; they love apples. Queens lay eggs and raise the first worker population for the season.

Summer

Hive population increases. Once the queen has produced many worker wasps she remains in the hive. By mid-December, worker numbers grow rapidly and the wasps seek out protein-rich foods. Worker numbers peak in late summer and autumn, making this the key time for non-repellent fipronil baiting.

Autumn

As the weather cools, hive activity slows. New Queens mate and prepare to leave the hive and seek shelter over winter. In autumn the queen lays eggs for the next generation of queens. Once hatched most queens leave the nest, mate and hibernate until spring.

Nuisance pest

European wasps are scavengers and are attracted to sweet foods and meat. They are commonly a nuisance at outdoor eating venues and barbeques.

In orchards, European wasps are most likely to become an OHS risk when pickers disturb them whilst they are feeding on ripening fruit.

The European wasp is not aggressive to humans or other animals if left alone. However, if disturbed, individual European wasps can sting multiple times and if nests are threatened the wasps release a chemical triggering the colony to attack. For nest removal, call a pest controller.

Actions to minimise risk

To discourage wasps:

- Do not leave fallen fruit or food scraps lying around your property
- Avoid leaving uneaten pet food or dog bones outside
- Ensure rubbish bins have tight-fitting lids
- Always keep compost covered
- Keep your swimming pool covered when not in use
- Cover exposed food at picnics and barbeques
- Check drink cans or bottles before drinking from them. Use clear containers or a straw.

Fipronil baiting

APVMA permit PER86492 (expires 23 September 2023) outlines requirements to treat European wasps in NSW with the active ingredient of 100 g/L non-repellent fipronil. For best results, follow the procedure below:

1. Start with a non-poisoned tin of 85 g cat food. European wasps are more attracted to seafood or sardine cat foods.
2. Place non-poisoned cat food into an EnvironSafe™ fly trap (available at retail outlets such as Bunnings) and install the traps following permit instructions.
3. Ensure traps are less than 150 m apart. European wasps have been sighted up to 500 m from their hive but prefer to forage within 100–150 m.
4. Monitor until 3–5 wasps are feeding during the warmest part of the day. European wasps smell food on other wasps returning to the nest and follow their co-workers back to the food source.
5. European wasps will generally eat the bait and fly back to the nest to feed the queen and larvae.
6. Once 3–5 wasps are identified feeding on non-poisoned baits and there is no risk to native or non-target pests, remove non-poisoned cat food.
7. Replace non-poisoned bait with a poisoned bait by adding 3–4 drops 100 g/L non-repellent fipronil to 85 g of cat food (17.5 mg fipronil) and reinstalling into the EnvironSafe™ fly trap.
8. If more than 4 drops are used the European wasps will die before returning to the nest and will therefore not kill the remaining wasps in the nest.
9. When the returning worker returns to the nest and dies from ingesting fipronil, they are cannibalised and this is how the rest of

the nest is poisoned.

10. Allow three days to a week for the nest to be killed.
11. At the finish of the baiting program all poisoned baits are to be buried 500 mm below ground and containers disposed of at an approved management facility.
12. Records required as per APVMA PER86492 include:
    - date and location of bait placement
    - amount of product used
    - names and address of persons undertaking use
    - pre-baiting non-target monitoring and observations.

Warning: the chemical Fipronil is highly toxic to bees and can cause significant losses if taken back to the hive. Closely observe bait stations during the free feeding period and DO NOT add Fipronil to the bait if bees are visiting the station.

First aid

If stung by a European wasp apply ice or cold pack to reduce swelling. Stings to the face or neck, or multiple stings can cause severe swelling or allergic reaction. Seek immediate medical advice or **Call 000 in an emergency**.

If poisoning occurs contact a doctor or call the **Poisons Information Centre 13 11 26**.

Acknowledgements

Browne B and Englefield A. 2018. European wasp pilot control program 2018-19. Primefact 1660, first edition, NSW DPI.

Plant Biosecurity and Product Integrity. 2015. European wasp. Primefact 1370, second edition, NSW DPI.

Reference number: PUB20/269.