

European wasp pilot control program

Bruce Browne; NSW DPI Farm Chemicals Officer
Adrian Englefield; NSW DPI Development Officer – Viticulture
Darren Fahey; NSW DPI Development Officer – Viticulture

In September 2018, the Australian Pesticides and Veterinary Medicines Authority (APVMA) approved a permit ([PER86492](#)) for controlling European wasps in orchards, vineyards and berry farms with the active ingredient non-repellent fipronil (100 g/L).

European wasp identification

European wasps (Figure 51) are identified by:

- black and yellow body
- yellow legs
- triangular markings on the abdomen
- black antennae



Figure 51. European wasp.

Vineyard and cellar door pests

European wasps are scavengers. Attracted to meat and sweet foods (including grapes), they are commonly a nuisance around winery cellar doors and vineyards as berry-sugar increases.

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, which triggers the colony to attack.

European wasp life cycle

Winter: cold weather kills worker wasps. Mated queens overwinter alone in protected sights including wood heaps, under bark, in clothing left outside and buildings such as sheds and garages.

Spring: the queen leaves the protected site once daytime temperatures exceed 12 °C, seeking a nest location and sugary-food sources. Queens lay eggs and raise the first worker population for the season.

Summer: hive population increases. Once the queen has produced a number of workers she remains in the hive. By mid-December, numbers start to increase rapidly, peaking in late summer and autumn. This is 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.

Reducing risk

To discourage European wasps from your property:

- avoid leaving fallen fruit or food scraps exposed
- avoid leaving uneaten pet food outside or in locations where wasps can feed
- ensure rubbish bins are sealed
- keep compost covered at all times
- cover exposed food at barbeques and outdoor events
- check drink cans or bottles before drinking and use clear containers.

Fipronil baiting

APVMA permit [PER86492](#), valid from 14 September 2018 to 30 September 2023, outlines the requirements for controlling European wasps in NSW with the active ingredient 100 g/L non-repellent fipronil.

Baiting technique

1. Start with 85 g of non-poisoned bait. This can be a non-oily cat food or ground liver
2. Place non-poisoned bait 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. European wasps will generally collect the bait and fly back to feed the nest
5. Monitor traps until 3–5 wasps are feeding during the warmest part of the day. The wasps will smell food on other wasps returning to the nest and follow their co-workers back to the food source
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 bait
7. Replace the non-poisoned bait with a poisoned bait by adding 3–4 drops of the 100 g/L non-repellent fipronil to the 85 g of bait (17.5 mg fipronil; Figure 52) and reinstall 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
9. When the worker wasp returns to the nest with poisoned bait, it passes the bait to both wasps and larvae
10. Allow 3–7 days for the nest to be killed.

Warning: fipronil is highly toxic to bees. However, bees only source plant-based foods and are not attracted to meat-based products.

End of the baiting program

At the finish of the baiting program all poisoned baits are to be buried 500 mm below ground and containers must be taken to an approved management facility for appropriate disposal.

Record keeping

Records required as per APVMA [PER86492](#) include:

- date and location of bait placement
- amount of product used
- name and address of person doing the baiting
- pre-baiting non-target monitoring and observations.

First aid

If someone is stung by a European wasp, apply ice or a 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 emergency situation.

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

Baiting trial

Funded by the NSW DPI Viticulture Skills Development Program 2015–19, members of the NSW DPI Biosecurity team conducted a pilot baiting program on ten vineyard and orchard sites in the Orange region, including the NSW DPI sponsored Food Week Forage site.

Early baiting results from the trial sites in November–December revealed the wasps were avoiding the baits containing cat food, possibly because of the vegetable oil in the product; therefore, the trials on the vineyard sites were paused.

An amendment to the permit was sought and approved by the APVMA to introduce ground liver as the protein source. This was highly successful with wasps eradicated at the monitoring site on the Orange Agricultural Institute.

In February 2019, non-poisoned sheep liver baits were re-hung at the ten vineyard sites, checked and replaced with poisoned baits if wasps were present. Wasp numbers declined to zero within two weeks or less in every site where poisoned baits were placed.

As grape berry sugar increased and harvest started in the Orange region, baiting continued as required. The traps were removed and discarded at the start of April.

This pilot trial showed that fipronil, when used as per instructions in [PER86492](#), reduced European wasp numbers at vineyard trial sites and at a food and wine event involving approximately 1,500 members of the public.



Figure 52. Cat food tins with four drops of fipronil, ready to be distributed at the trial sites.



PERMIT TO ALLOW MINOR USE OF AN AGVET CHEMICAL PRODUCT

**FOR CONTROL OF EUROPEAN WASPS IN ORCHARDS, VINEYARDS AND
BERRY FARMS**

PERMIT NUMBER – PER86492

This permit is issued to the Permit Holder in response to an application granted by the APVMA under section 112 of the Agvet Codes of the jurisdictions set out below. This permit allows a person, as stipulated below, to use the product in the manner specified in this permit in the designated jurisdictions. This permit also allows any person to claim that the product can be used in the manner specified in this permit.

THIS PERMIT IS IN FORCE FROM 14 SEPTEMBER 2018 to 30 SEPTEMBER 2023

Permit Holder:

NSW DEPARTMENT OF PRIMARY INDUSTRIES
161 Kite Street
ORANGE NSW 2800

Persons who can use the product under this permit:

Government and council employees, farmers and their employees, apiarists, and pest control operators who are suitably qualified and are experienced in the application of agricultural chemicals.

CONDITIONS OF USE

Product to be used:

An UNREGISTERED BAIT prepared by applying 3-4 drops of MONARCH 100 INSECTICIDE [APVMA No. 84558] or another registered liquid concentrate product containing 100 g/L FIPRONIL as the only active constituent to an 85 g can of prepared cat food (seafood or ground liver) and mixed thoroughly prior to placement into suitable trap/feeding device. Bait to contain: 0.23 g/kg FIPRONIL as its only active constituent.

Directions for Use:

Situation	Insect Pest	Application Rate
ORCHARDS, VINEYARDS AND BERRY FARMS	EUROPEAN WASP (<i>Vespula germanica</i>) COMMON WASP (<i>Vespula vulgaris</i>)	Apply 3 – 4 drops of fipronil product (≈17.5 mg fipronil) to 85 g of prepared bait (contained in pet food can) per bait station

Critical Use Comments:

- Monitor European wasp population by free-feeding with non-toxic bait prior to baiting with toxicant.
- Substitute non-toxic bait with toxic bait when baits constantly attract 3 - 5 European wasps feeding during the warmer part of the day. Toxic bait must only be used when monitoring indicates that non-target insects are not feeding on the bait substrate.
- DO NOT use toxic bait if non-target species are observed feeding on untreated bait substrate.
- Contain bait in suitable trap/feeding device¹ and label the trap in accordance with the label contained as Attachment 1.

Jurisdiction:

ALL STATES

Additional Conditions:

Selection of Baiting Sites:

Pre-bait with non-toxic bait before using fipronil treated baits (toxic baits). Baiting with toxic baits can only be carried out if non-toxic baits constantly attract 3 - 5 European wasps feeding during the warmer part of the day. Pre-baiting establishes European wasp foraging pattern and will also determine if native species are at risk. If native species are at risk, treated bait must not be used until a location can be found that precludes native species.

Preparation and Storage of Baits:

The bait must be prepared in the open or in a well-ventilated area wearing appropriate PPE as required on the approved product label. Wear PVC gloves when handling and placing the prepared baits into traps. Wash hands after use.

1. Commercially available fly trap marketed by EnvironSafe™ will be modified to contain the fipronil bait. Wasps will be able to access treated bait via holes (approx. 23 mm diameter) formed on adjacent sides of the trap body. The small size of the holes will exclude access to treated bait by birds and other large non-target species.

Bait Stations:

Bait stations must be used and labelled with the label as contained in Attachment 1. Suspend the bait station using string or other material at a minimum 1.5 m above the ground and in areas out of reach of children and animals. Keep baits free of ant infestation (e.g. apply sticky barrier where practicable). If ants are observed during the non-toxic baiting period relocate bait station to another location.

Completion of Baiting Program:

Upon completion of the baiting program, bait must not be left in any bait station. All users must ensure removal of any remaining bait and bait stations following cessation of the baiting program. Dispose of remaining toxic bait in accordance with the labels at Attachments 1.

Record keeping:

Users of fipronil treated baits are required to maintain records of all treatments performed under this permit. Specifically details must include the date and locations where baits were placed, total amount of product used and the names and addresses of the persons undertaking the use. Details must also be recorded for the pre-baiting non-target monitoring including non-target observations. These details must be maintained for a minimum period of two years from the date of expiry of this permit and must be made available to the APVMA upon request.

Issued by the Australian Pesticides and Veterinary Medicines Authority

Note:

04/10/2018. Apiarists included under persons who can use the product under this permit. Issued as version 2.

12/02/2019. Jurisdiction amended to include all states. *Vespula vulgaris* (common wasp) added to permit.

Issued as version 3.

Attachment 1 – Label for bait station

Caution
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTION BEFORE OPENING AND USING

EUROPEAN WASP BAIT

Active ingredient: 0.23 g fipronil / kg bait substrate

This product is not registered

APVMA Permit PER86492

DO NOT HANDLE OR DISTURB THIS BAIT STATION

First Aid:
If poisoning occurs, contact a doctor or Poisons Information Centre 131 126.

Safety Directions:
May irritate the eyes and skin. Avoid contact with eyes and skin. Wear PVC gloves when handling and placing fipronil treated bait into traps. Wash gloves and hands after use.

Storage and Disposal:
Dispose of unused treated baits by burial at least 50 cm below ground.

Contact Officer Name:
Address:

Telephone:

PER86492: for control of European wasps in orchards, vineyards and berry farms