



Gardennote

Argentine ants

By Peter Davis and Marc Widmer, Entomology



Argentine ant workers feeding with queen.

(Insert) Argentine ant workers tending the larger queen

Argentine ants, *Linepithema humile*, are a major cosmopolitan pest ant species. Although they can be a horticultural pest, Argentine ants are primarily a suburban pest and will often enter houses searching for food and moisture. This Gardennote describes ways to identify Argentine ants, discusses their biology, and advises on effective control procedures. Control procedures outlined here are specific to Argentine ants and may not be appropriate for other ant species. Therefore, it is wise to have pest ants identified before attempting control as this can save time and money. The Department of Agriculture and Food offers this free service – see 'Identification Service' below.

Description

Argentine ants are very ordinary-looking, small brown ants. They are small and slender, 2.6 to 3.2 mm long, and are uniform dark brown in colour. The worker ants are uniform in shape and size and move in well defined trails. They have a slight greasy, musty odour when crushed. Argentine

ants do not possess a sting but will bite readily, although the bite is not painful.

As the name suggests, Argentine ants originate from South America and were first recorded in Western Australia in 1941; initially in Albany and then in Perth. Argentine ants have also spread to many other regions of the world including the USA, South Africa and Europe, particularly between the 30° and 36° latitudes (north and south). The Department of Agriculture and Food, Western Australia, was involved in a long-running campaign to eradicate Argentine ants in Western Australia until 1988, when the campaign was terminated because of concerns with the broad-scale use of insecticides. Many new infestations have since been discovered in metropolitan Perth and also in country locations.

Biology

Argentine ants have a social structure in which there are numerous queens in each nest, and their nests are interconnected through an interchange

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of workers and queens. New colonies are formed by budding whereby one or more queens with attendant workers leave an existing nest and walk to a nearby location. While Argentine ant queens do initially possess wings these are lost and new colonies are not established by queens flying to a new location. An entire infestation covering many hectares operates as a single colony with many nests.

Their food preference is the sugary honeydew produced by aphids, mealy bugs and scale insects. Heavy trails of Argentine ants are often seen on the trunks of trees and shrubs. This is economically significant in horticulture as it encourages heavy populations of these plant pests to develop. Argentine ants feed on a wide variety of foods, including sweet drinks, cakes, pet food, meat and dead insects. The queens can live for several years, and compared to other ant species, individual workers are long-lived too, surviving for 10 to 12 months. These features contribute to Argentine ant infestations maintaining high populations.

Symptoms

Continuous well-defined trails (sometimes more than three ants wide) of slow-moving, small brown ants of uniform size are often evidence of an Argentine ant infestation. The ants will often readily climb onto a person's hand when it is placed in their trail. Many other ant species will not do this.

Argentine ants are typically confined to urban areas and they nest outside buildings, at the base of trees or in the tree itself, along the edges of paths and in lawns and garden beds. They will thrive in swamps and low-lying areas where moisture is plentiful.

Populations peak from January to June, and they can be very invasive, coming indoors in large numbers in their search for food and moisture.

These ants are ecological pests. They attack nesting birds, hatching eggs and other native fauna. Argentine ants will quickly eliminate other ants from an infested area; especially native ants which play an important role in the ecosystem. They will rob commercial beehives and are significant pests in orchards and sometimes larger farms. There can be a significant cost to the community in their control, which is normally difficult, since it involves the ongoing and repetitive use of residual, contact insecticides.

Treatment

Argentine ants remain the most difficult common pest ant in Western Australia to control. Once cleared from an area, Argentine ants can quickly re-colonise it from untreated neighbouring properties. This can occur within two weeks.

Argentine ants nest outdoors, but if ants are foraging inside the building there are two broad strategies to keep them outside – physical or chemical exclusion preventing foraging ants from gaining entry to a building.

Physical Exclusion: Sealing the cracks and crevices through which they are entering.

Argentine ants are resourceful, however, and are likely to find alternative routes which will require similar treatment.

Chemical Exclusion: An insecticide barrier can be sprayed around the entire outside perimeter of the house, including doorways and window sills. Spray 0.5 m up the outside walls and 0.5 m out from the walls. Synthetic pyrethroid insecticide sprays (for example, permethrin, cypermethrin, bifenthrin, deltamethrin and cyfluthrin) are available under a variety of trade names. Read the labels to determine the active ingredient. These chemicals are repellent and have reduced toxicity to humans and pets. They are ideal for use as barriers and are available from garden centres and hardware stores.

Attention needs to be paid to situations which could allow the ants to bypass the barrier, for example, foliage in contact with the building or additions to the building (patios, pergolas) which could provide an alternative route.

The other strategy, in severe infestations, is to reduce the Argentine ant population using insecticide spray treatments. With Argentine ants, it is usually necessary to treat an entire urban block. Before commencing the treatment, you should first survey the area and obtain an overall perspective of the situation, marking nests and other areas of high activity.

Argentine Ant Population Control: A thorough treatment will involve spraying the outer perimeter of the block along fence lines to prevent the migration of ants into the treated area from neighbouring properties. Then spray around the outer perimeter of the building for half a metre up the foundations/walls and half a metre out from the foundations.

The following areas also require treatment:

- All nests and ant trails
- Edges of paths and driveways
- Garden beds adjacent to the building
- Butts of all trees and large shrubs
- Areas around rubbish bins and taps, to isolate the ants from these food/water sources.

Where necessary, open areas, such as lawns and paving, can be treated in a grid pattern by laying down lines of spray, 100 mm wide, approximately 1 m apart at right angles to each other.

At the time of treatment, ground surfaces should be dry. Avoid watering of the treated areas for at

least 24 hours after treatment. Rainfall or watering of treated surfaces before this time will reduce the effectiveness of the treatment by dilution and through increased volatilisation of the insecticide.

Before spraying, children's toys, clothes on the line and items such as pet food or drink containers should be removed from the area.

Spray only when wind conditions are calm.

Children and pets should be excluded from the sprayed area until the treatment is thoroughly dry.

Insecticide sprays can be toxic to fish and aquatic invertebrates, so take care not to contaminate ponds and waterways. Read the label on the insecticide carefully.

When spraying ants, note that only a small percentage of the population is outside the nest at any one time and therefore only a small number are killed directly. Further deaths of ants occur as the food/water requirements of the colony increase and the ants are forced to forage while the insecticide residues remain at lethal levels. However, the ants' ability to bounce back from a spray application is high, and often a second treatment is required two to four weeks after the initial one.

Spot treatments of resurgent activity after these initial broad-scale treatments, as required, will substantially increase the period over which the ants are kept under control.

A greater level of control is achieved with insecticides of lower repellency to the ants, because the ants are more likely to continue to forage and come into contact with the residues, instead of avoiding them. These insecticides have the active ingredients chlorpyrifos or bendiocarb (not available in home pack size). These sprays are mixed with water and applied using a pump-up garden sprayer.

Chemicals registered for ant control can be purchased from agricultural chemical dealers (see yellow pages under 'Chemicals – Agricultural'), and also from garden centres and hardware stores. Most management practices are conducted in summer and autumn when populations peak. Always follow label instructions. More effective and lasting control can be achieved by neighbours treating co-operatively at the same time as it provides a larger buffer-zone around your property which is Argentine ant-free. The Department of Agriculture and Food does not recommend powders, dusts or granules for the control of Argentine ants as these are less effective.

Do not spread Argentine ants

Apart from the natural radial expansion of existing colonies, Argentine ants are spread unintentionally through transport by humans via a wide range

of commodities, including soil, pot plants, foodstuff and garbage. Several plant nurseries in metropolitan and country areas are infested with Argentine ants and present a risk of spread. Be sure to check that pot plants or any other plant material you may receive are free of ants.

If you are moving house and taking pot plants with you, or giving pot plants to friends, check that the pots are free of ants or treat the pots by immersing the pot for 30 seconds in a solution of one of the insecticides mentioned above.

Identification service

Correct identification of the pest ant is crucial before commencing any control procedures. There are pest ants that can be more easily controlled based on advice appropriate to that species. A free identification and advisory service is provided by the Department of Agriculture and Food. To submit specimens for identification, stick about a dozen ants to a piece of paper with clear tape and enter your contact details on the paper. Ensure the ants are collected from a clean surface. This will prevent picking up sand and other debris which can allow the ants to escape from under the sticky tape, or spray the ants first with fly spray.



Ant sample attached to sticky tape

Specimen identification requirements

When sending or delivering samples, the following information is required:

- Collector's name, location (where the specimen was found), full address, telephone number and e-mail address, description of the damage and date collected.

Department of Agriculture and Food
Pest and Disease Information Service
3 Baron Hay Court, South Perth WA 6151
Freecall: 1800 084 881
Email: info@agric.wa.gov.au

