

WORK STUDY > OPPORTUNITIES FOR PROFIT

# ANT



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TRAINING

## PROBLEMS

There are more than 8000 known species of ants. They differ greatly in the way that they construct their nests, form their colonies and obtain their food.

Most ants are beneficial, scavenging on waste material and on other insects. Some, however, are pests and need to be controlled. The Pharaoh's Ant, *Monomorium pharaonis* is one such species which, once introduced into premises can be extremely troublesome and difficult to remove. The Black Garden Ant, *Lasius niger*, is another species which, although generally found outdoors, can enter buildings in search of sweet foodstuff.

## NUISANCE FACTOR

The workers of both species are often a considerable nuisance when foraging for food or water along scent-marked trails. They feed on most foodstuffs, Pharaoh's ants, preferring proteinaceous foods like meat, cheese and fats, the garden ant favouring sweet materials.

Pharaoh's ants also infest hospitals, feeding on blood, intravenous liquids, bodily excretions and sterile and soiled dressings. They commonly chew on materials and packaging and can even bite children. Clearly they pose a serious threat to health as vectors of pathogenic organisms.

Black ants mass round sweet foods in the home but are a nuisance outside too.

They excavate the soil, making it dry whilst simultaneously helping to cultivate greenfly to feed on the sweet secretions the greenfly produce whilst feeding.



## DESCRIPTION

The body of the ant is divided into three main sections; head, thorax and abdomen.

These body parts are joined by very narrow waists. All ants have antennae that feature an elbow-like joint.

Pharaoh's ants have biting mouthparts and a set of forewings hooked to a pair of hind wings, although wings may not be present in all cases. Workers are 1.5 – 2mm long and yellow/brown in colour. Males are 3mm long, black, winged but do not fly. Queens are 3.5 – 5mm long, dark red with non-functional wings that are discarded after mating.

The black worker ant is 3.4 – 5mm long and despite its name, is dark brown in colour whilst the queen is typically 15mm long and mid brown in colour.

## LIFE CYCLE

### PHARAOH'S ANTS

Pharaoh's ants are social insects. Each member of the colony, (which can range from a few dozen to 300,000), has a particular function to perform within the community. The colony will consist of sterile female workers, sterile males and fertile queens – of which there can be many.

Nests are established by a newly-mated queen which remains within the confines of the nest. The first batch of eggs hatches, producing grub-like larvae. The queen will then feed them for three weeks until they pupate. Adult ants emerge around 10 days later and take over the task of rearing subsequent batches of eggs. About 10% of workers forage for food, the remainder continue rearing and building the nest. The whole cycle from egg laying to adult takes about 5 weeks.

Another way in which new colonies are formed is by a process known as budding and this can occur when a nest is disturbed (e.g. by use of residual insecticides), prompting the adult ant to carry larvae to a new site, from which they will rear queens and males.

### BLACK GARDEN ANTS

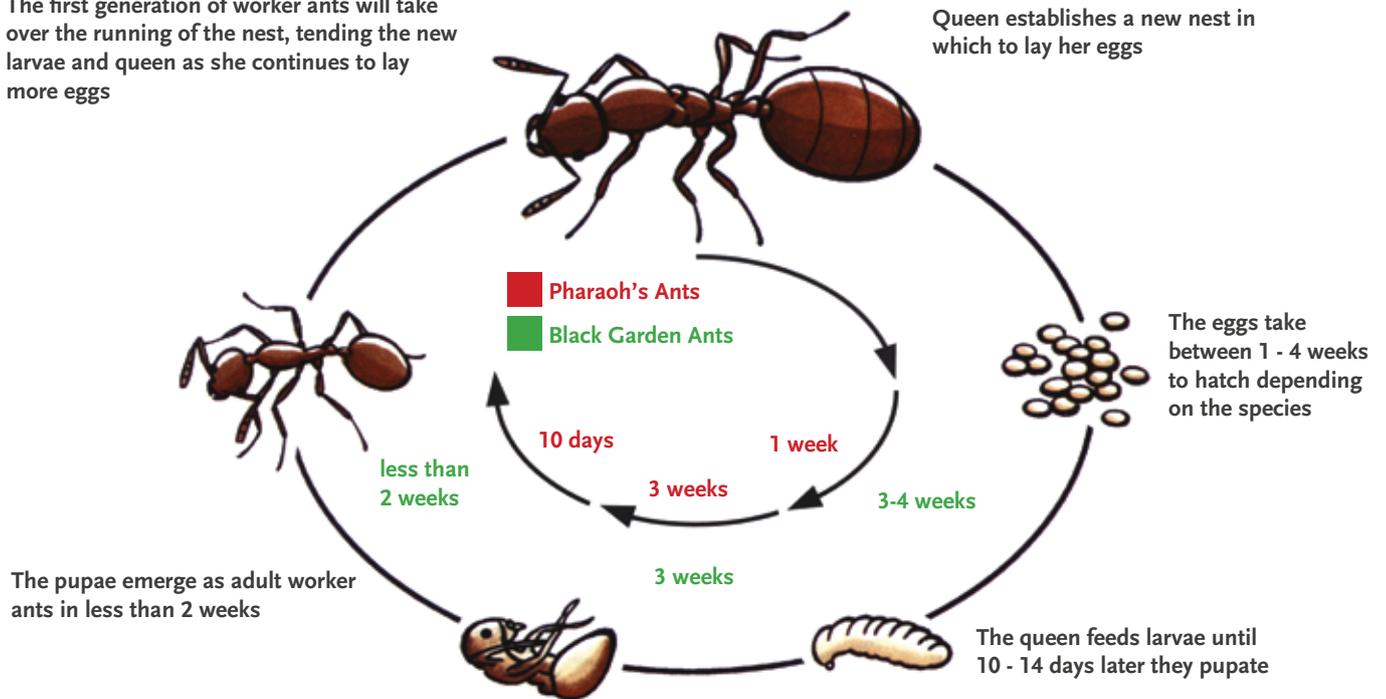
Mating of black ants takes place almost exclusively on the wing and occurs for 2-3 hours when large swarms of winged ants can be seen. After mating the males die and the females lose their wings and dig a hole in the soil where they form a cell in which they overwinter.

**The use of insecticidal baits applied directly to the nest, along ant runs, near foraging ants and into cracks and crevices can prove very effective**

## LIFE CYCLE

The first generation of worker ants will take over the running of the nest, tending the new larvae and queen as she continues to lay more eggs

Queen establishes a new nest in which to lay her eggs



## CONTROL

### PHARAOH'S ANTS

The control of Pharaoh's ants is difficult due to their highly developed social structure and the inaccessibility of their nests.

The most effective control involves the use of an insecticidal bait or insect growth regulator so that the whole infestation is affected within a short time. An initial survey must be conducted to determine the level of infestation, both visually and by pre-baiting. Once the extent has been determined, insecticidal bait or insect growth regulators can be applied to the perimeter of the infested area, progressing carefully inwards until the whole area has been treated. Further monitoring may be necessary.

Approximately 90% of the workers are involved with rearing the young and tending the nest, the other 10% forage for food. Take note that residual insecticides should never be used against Pharaoh ants, as this will result in 'budding' of the colony and production of 'satellite' colonies.

### BLACK ANTS

Black garden ants, whilst posing no major threat to humans, can be a nuisance if they enter the home. Control can only be achieved by the destruction of the nests which entails applying insecticide in and around the nest ensuring that insecticide is present at important points such as doors, windows, vents, ducts and drains. Particular attention should be given to cracks and crevices. The nest locations can usually be found by following ant trails.

## TREATMENT

The use of insecticidal baits applied directly to the nest (label permitting), along ant runs, near foraging ants and into cracks and crevices can prove very effective. The application of a labelled insecticidal dust along ant trails in cracks and crevices using a dust applicator is an alternative treatment, with returning workers carrying dust further into the nest.

Alternatively, a labelled water dispersible powder or liquid insecticide can be applied. Their residual activities can extend to many weeks in dry conditions. Appropriate personal protection equipment should be worn and people kept away during application. Aerosol products can be used as a spot-treatment / quick knockdown for flying ants.

## APPLICATION PRODUCTS

There is a wide range of equipment available to apply insecticides according to their formulation. It is recommended that only those manufactured for professional use are utilised to ensure accurate application.



**Ficam® W**

Contains 80% w/w bendiocarb



**Ficam® D**

Contains 1.25% bendiocarb



**Fendona®**

Contains 5.8% alphacypermethrin



**Biopren®**

Containing the insect growth regulator s-methoprene



**Advion® Ant Gel**

Contains 0.05% w/w indoxacarb



**Formidor®**

Contains 0.05% w/w fipronil



**Bayer Flying Insect Killer**

Contains 0.15% w/w d-tetramethrin and 0.15% w/w d-phenothrin



SUITABLE FOR AMATEUR USE

**Maxforce® LN**



**Effect® Microtech**

Contains 8% permethrin, 4% tetramethrin, 8% piperonyl butoxide



**Vazor® DE Powder**

Contains silicon dioxide.



**Maxforce® Quantum**

Contains 0.03% w/w imidacloprid



**Dethlac**

Contains 0.02% deltamethrin and 0.08% pyrethrin



**AF® Pinpoint®**



**Vazor® Cypermax Plus**

Contains 5.0% w/w cypermethrin and 5.0% w/w tetramethrin.



**B&G Multi-dose Bait Gun**

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USE BIOCIDES SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.

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