



## ANSWER SHEET:

Answers are in our video and the PowerPoint (available from [www.nswdpi-schools-program.com/fireants-secondary](http://www.nswdpi-schools-program.com/fireants-secondary))

### Description:

What is the scientific name for Red Imported Fire Ants (Fire Ants)?

Red imported fire ant (*Solenopsis invicta*). *Invicta* is Latin for unvanquished, undefeated.

What colour/s are Fire Ants?

Dark reddish-brown thorax and head, with a darker brown-black abdomen.

How is their length different to other ants?

Fire Ants range from 2–6 mm long and are found in a variety of sizes within one nest. This is different to other ants which are regularly all a similar size.

Do Fire Ants look like any of our native ant species in Australia? If so, which ones?

Tetramorium (Pennant Ants), Funnel Ants.

How can you tell Fire Ants apart from other ants?

Colour, different size ants plus two club segments on antennae and two petioles between thorax and abdomen.

Label this diagram:

Two club segments

Antennae

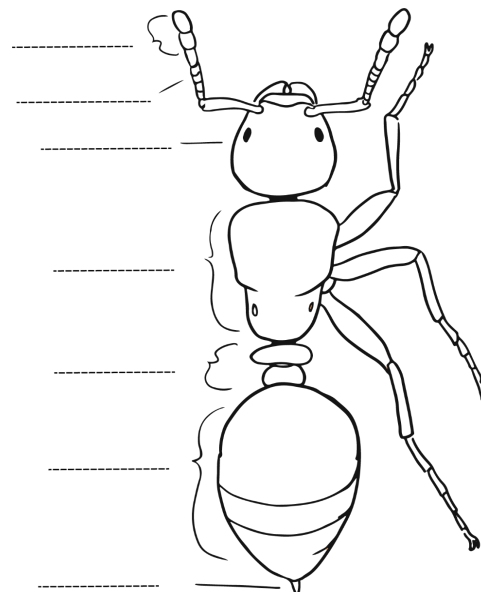
Head

Thorax

Two petioles

Abdomen

Sting





## Habitat and diet

What does a Fire Ants nest look like?

- Mounds or flattish patches of soil with no obvious entrance holes
- Can be up to 40 cm high, higher in cooler months.

Where would you find a Fire Ants nest?

- More likely to be seen in sunny open areas such as lawns, school yards, parks, roadsides and golf courses where soil has been disturbed by humans
- Occasionally found in rotten logs, along pavers and building walls.

How are they different to other ant nests?

No observable entrance into the nest/mound, crumbly in appearance.

What do Fire Ants eat?

Fire Ants are omnivorous predators and scavengers that eat both plant material and meat. For example, insects, small birds, frogs, native flora and agricultural crops and pastures.

## Biosecurity

Where did Fire Ants originally come from?

South America

How do Fire Ants spread?

Airborne (on the wing), via the ground (expanding nests and starting new colonies) as well as by water (for example in floods and via rivers/streams etc).

Why are Fire Ants such a threat to Australia?

Answers may vary, but should include:

If they become established, they have the potential to invade and inhabit 99% of our country. They will have devastating and irreversible effects on human health: our outdoors culture; our environment (flora, fauna and ecosystems); our economy; and agriculture.

How do Fire Ants spread?

Primarily by human assisted movement, but also airborne (on the wing), via the ground (expanding nests and starting new colonies) as well as by water (for example in floods



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and via rivers/streams etc.)

## Impacts

Describe how Fire Ants could impact our way of life in Australia in terms of:

### Human health

- Fire ants are very aggressive and move quickly when disturbed, giving painful stings. Multiple stings give a sensation the body is on fire.
- Small pustules may form several hours after stinging and may become itchy and infected.
- People prone to allergic reactions could experience severe symptoms

### Culture

Fire ants can restrict everyday activities such as picnics and outdoor play, and sporting activities, because backyards, parks, playgrounds, beaches and sports grounds become unusable.

### Environment

- Fire Ants feed on fauna that nests or feeds on the ground, including insects, spiders, lizards, frogs, birds and mammals
- Fire Ants can displace and potentially eliminate some native species.
- Fire Ants eat and damage seeds causing major ecosystem changes over time
- Fire Ants predate or disturb the insects and animals that pollinate native plants, which may also cause long-term changes to the vegetation of our bushland areas

### Economy

- Fire ants have the potential to surpass the combined damage done each year by our worst pests: feral cats, wild dogs, foxes, camels, rabbits and cane toads.
- They could affect our economy, markets and industries:
  - Tourism and lifestyle businesses and industry
  - Agriculture - destroying crops and livestock
  - Impacts overseas markets stopping our trade and travel with unaffected countries

### Agriculture



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- Fire Ants will affect our countries agricultural production which will affect the economy. Fire Ants sting animals which causes, stress and pain which will affect animal welfare and production. The stress from the stings can in some cases cause animals to abort through gestation, young animals to die from shock, stings to the face and eyes can cause blindness and in severe infestations near water sources can cause animals to dehydrate being too afraid to drink.
- Fire Ants attack electrical gear and can cause significant damage to irrigation equipment.
- Fire Ants feed on plants causing damage to crops and pastures.

What is each individual's biosecurity responsibility?

Everyone, no matter where you live in NSW, has a legal responsibility to make sure plant and animal pests, diseases and weeds are not introduced to, or allowed to spread, throughout our community or environment. This includes the school community.

If you think you find a Fire Ants nest, what should you do?

Observe but do not disturb it. Tell an adult. Take a picture and contact NSW DPI biosecurity staff to report on 1800 680 244.

## Stings

How do Fire Ants usually behave when disturbed?

Very aggressive, mass swarm from nests, then Fire Ants sting whatever is disturbing them.

Why are Fire Ants dangerous to humans?

Those prone to allergic reactions can have allergic or anaphylactic response.

What types of animals can Fire Ants harm and how do they harm them?

Answers will vary. Could include: All domestic and native animals. Can harm through stings to all body parts that Fire Ants come into contact with. For example, feet, toes, faces, stings to the eyes can cause blindness. Shock can cause death in small animals or termination of pregnancies etc.

What should you do if you get stung by a Fire Ants?

Tell a parent, wash it with soap and water, ice it. Seek medical assistance if necessary. Contact the DPI Biosecurity staff on 1800 680 244 to report the Fire Ants.



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## Detection science

What is the technology being used to track the spread of the ants?

DNA sequencing technology to identify the state origin of the Fire Ants.

How does it work?

DNA is extracted from the Fire Ants identified in NSW. DNA is unique to an individual, however is a combination of parent genes. Therefore DNA sequencing allows an individual to be linked to its relative. DNA extracted from Fire Ants detected in NSW will be compared to DNA from Fire Ants in Queensland. If the DNA links, (suggesting a linked ancestry) it is good news as it suggests the Fire Ants have come from Queensland allowing for tracing and control. If the DNA is not similar it suggests the ants have come from an unidentified population/source which suggests there could be more a known Fire Ants in NSW or they have been introduced via another method.

Explain the technology being used to stop the spread of Fire Ants in NSW

DPI is using hormones to sterilize queen Fire Ants in a 2km diameter around the detected nests. The hormone sterilizes the queen ants, which results in them no longer able to lay eggs. Over time this will mean the colony will die thus eradicating the ant

## Check for fire ants



### CHECK:

- Open sunny areas like lawns, parks, paddocks and disturbed ground
- Where hay, turf, soil, sand, gravel, mulch or potted plants have been used or stored



Fire ants attack and sting over and over

### LOOK FOR:

- Nest mounds or patches of soil up to 40 cm high, with no obvious entrance holes
- Aggressive ants, swarming from the nest if gently prodded with a long stick
- Small, dark reddish-brown ants with darker black abdomens
- 2-6 mm long and a range of sizes within a nest

Think you've seen them?  
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Scan the QR code for more information  
[www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)



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