WE NEED YOUR HELP!

We are glad to provide these materials for free. In order for us to continue receiving funding for new materials, we need to collect information on how they are used.
Thank you for taking the time to answer the following one-minute survey.

There are three ways to complete the survey:

1 Scan this code with your smartphone camera

2 Type the following link into your web browser:
https://plantheroes.org/educator-survey

3 Email your answers to:
plantheroes@publicgardens.org

PLANT HEROES

1) Job title
2) Name of organization you belong to
3) What kind of educator are you?
   - Teacher
   - Summer camp counselor
   - Home schooler
   - Public garden educator
   - Informal educator
   - Other (please describe)
4) What grade level do you teach?
   - Elementary (K–5)
   - Middle School (6–8)
   - High School (9–12)
   - Other (please describe)
5) Specify what subject area you teach:
   - Science
   - Math
   - Language Arts
   - Social Studies
   - Other (please describe)
6) How many students do you teach in a school year?

PLANT HEROES

Field Guide:

Red Imported Fire Ant

These ants are named after the sting they deliver, which can feel like fire! They can also damage crops by feeding on flowers, stems, and fruit, and by protecting other pests.

Plant Protection Program

AMERICAN PUBLIC GARDENS ASSOCIATION

Photo: Matt Bertone, Flickr.com

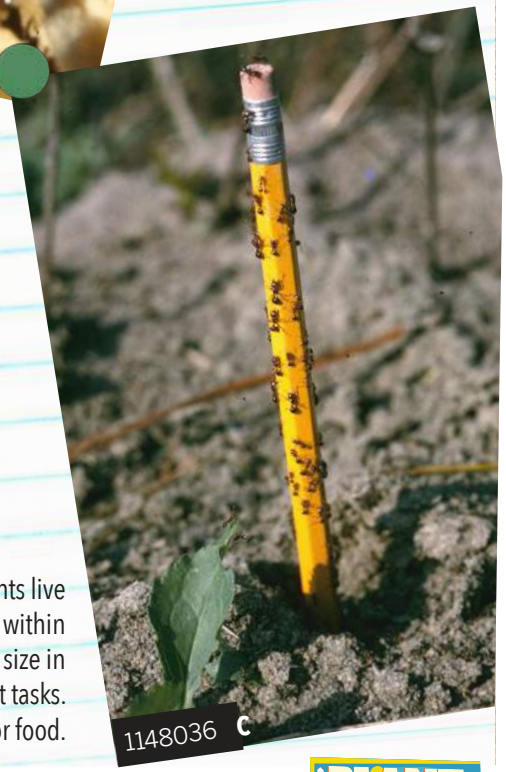
RED IMPORTED FIRE ANT

Identification

Close-up of a red imported fire ant (*Solenopsis invicta*) worker. Red imported fire ant workers are dark red to brown and vary in size, but are usually between 3 and 6 millimeters long, about the size of a pea.

Red imported fire ants are very aggressive and will readily swarm and attack anything that disturbs their nest or food sources.

Red imported fire ants may be small, but they make up for it with their large numbers and venomous stings.



Red imported fire ants live in colonies. Worker ants within the colonies vary greatly in size in order to perform different tasks. These ants are foraging for food.

PHOTO CREDITS: A: 2121038 April Noble, Antweb.org, Bugwood.org; B: USDA APHIS PPQ, Bugwood.org; C: 1148036, D: 1148027: USDA APHIS PPQ Archive, USDA APHIS PPQ, Bugwood.org

PLANT HEROES

RED IMPORTED FIRE ANT

Life Cycle

Egg, larval (immature, grub-like) stages, pupa (metamorphosis stage), and adult of the red imported fire ant.

Red imported fire ant queens (left) lay thousands of eggs in their lifetimes and are mothers to all of the other ants in the colony! The queen is larger than the worker ants she produces (right).

Red imported fire ants mate while flying. After mating, new fire ant queens lose their wings and begin laying eggs to start a new colony. >>

With the exception of winged males like this one, all of the ants in a red imported fire ant colony are female. Male ants and females with wings are only produced at certain times of the year, most commonly in the spring and fall after rainy periods. The purpose of these ants with wings is to mate and begin new colonies elsewhere.

PHOTO CREDITS: A: B.M. Drees, www.bugmugs.org; B, C: 148022: USDA APHIS PPQ Archive, USDA APHIS PPQ, Bugwood.org; D: 2121039 April Noble, Antweb.org, Bugwood.org

PLANT HEROES

RED IMPORTED FIRE ANT

Signs and Symptoms

The brown mounds in this pasture are red imported fire ant nests. The ants can attack and sting the livestock and may even kill baby animals. >>

Signs refer to the visible presence of a pest. Symptoms are visible clues that a plant might be suffering from a pest issue.


A


B

Red imported fire ants survive floods by forming "rafts." They join their bodies together with their queen at the center and float to higher ground. >>

<< Fire ants sometimes build their nests underneath buildings, making the ants more likely to come indoors.

C D

Red imported fire ants like to make their nests in crevices, such as this one between a curb and a lawn.

PHOTO CREDITS: A: Michael Merchant, Bugwood.org; B: Steven W., Flickr.com; C: USDA APHIS PPQ Archive, USDA APHIS PPQ, Bugwood.org; D: Jake Farnum, Bugwood.org

PLANT HEROES

RED IMPORTED FIRE ANT

Impact

^ Red imported fire ants can build their nests at the bases of trees and damage their roots and trunks.

Red imported fire ants feed on flowers and fruits of many common crop plants such as soybean, corn, bean, cabbage, potato, and peanut, among others. Here, the ants are feeding on a cotton flower. >>

<< Fire ants sometimes lend a helping hand to other pests on crops! They often protect mealybugs, seen here, which damage plants by sucking out their sap.

Red imported fire ants feeding on a cracked pecan. These ants are very attracted to the oily nut and other greasy foods. They damage crops by feeding on flowers and seeds, and threaten workers during harvest. >>

PHOTO CREDITS: A: 1235227: Clemson University, USDA; B: Ian Jacobs, Flickr.com; C: 2666066: John Ruberson, Kansas State University, Bugwood.org; D: Bill Ree, www.bugmugs.org

PLANT HEROES

RED IMPORTED FIRE ANT

Impact


A

Young reptiles, such as this alligator are especially vulnerable to red imported fire ants.


B

Red imported fire ants will eat just about anything. They feed on plants, seeds, insects, ground-nesting reptiles, mammals and birds, and human food waste.

C

An adult bobwhite quail (*Colinus virginianus*), a species heavily impacted in areas infested with red imported fire ants.


D

Red imported fire ants can affect ground-nesting bird chicks as they try to peck their way out of the eggs.

PHOTO CREDITS: A: Rusty Clark, Flickr.com; B: Flickr.com; C: 5007080 Casey Sanders, Bugwood.org; D: Laurie Boyle, Flickr.com

PLANT HEROES

RED IMPORTED FIRE ANT

Impacts

Fire ants can bite and sting.

A

Attacking fire ant workers both bite AND sting! Unlike bees, which can sting only once, fire ants can sting many times. OUCH!

B

Fire ants have great defenses against predators, which can make them dangerous to humans and other animals. If you find them, be very careful not to step on their nest, do not to disturb them, and let an adult know right away! >>

C

Red imported fire ants are attracted to sources of electricty like this high voltage unit. If they contact the electricity, they get shocked and die, releasing chemical signals (pheromones) that attract more ants. As more ants are shocked and killed, they build up in electrical equipment and make it stop working.

PHOTO CREDITS: A: Nadeer Youssef, www.bugmugs.org; B: Flickr.com; C: Jake Farnum, bugwood.org

PLANT HEROES

PLANT HEROES

Join our team of Plant Heroes and learn about trees, forests, and the natural world around you!

PLANTHEROES.ORG

You can be a Plant Hero!
Are you curious about plants and animals? Do you like asking questions about nature? Do you enjoy being outdoors and having fun, climbing trees, balancing on logs, or finding a new butterfly or beetle? If so, you are already on your way to becoming a Plant Hero! We invite you to join forces with Nate, Laura, Aponi, and Frankie to protect the plants and ecosystems we all love.

How can you become a Plant Hero?
Join our team and go on a journey with Nate, Aponi, Laura, and Frankie. As a Plant Hero, you will learn to notice when plants are in trouble. You will also find out ways you can act quickly to help find solutions in your own neighborhood. Follow their adventures and learn how they help plants and ecosystems stay healthy.

On the Plant Heroes website, you will find materials to help you learn about plants, forest health, and ecosystem balance. The more you know, the more you can help protect plants and ecosystems in your own yard, neighborhood, and community!

Plant Heroes strives to spark curiosity about nature and science in all children.
Our program provides hands-on, nature-based learning materials for educators to engage children in topics of plant health, ecosystem balance, and forest health. We also spotlight the amazing work our public gardens do in protecting the plants and ecosystems we all depend on through our website and printed materials. Visit **plantheroes.org** today to learn more!

Plant Heroes is brought to you by the American Public Gardens Association, founded in 1940. Over the last eight decades, the Association has supported the work of public gardens in North America and beyond. Our mission is to champion and advance public gardens as leaders, advocates, and innovators in the conservation and appreciation of plants. Our vision is "A world where public gardens are indispensable" as they provide botanic, conservation, community, education, and economic resources to their community.

The Association is committed to increasing the knowledge of public garden professionals throughout North America through information sharing, professional development, networking, public awareness, and research, so that they have the tools to effectively serve visitors and members.

American Public Gardens Association

PublicGardens.org

This publication was developed with financial support from the US Forest Service and the USDA Animal and Plant Health Inspection Service.

USDA