

Fire Ants on the Oak Ridge Reservation



The aggressive imported fire ant is small, measuring 3–6 mm long. (Large photo © Scott Bauer, USDA ARS, www.invasive.org; inset photo © USDA APHIS PPQ Imported Fire Ant Station Archives, www.invasive.org)

Imported Fire Ants on the Oak Ridge Reservation

Imported fire ants were accidentally introduced into the United States from South America about 1918. Today they infest millions of acres in the southeastern United States and Puerto Rico, including much of southern Tennessee. The first imported fire ant was observed on the Department of Energy's Oak Ridge Reservation (ORR) in 2001, and they are now very common in many areas of the ORR.

Entire fire ant colonies can move in shipments of nursery stock or soil from infested areas. Thus, the U.S. Department of Agriculture implemented a quarantine program to minimize their spread by requiring proper inspection and treatment of all articles (e.g., nursery stock, turf grass, hay) shipped out of designated quarantined areas. The quarantine area in Tennessee has been moving gradually northward, and as of 2007, it included the entire ORR.

This biobrief considers only imported fire ants; native fire ants are fairly benign and integrated into the web of life with natural controls.

Fire Ant Stings

Fire ants are notorious for their stinging behavior. When a fire ant mound is accidentally disturbed, hundreds of ants rapidly attack the invader. They bite with their powerful jaws, while arching their backs and stabbing with a stinger located in their rear abdomen.

The wound from a fire ant sting forms a red welt about twice the size of a normal freckle. The next day a white blister forms. If the blister is popped or broken open, an infection and scarring can occur. The most common symptom, other than the burning pain when stung, is a mild itch that usually lasts a few days.

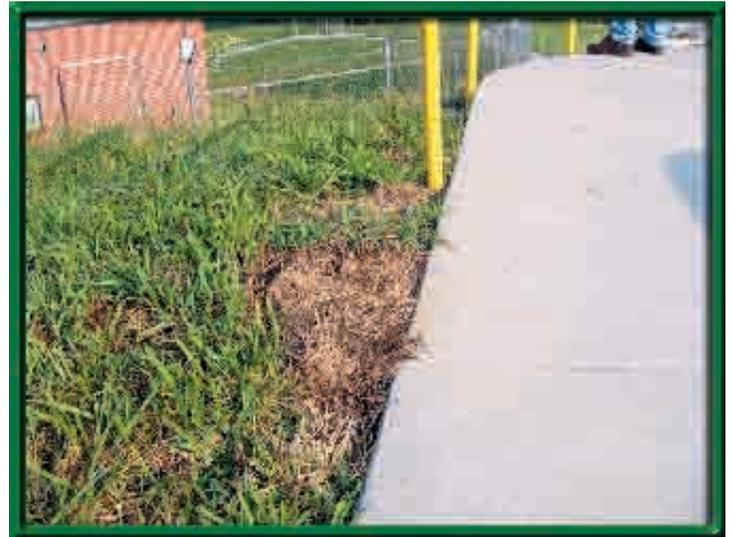
To minimize the risk of being attacked,

- Watch for and avoid fire ant mounds. Nests are usually dome-shaped mounds of soil, sometimes as large as 3 feet across and 1.5 feet in height. Unlike most ant mounds, the mound or nest has no opening in the center. In sandy soils mounds are flatter and less visible.
- Take care when walking through thick vegetation (e.g., tall grass). Grass can grow up through fire ant mounds and camouflage them. Thus, do not stop in one place for long periods of time as you may be on top of a grass-covered fire ant mound.
- Wear protective clothing during outdoor activities (e.g., shoes or boots, pant legs tucked into socks).
- Use insect repellent on clothing and footwear.
- Control fire ants in areas most frequented by people.

First Aid for Fire Ant Stings

When stung by a fire ant,

- Apply a cold compress to relieve the swelling and pain.
 - Gently wash the affected area with soap and water, leaving the blister intact.
 - Treat the affected skin area with over-the-counter products that give relief from insect stings.
 - Seek medical attention immediately if you are allergic to insect stings.
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In outlying natural, undisturbed areas on the ORR, fire ant nests are the classic larger, higher mounds (above). In built-up areas near buildings, fire ant mounds are of the smaller, flatter variety and are most notable in sparsely grassed areas and along sidewalks and curbs. (ORNL photos)

Fire Ant Control

The high reproductive rate of fire ants and their ability to easily disperse make control difficult. Combining chemical, biological, and cultural methods can increase success and result in cost-effective and environmentally sound eradication.

Fire ants are typically controlled with chemical pesticides. However, the queen is protected from many poison baits because she eats only food eaten first by workers and larvae. If the poison works too rapidly, the worker is killed before the poison is passed on to the queen. Also, worker ants from well-fed colonies may not find poison baits as attractive as abundant natural food. Biological methods for controlling fire ants, such as the introduction of decapitating flies, are also currently being studied.

Cultural controls produce an environment that is unattractive to this exotic pest:

- Shade — Fire ant colonies are seldom found in shady, wooded areas; therefore, planting shade trees may deter their establishment.
- Pest-free plants — Fire ants eat caterpillars, beetles, and other insects. Growing plant varieties that are not prone to insect pests may provide less food for the ants.
- Good sanitation — Fire ants eat food left outside. They are particularly attracted to pet food. Reducing food litter makes areas less attractive to fire ants.
- Limited water — Fire ants need water daily. Fixing leaky faucets, irrigation valves, and irrigation heads; improving drainage; and conserving water will discourage fire ant infestations.
- Mulches and nesting sites — Some mulches (e.g., cedar bark) may repel fire ants. Covering sunny areas with small stones and using rough gravel instead of sand underneath brick or other patio structures may discourage ant nesting. Conversely, hard-edged cement slabs or landscape timbers and many types of mulch (e.g., straw, composted leaves, bark) provide the structure, moisture, and temperature that are ideal for fire ant nesting.
- Mowing and disturbing ant mounds — Repeated disturbances may cause colonies to relocate. If grass is mowed frequently, the disturbed colonies will often move. These practices must be continued, however, or the ants will soon return.

For more information about fire ants, see the University of Tennessee fire ant website at <http://fireants.utk.edu/>. To report fire ant mounds on the ORR, contact Ernest Ryan, ORR field environmental compliance representative, at 865-576-1409. To report mounds on the plant sites, contact the appropriate grounds maintenance personnel for the site.

For more detailed information on the ORR, contact Pat Parr, the Oak Ridge National Laboratory natural resources manager, at 865-576-8123, parrpd@ornl.gov.