

Fire Ants

on the Oak Ridge Reservation



Red imported fire ant. (Photos here and below: 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. This biobrief considers only imported fire ants; native fire ants are fairly unintrusive 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.

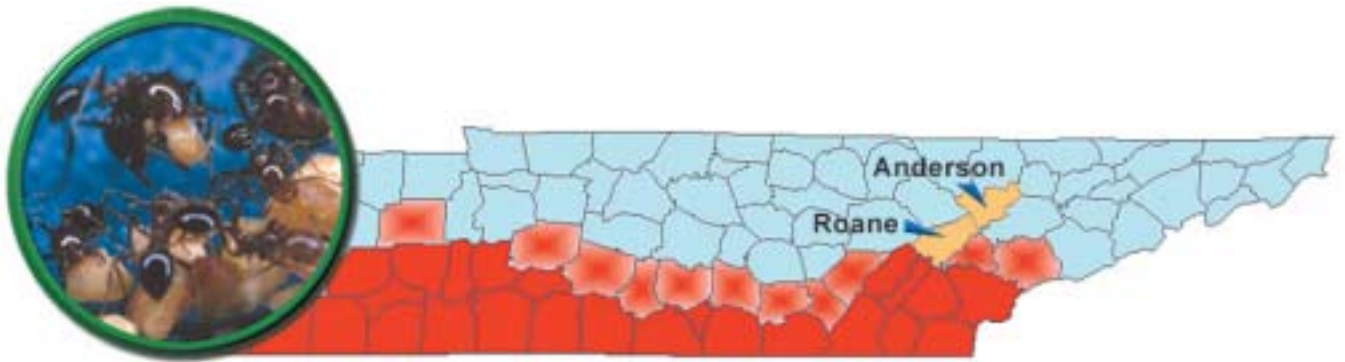
To minimize the risk of being attacked:

- Watch for and avoid fire ant mounds. Nests are usually dome-shaped mounds of soil, sometimes as large as a meter across and 0.5 meter 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. Many of the fire ant mounds in developed areas of the ORR are of this smaller, flatter variety.
- 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 stings with over-the-counter products that give relief from insect stings.
- Seek medical attention immediately if you are allergic to insect stings.



Fire ant quarantine areas in Tennessee are shown in bright orange. Counties shown in pale orange are only partially quarantined. The USDA requires inspection and treatment of nursery stock, turf grass, hay, and other products shipped out of designated quarantined areas to minimize the spread of imported fire ants. The ORR, straddling Anderson and Roane Counties, is outside the quarantined area. A small part of southeast Roane County is quarantined.



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 sparse grassy 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 only eats 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. Thus, 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 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 web site at <http://fireants.utk.edu>. To report fire ants on the ORR, contact Ernest Ryan, Oak Ridge National Laboratory (ORNL) Field Environmental Compliance Representative, at 865-576-1409. For more detailed information on the resources of the Oak Ridge National Environmental Research Park, contact the ORNL Area Manager, Pat Parr, at 865-576-8123 or parrpd@ornl.gov.