

Providing Leadership in Environmental Entomology

Department of Entomology, Soils, and Plant Sciences • 114 Long Hall • Clemson, SC 29634-0315 • Phone: 864-656-3111
email: dpento@clemson.edu

FIRE ANT MANAGEMENT IN THE HOME LAWN

Fire ants are a problem because their sting can cause medical problems, they harm wildlife, and interfere with outdoor activities. The mounds are unsightly and cause problems with land use.



Figure 1 A fire ant mound

Fire ants are one of the most studied insects, but they may be surrounded by the greatest number of misconceptions, old wives' tales, and myths. This is a little of what we know about fire ants. As often happens, truth is greater than fiction.

Fire Ant Biology

Fire ants mate when the temperature is between 70° and 95°F. The humidity must be nearly 100% and the wind calm. This can occur anytime of the year, but peaks in the spring and fall months. The winged males and females fly into the air as high as 2000 ft. After mating the males promptly die having fulfilled their only purpose. The newly mated females can fly as far as 2 - 3 miles before landing. Once they land, they tear their wings off and search for a suitable nesting site in the soil. Nearly 99.9% of all the females die before they select a site due to predation and poor landing sites (such as swimming pools and ponds).

This "queen to be" burrows three to 6 inches into the soil and forms a chamber that she seals with a waterproof mixture of soil and saliva. The queen then begins to lay eggs. Using the energy reserves from her wing muscles, she rears a few young to adulthood. This takes about 45 days or less depending upon the temperature.

The new workers break out of the chamber and begin foraging for food. They care for the queen and the young. From this point on the queen does only one thing - lay eggs to the tune of 100,000 - 300,000 per year. She may live 6-7 years.

Fire ants, while voracious predators, do not eat solid food. They place solids on the "lip" of the late stage larvae. The larvae secrete digestive enzymes into this "lip" and convert the solids to a liquid. All of the other ants feed through a process called tropholaxis where they pass liquid food from ant to ant. This gives the colony built in food tasters. If any ants in the colony become sick due to bad food, the queen does not eat from that food source. She can always make more workers and the colony continues as long as she lives.

Fire ants forage when the surface soil temperature is between 70° and 95°F. In the summer months this is primarily at night. They may travel up to 100 yards from their mound in search of food.

Fire Ant Management

So what does this mean to the homeowner struggling to control this creature in their back yard? We can use this knowledge to gain the upper hand in our battle. With current technology we must recognize that fire ant control will be a long-term commitment. The ants can reinfest from long distances and the reproductive potential is great.

Fire Ant Management Strategy 1 The Two Step Method

Step one: Broadcast a fire ant bait while the ants are foraging. **Step 2:** Seven to ten days later treat problem mounds with an individual mound treatment. Because fire ants are aggressive and efficient foragers,

and we know they forage for long distances, and we know when they forage, we can use this in the timing and method of bait applications. Applying baits when the ants are foraging is crucial. Broadcasting baits rather than treating individual mounds with the bait is preferred. To decide if fire ants are foraging, place a small amount of bait in a pile and return in 20 minutes. If ants are found feeding on the bait, it is a good time to broadcast fire ant bait. One or two pounds per acre will do the job. What about the food tasters? The baits act slowly enough that the queen eats the material before the effects are manifest.

Bait Treatments include, but are not limited to: Amdro®, Logic®, Award®, Affirm®, Distance®, Extinguish®, Firestar®, and Maxforce®.

Individual Mound Treatments include, but are not limited to: Orthene Fire Ant Killer®, Velocity®, Pinpoint® (acephate), Sevin® (carbaryl), Triazicide® (lambda-cyhalothrin), cypermethrin (this active ingredient is sold under various trade names).

CAUTION: Label changes occur frequently. Always read the label before you purchase and use any pesticide product.

Fire Ant Management Strategy 2 Broadcast Application of a Granular Insecticide

Some new granular insecticides are now available to the commercial and home applicator. These products are not baits, but can be broadcast over the entire area that is infested with fire ants. These products are very effective and give up to a year or more of fire ant control. There are some limitations

where they can be used so read the label carefully. These products seem friendly to desirable native ant species, while reducing the fire ant population by 95% or more. The disadvantages to these products are cost and they only control fire ants where you have directly treated.

For Home Applicators: Over 'n Out® (fipronil).

For Commercial Applicators these products include: Chipco TopChoice® (fipronil) and Talstar® (bifenthrin)

This is only a small sample of the fascinating life history of the fire ant. While we know much, more is unknown.

For other publications in our Entomology Insect Information Series visit our web site at <http://entweb.clemson.edu/cuentres/eiis/index.htm>.

Prepared by Tim Davis, County Extension Agent, Areawide Imported Fire Ant Suppression Specialist and Clyde S. Gorsuch, Extension Entomologist/Professor, Department of Entomology, Soils, and Plant Sciences, Clemson University.

This information is supplied with the understanding that no discrimination is intended and no endorsement by the Clemson University Cooperative Extension Service is implied. Brand names of pesticides are given as a convenience and are neither an endorsement nor guarantee of the product nor a suggestion that similar products are not effective. Use pesticides only according to the directions on the label. Follow all directions, precautions and restrictions that are listed.
EIS/TO-6 (New 11/1997, Revised 10/2002).