



## Entomology Insect Information Series

**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 ON RECREATIONAL TURFGRASS

Fire ants are a fact of life which we would prefer not to live with in South Carolina. Fortunately, fire ants can be managed with the right plan, diligence and determination.

Fire ants are identified by their reddish-brown color, small size (1/16 to 1/4 inch long), their quick aggressive response to any mound disturbance, and their fiery sting that produces a white bump, or pustule, within 8 to 24 hours.

Fire ants infest lawns, school yards, athletic fields and parks. They produce unsightly mounds, their painful stings pose a health threat and can disrupt human activities. Fire ants nesting near homes and other buildings can cause problems when they search indoors for food and moisture. Fire ants also enter air conditioners and other electrical equipment where they can damage fuses and wiring.

#### The Two-step Method of Fire Ant Control

The two-step method can effectively control fire ants in heavily infested areas when done once or twice a year.



Figure 1. Applying a bait with a Herd spreader.

**The first step** is to broadcast a bait insecticide over the entire area. Vehicle mounted spreaders such as

the Herd GT77A are very efficient for treating large areas. Hand-held spreaders such as Cyclone Seed Sower® or Ortho Whirlybird® are good for treating smaller areas. The recommended rate is 1 to 1½ lb/acre or about ½ oz/1,000 sq ft. The best times for applying baits are spring and fall, but baits can be applied anytime during the warm season when ants are active.

**The second step** is to treat individual mounds with an approved mound drench, granule, aerosol or dust insecticide. Individual mounds should be treated no sooner than 7 days after baits are applied. Treatments should be limited to mounds that are causing immediate problems, such as those found along building foundations or next to high-traffic areas such as sidewalks or play equipment. Most mounds that receive only the slower-acting bait treatment will eventually be eliminated; any that aren't killed should be left unless they are problem mounds. Leaving bait-treated mounds may actually help slow reinfestation of treated areas by ants from adjoining sites. Here is how to use baits and individual mound treatments most effectively.



Figure 2. A liquid drench. Figure 3. Granules.

#### Step One: Baits

Fire ant baits consist of pesticides on processed corn grits coated with soybean oil. While baits can be applied as an individual mound treatment, they are best used as a broadcast treatment. Broadcast treatments are less expensive (in terms of product cost as well as time) and control colonies even when mounds are not visible. For best results:

- Use fresh bait, preferably from an unopened container or one that has been tightly sealed and stored for no more than 2 years.

- Apply when worker ants are actively searching for food. This can be determined by leaving a small pile of bait next to an active mound. If ants are seen removing the bait within 10 to 30 minutes, it's a good time to begin application. Ants are less active during cold and hot periods (when soil temperature is less than 70 degrees F or greater than 95 degrees F).
- In the summer, apply bait in late afternoon or evening when ants are most active and the grass is dry.

At least three commercially available fire ants baits are available: Amdro®, Award®, and PT 370 Ascend®. Bait products contain different active ingredients that work in unique ways. Hydramethylnon (Amdro®) is a slow-acting poison that causes approximately 80 to 90 percent of the mounds in a treated area to become inactive within 1 to 5 weeks. Fenoxycarb (Award®) and avermectin (PTC70 Ascend® for pest control operators) act as insect growth regulators. Their main function is to keep queen ants from producing more workers. It may take 5 to 10 weeks or more for the results to be seen, but as many as 90 percent of the fire ant mounds in the treated area may be eliminated. Control may last up to a year, especially in areas larger than an acre. Smaller areas may show less dramatic results because that are more easily reinfested from adjacent untreated sites.

### Step Two: Individual Mound Treatments

**Chemical treatments.** Some products, such as those containing 75 percent acephate (Orthene Fire Ant Killer®), are formulated as a **soluble powder**. Ants walking through the treated soil get the powder on their bodies and transport the insecticide to the mound. Within a few days the entire colony should be killed. Distribute the recommended amount evenly over the mound. Do not inhale the dust or get it on your skin.

Other insecticides are **liquid concentrates** that are diluted with water and applied to the mound. These liquid mound drenches kill the ants underground, but must be applied in sufficient volumes to penetrate the entire nest – 1 to 2 gallons of diluted mixture poured over the top of each mound. Mix the proper amount in a 1 to 2 gallon sprinkler can clearly marked "Poison" and do not use it for any other purpose. Mound drenches generally eliminate mounds within a few hours. Avoid getting the products on your skin by always wearing unlined rubber gloves.

**Granular** products are another formulation option. The active ingredient in a granular insecticide is released when water is poured over the granules. Measure the recommended amount in a measuring

cup and sprinkle it on top of and around the mound. Do not disturb the mound. Use a sprinkling can that breaks up the water stream into droplets to pour 1 to 2 gallons of water over the treated mound. Sprinkle gently to avoid disturbing the colony and washing the granules off the mound.

You can expect poor results if less than the recommended amount of water is applied with either liquid concentrates or granular insecticides. Unless the product completely penetrates the mound, ants will move to a different site to avoid the poison.

Some products come in aerosol containers to which an injection rod is attached. The rod is inserted into the mound and the insecticide injected according to label instruction.

**Low toxicity and non-chemical treatments.** Some fire ant control products are commonly referred to as "organic" or "least-toxic" (e.g., boric acid, pyrethrins, rotenone and diatomaceous earth). Diatomaceous earth, a natural silica-based dust, will kill some ants, but is not very effective when the soil is moist and rarely eliminates ant colonies when used alone. The effectiveness of products containing pyrethrins and boric acid, as compared to standard insecticides, has not been adequately determined.

## THE TWO-STEP METHOD

### Step 1: Broadcast Baits

**Advantages:**

Low toxicity  
Inexpensive  
Treat large areas efficiently

**Disadvantages:**

Slow acting, requiring  
1 to 10 weeks

### Step 2: Mound Treatment

#### SOLUBLE POWDERS

**Advantages:**

No water needed  
Fast acting

**Disadvantages:**

Leaves surface residue

#### LIQUID DRENCHES

**Advantages:**

Relatively fast acting  
Little surface residue  
after application

**Disadvantages:**

May require handling  
insecticide concentrates  
Labor intensive

#### GRANULAR MOUND TREATMENTS

**Advantages:**

No mixing required  
Little surface residue  
after application  
Relatively fast acting

**Disadvantages:**

Labor intensive  
Must be watered in

#### AEROSOL INJECTABLES

**Advantages:**

Fast acting  
Little surface residue  
after application

**Disadvantages:**

Expensive  
May kill grass

## BAITS

### Advantages:

Can treat inaccessible colonies

### Disadvantages:

Slow acting  
Moderately expensive

Adapted from a publication titled, *The Two-Step Method; Do-It-Yourself Fire Ant Control*, by Mike Merchant and Bastiaan M. Drees, Extension Entomologists, Texas A & M University.

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

---

Prepared by Clyde S. Gorsuch and Paul M. Horton, Extension Entomologists/Professors, 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-12 (New 09/1998).