

The Two-Step Method:
**Managing
Fire Ants Around
Homes and In
Neighborhoods**



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*Adapted for use in Tennessee by
Karen M. Vail, Associate Professor,
Patrick Parkman, IPM Coordinator,
Tahir Rashid, Post-doctoral Research Associate;
and Roberto Pereira, Adjunct Assistant Professor,
Entomology and Plant Pathology*

Experts predict most of Tennessee is suitable for fire ant survival. Recent research from The University of Tennessee indicates the hybrid form found in East and parts of Middle Tennessee is more cold-tolerant than either parent species (the red or black imported fire ant). Therefore, we must learn how to manage these pesky ants. Once fire ants are established in an area, we'll need to apply the two-step method twice a year.

Step 1. Let Them Eat Bait.

The first step is to broadcast a fire ant bait over the entire yard. Baits are a product containing a food plus a moderately slow-to slow-acting insecticide. When collected by worker ants, bait particles are carried to the colony and shared with the queen and other ants. Less pesticide is needed with baits, because this kind of delivery is so efficient. We use the worker ants to share the poison with the rest of the colony. Baits work best when scattered lightly over the entire yard. This way, workers from small, undetected colonies will also collect the bait, reducing the need to individually treat these colonies. Hand-held seed spreaders, such as Earthway Ev-N-Spred® and Scott's Handy Green®, are ideal for applying fire ant baits. Set the spreader on the smallest opening and make one pass over the area to be treated. This should apply the recommended rate (1 to 1½ pounds per acre for most products). Push-type fertilizer spreaders put out bait too quickly, leading to an overapplication of pesticide and greater cost.

Be patient. Baits work slowly. Products containing active ingredients such as indoxacarb, abamectin, hydramethylnon or spinosad control ants within two to four weeks, or sooner. Insect growth regulator baits or IGRs (fenoxycarb, methoprene and pyriproxyfen) usually require two to six months. The advantage of growth regulators is that they prevent reinvasion by new queens and thereby need to be reapplied less often when treating areas larger than an acre.

Getting the Most from Baits

- Apply baits when ants are foraging. To see if ants are active, place a small amount of food (hot dog or potato chip) next to a mound. If ants begin removing the food within 30 minutes, it's a good time to treat.
- Use only fresh bait, preferably from an unopened container. Once opened, baits should be used within a few weeks. Unopened containers may stay fresh for up to two years.
- In summer, apply baits in the evening. During the cooler evening, ants will quickly discover and carry off baits. If applied during the day, in extreme heat, baits quickly lose their effectiveness. Also, ants do not forage much during the day when it is too hot (>90 degrees F).
- Test baits for freshness before using. Sprinkle a small amount next to an active mound. If the bait is fresh, ants will begin removing it within 30 minutes. If ants do not remove the bait, but feed on the potato chip, then you know the bait is spoiled.
- Apply baits when no rain or dew is expected for at least five hours. Once the baits become soggy, they are not as attractive to the ants.
- Broadcast the bait, or apply it as directed around, NOT ON, the mound.
- Avoid disturbing the ants right before applying the bait.
- Do not contaminate baits by storing them or applying them with fertilizer or other pesticides.
- Follow the directions on the label. It is against the law to apply baits in areas not listed on the label.

Apply baits at the right time. Baits are effective only when fire ants are actively searching for food. Ants remove baits from the soil surface within a few hours if baits are applied during peak foraging times. Fire ants forage actively when the soil surface temperature is between 70 and 90 degrees F, late May to September, in most of Tennessee. Fall applications work well to reduce fire ant numbers the following spring. During winter, fire ants forage less and may not pick up a sufficient amount of bait.

2. Treat the Mounds.

Seven to 10 days after broadcasting a bait, the second step is completed by treating colonies needing immediate attention. A mound treatment destroys one colony at a time and is the fastest way to get rid of individual colonies. It's not necessary to treat all fire ant colonies with mound treatments after applying a bait. Limit *Step Two* treatments to mounds located next to house foundations, in high-traffic areas or other trouble spots.

Common Insecticides for Fire Ant Control

Trade Name*	Pesticides	Speed of Control
IGR Baits When Broadcasted		
Award®, Hi-Yield Logic FAB	fenoxycarb	slow
Distance®, Spectracide® FAK Plus Preventer	pyriproxyfen	slow
Extinguish®	methoprene	slow
Ascend®, Varsity®	abamectin	moderate-slow
Baits		
Advion	indoxacarb	moderate
Amdro®, Combat®, SeigePro, ProBait	hydramethylnon	moderate-slow
Chipco FireStar, CeaseFire	fipronil	moderate-slow
Safer Brand FAB, Green Light FA Control, Ferti-Lome Come and Get it! FAK, Ortho FAKB, Southern Ag Payback FAB and others	spinosad	moderate-slow
Mound treatment – read label carefully**		
Safer FAK	limonene	fast
BombsAway FA Dehydrator, DiatectIII, Demise FA & Insect Dehydrator	pyrethrins plus silicon dioxide	immediate
Orthene® TTO	acephate	moderate
Talstar® or Ortho® FAK G ₂ ; Bayer® Advanced Lawn FAK D and Power Force G, Eagles-7 FA Destroyer, Basic Solution FAK, Bengal Ultradust FAK II, Hi-Yield Imported FA Control, Terro FAK, Spectracide FAK Mound and Broadcast G ₂ , Green Light FAK, Howard Johnson's FAK, Spectracide No Odor FAK D, Spectracide Triazide Soil and Turf Insect Killer Granules; and others. See PB 1739 for reference list.	pyrethroids (bifenthrin, cyfluthrin, deltamethrin, lambda-cyhalothrin, permethrin, etc).	fast
GardenTech Sevin®	carbaryl	moderate
<small>*Additional products may be available under different tradenames. Be sure to read the label list of active ingredients to find the product that suits your needs. **Baits containing abamectin, hydramethylnon, indoxacarb and spinosad can be used as moderate- to slow-acting mound treatments. FA = Fire Ant K = Killer B = Bait G= Granule D=Dust</small>		



Use a hand-held seed spreader to apply fire ant bait.

Options

- *Granular products* contain an insecticide that is released into the soil, usually when drenched with water. Sprinkle the recommended amount of product around and on top of the mound. When directed on the label, sprinkle one to two gallons of water over the granules with a watering can. Sprinkle gently to avoid disturbing the colony and washing the granules off the mound.
- *Liquid drenches* are pesticides mixed with water first and then applied directly to the mound. As with granules, one to two gallons of water are needed per mound. Always wear chemical-resistant, unlined gloves to protect your skin when handling liquid concentrates, and follow label safety directions.



Most granular products contain an insecticide that is released into the soil when drenched with water.

- Dusts are applied as powders to tops of mounds. *Acephate* (Orthene®) is an effective dry dust treatment that does not require added water. Sprinkle the recommended amount lightly and evenly over the entire mound. Avoid disturbing the colony during application. This can cause the ants to vacate a mound. It's best to keep pets away from treated mounds until the dust is gone. Dusts can be easily dispersed with water after the colony is killed.



Dry dusts are convenient and ease to apply.

Synthetic pyrethroids are also available as a dust formulation. Pyrethroids may cause the nest to fragment because of their repellent nature. Research shows that some pyrethroids are more effective after a rain.

- *Baits* are slower-acting than most other mound treatments, but they can be used for treating colonies next to sidewalks and curbs. Colonies in such sites often extend under the concrete, making them difficult to treat with other methods.
- Several “*organic*” or *plant-derived* products will control fire ants. Some contain spinosad (bait), citrus oil (d-limonene) or pyrethrins. Liquid formulations should be mixed with water and poured on the mound. Some organic products may cost more and act more slowly than conventional pesticides. Organic compounds are not necessarily safer than other insecticides, and still should be used with care. More information on using organics can be found in the Organic Two-Step Method for Fire Ant Control at http://fireant.tamu.edu/materials/factsheets/039_revfinal.pdf

For a two-step program that uses only natural products, broadcast spinosad bait and then treat mounds with d-limonene or products containing pyrethrins.

If you do not wish to use any pesticides, you may choose to use one of the following mound treatments. Be aware that these may lead to personal injury.

- *Boiling water* (about three gallons per mound) also can eliminate fire ant colonies. However, this method can be hazardous to the person carrying the hot water because

of the potential burns from water and steam when poured. Boiling water poured on grass or over plant roots also can be lethal to the plants.

- *Shoveling* can be used to disturb or move unwanted fire ant colonies from gardens, compost piles and other sensitive sites. Wear rubber gloves and liberally dust your gloves, the shovel and bucket with talcum powder. Talcum powder creates a slippery surface that ants cannot climb. Captured colonies can be dispatched by filling the bucket with water and adding a drop of dish detergent to break the surface tension and drown the ants.

On small properties where a high degree of control is needed, consider using the "ant elimination method" (described in PB1739) using a granular fipronil product such as Over 'n Out®.

Have a Fire Ant Block Party!

Consider the Two-step Method as a reason for a block party. By joining with neighbors, you may reduce your costs, improve control and have fun at the same time! There is less chance for re-infestation if adjoining yards are treated. That means fewer treatments. If you and your neighbors prefer not to apply pesticides yourselves, or want to ensure that treatments are applied uniformly and on time, consider a professional pest control company. Some companies even may offer discounts to households in neighborhood treatment programs. For more information on how to organize your own neighborhood block party, see **Managing Imported Fire Ants in Urban Areas** (PB 1739), available from your county Extension agent or visit our University of Tennessee Extension Fire Ant Web site at <http://fireants.utk.edu>.

Additional information about managing fire ants in lawns, agriculture and other areas can be found at this Web site.

Originally developed by Merchant, M. and B.M. Drees. 2000. **The Texas Two-Step Method: Do-it-yourself Fire Ant Control for Homes and Neighborhoods.** L-5070. Texas Imported Fire Ant Research & Management Plan, Texas A & M University.

Cover photo courtesy of USDA.

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Respect Our Environment!

- **Never use gasoline or other petroleum products for fire ant control!** Although gasoline kills fire ants, it is extremely flammable and dangerous — both to you and to the environment.
- **Don't leave insecticide granules on streets or sidewalks** after application, as these will wash into storm sewers.
- **Follow label directions** when disposing of extra pesticides and containers. Never pour leftovers down the drain. This can contaminate streams and can endanger aquatic life. Use all insecticides before discarding the containers.

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticide registrations are continuously being reviewed.

Should registration of a recommended pesticide be canceled, it would no longer be recommended by The University of Tennessee. Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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