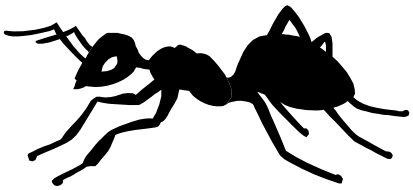

Bug-Wise

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Individual Mound Treatments for Fire Ant Control: It is important to begin by stressing that trying to control fire ants by only treating individual mounds is pretty much a losing proposition! This is because for every mound that is large enough for you to be able to see and treat, there are several smaller colonies that are just getting started. Kill all the large mounds and you have just eliminated the competition for the smaller mounds, allowing them to grow more quickly. This is why granular fire ant baits, applied two or three times per year as preventive, broadcast treatments, are recommended as the foundation of a fire ant control program. Baits eliminate most of the small mounds before they become large mounds. When properly applied, baits are cheap, safe, easy to apply, and effective. Baits work, but they do not give 100% control, and they are slow-acting, with some baits taking four to eight weeks to eliminate large established mounds. So what is one to do about those mounds the baits miss, or large mounds that are just in the wrong place and have to be killed immediately? This is where individual mound treatments come in. By using a combination of baits and individual mound treatments you can keep your lawn relatively fire ant free throughout the season.

There are two main types of individual mound treatments: liquid drenches and dry mound treatments. Liquid drenches are a bit time consuming to mix and apply, but they work quickly, and are the best way to eliminate mounds that "have to go right now". The key to success with liquid drenches is to use enough drench to thoroughly soak the mound. One gallon of drench is usually enough for mounds less than 12 inches across, but it can take two gallons or more to properly treat larger mounds. Failure to use enough liquid to thoroughly drench a mound is the main cause of mounds moving, and surviving, after being drenched.

Dry mound treatments usually take longer to work, but they are much easier to use. Just sprinkle the amount of product specified on the label over the mound and be patient. Many home gardeners keep a can of one of the dry mound treatments on hand to spot treat mounds they notice while mowing or doing other lawn chores.

The following two tables list some of the more common individual fire ant mound treatments.

Liquid Mound Drench Treatments *

Insecticide	Brand Name (example)	Rate
Carbaryl (22.5% concentrate)	Sevin Concentrate Bug Killer	¾ fl oz/gal
Permethrin (2.5% concentrate)	Bonide Eight Vegetable, Fruit, and Flower Concentrate	2/3 fl oz/gal
Permethrin (10% concentrate)	Hi Yield Garden, Pet, & Livestock Insect Control	1.5 fl oz/gal
Spinosad (0.5%)	Ferti-lome, Bore, Bagworm, Tent Caterpillar & Leafminer Spray	2 fl oz/gal

* Depending on the size of the mound, it takes 1 to 2 gallons of water-insecticide mix to drench a fire ant mound effectively. Drench the mound and an area approximately 10 to 12 inches around the perimeter of the mound.
Do not disturb mounds before or after drenching.
Note, although there seems to be an error in the rate for the two permethrin products, the rate for the 10% concentrate is higher than the rate for the 2.5% concentrate, these are the rates specified on these product labels. Yes, that is more than an 8-fold difference.

Dry Mound Treatments *

Insecticide	Brand Name (example)	Amount/mound
acephate	Ortho Orthene Fire Ant Killer (50%)	1 tablespoon
cyfluthrin	Bayer Fire Ant Killer (0.5%)	1 teaspoon
deltamethrin	Bengal Ultra Dust Fire Ant Killer (0.05%) Terro Fire Ant Killer (0.05%)	1 tablespoon

* Sprinkle dry product on and around mound as directed on label.
Do not disturb the mound before or after treatment.

For additional information on fire ant control and use of fire ant baits in the home lawn, see Extension Publication 2429, Control Fire Ants in Your Yard. You can access this publication electronically by going to www.MSUcares.com, clicking on "Publications" and searching for "Fire Ants".

For more detailed information on fire ants, fire ant biology, and fire ant control in pastures, commercial vegetables, and other special situations, see the Fire Ant Web Site at www.MSUcares.com > Insects/plant diseases > Insects > Fire Ants.

Results of Efficacy Trial Testing Individual Fire Ant Mound Treatments: The following page shows results of a trial conducted this spring to compare the control provided by some of the more commonly used individual fire ant mound treatments. Note there are big differences in the average cost per mound among these treatments. Also note that some of these treatments, specifically the permethrin and carbaryl drenches and the dry acephate treatment, provided very quick control, while other treatments took longer to work. But these slower treatments do have some strengths. Spinosad is sold under several brand names and many of these products are approved for organic gardening and are good options for use around vegetables or other edible crops. Spinosad is the best mound drench treatment available to organic gardeners. As for the dry mound treatments, the dry deltamethrin product takes much longer to work than the acephate treatment, but it does not have the persistent, objectionable odor of acephate. Some homeowners choose to use one of the deltamethrin dusts, or one of the other pyrethroid mound dusts, to avoid the odor problem associated with acephate.

See report on following page.

Blake Layton, Extension Entomology Specialist

This information is for educational and preliminary planning purposes only. Brand names mentioned in this publication are used as examples only. No endorsement of these products is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control. Always read and follow the insecticide label.

MISSISSIPPI STATE UNIVERSITY
EXTENSION SERVICE

Effectiveness of Fire Ant Mound Treatment Products for Home Lawns

Blake Layton, Jim McAdory, and Harvin Hudson

A trial was conducted to compare the effectiveness of some of the more common insecticide treatments used to control individual fire ant mounds in home lawns. This trial was conducted in Choctaw, MS. Five treatments, two dry mound treatments and three liquid drenches, were included in the trial, and compared to results for untreated mounds. Treatments evaluated, and the cost to treat a single mound, are listed in Table 1. Each treatment was applied to eight randomly chosen mounds. Treatments were mixed and applied according to label directions on April 17, 2009 and efficacy was evaluated at 3, 7, and 14 days after treatment (DAT). For the dry mound treatments all mounds received one tablespoon of product, regardless of size. For the liquid drench treatments, mounds less than 12 inches across received 1 gallon of drench and mounds greater than 12 inches received 2 gallons of drench. Mounds were evaluated by probing the center of the mound with a metal rod and observing the response.

Table 1: Fire Ant Mound Treatment Trial, Choctaw, MS, 2009: treatments and Cost per Mound

Brand Name	Active Ingredient	Rate	Cost/container	Cost per Large mound (2 gal./mound)
Ortho Fire Ant Killer	50% acephate	1 Tbsp/mound	$12.99/12 oz.	$0.31
Terro Fire Ant Killer	0.05% deltamethrin	1 Tbsp/mound	7.99/24 oz.	$0.18
Sevin Concentrate Bug Killer	22.5% carbaryl	¾ fl. Oz/gal	$14.79/32 fl. Oz.	$0.69
Hi Yield Garden, Pet, & Livestock Insect Control	10% permethrin	1.5 fl. Oz/gal	$15.95/32 fl. Oz.	$1.50
Ferti-lome, Bore, Bagworm, Tent Caterpillar & Leafminer Spray	0.5% spinosad	2 fl. Oz/gal	$16.95/16 fl. Oz.	$4.23
Untreated	--	--	--	--

Results are summarized in Table 2. Both the acephate treatment, applied as a dry powder, and the permethrin drench gave 100% control by 3 DAT, while the carbaryl treatment gave 89% control, with one mound having moved approximately 12 inches away. However, this mound was dead by 14 DAT. The spinosad treatment worked more slowly, but gave 89% control by 14 DAT. The remaining live mound was extremely weak and was not expected to survive. The dry deltamethrin treatment was less effective, providing only 13% control by 14 DAT, but all remaining mounds were very weak and were not expected to survive. One of the untreated mounds died out during the trial, apparently the result of the workers from this mound raiding a nearby spinosad treated mound.

Table 2: Efficacy of Fire Ant Mound Treatments: Choctaw, MS, 2009

Active Ingredient	Product Brand Name	Treatment Method	Percent Control		
			3 DAT	7 DAT	14 DAT
acephate	Ortho Fire Ant Killer	Dry	100%	100%	100%
deltamethrin	Terro Fire Ant Killer	Dry	0%	13%	13%
carbaryl	Sevin Concentrate Bug Killer	Drench	89%*	89%*	100%
permethrin	Hi Yield Garden, Pet, & Livestock Insect Control	Drench	100%	100%	100%
spinosad	Ferti-lome, Bore, Bagworm, Tent Caterpillar & Leafminer Spray	Drench	0%	63%	89%
Untreated	--	--	0%	0%	13%**

* a portion of the ants moved and built a new mound, which died by 14 DAT

** Mortality of this mound may have been due to raiding a nearby spinosad treated mound