

## Report

# Effectiveness of Fire Ant Mound Treatment Products for Home Lawns

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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 were compared to results for untreated mounds. The specific 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 17 April 2009 and efficacy was evaluated at 3, 7, and 14 days after treatment (DAT). For the dry mound treatments, all mounds received one tablespoon (14.8 mL) of product regardless of mound size. For the liquid drench treatments, mounds less than 12 inches (30 cm) across received 1 gallon (3.8 L) of drench and mounds greater than 12 inches (30 cm) received 2 gallons (7.6 L) of drench. Mounds were evaluated by probing the center of the mound with a metal rod and observing the response. Data were analyzed by using logistic regression, and by using odds ratios to compare treatment means to the mean of the untreated check.

**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	–	–	–	–

The results are summarized in Table 2. Both the dry powder acephate treatment 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 deltamethrin treatment was less effective,

providing only 13% control by 14 DAT, although 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.

Product Brand Name	Active Ingredient	Treatment Method	Percent Control			Odds Ratio vs Untreated <sup>1</sup>
			3 DAT	7 DAT	14 DAT	
Ortho Fire Ant Killer	acephate	Dry	100%	100%	100%	>999.9
Terro Fire Ant Killer	deltamethrin	Dry	0%	13%	13%	2.2
Sevin Concentrate Bug Killer	carbaryl	Drench	89%	89%	100%	>999.9
Hi Yield Garden, Pet, & Livestock Insect Control	permethrin	Drench	100%	100%	100%	>999.9
Ferti-lome, Bore, Bagworm, Tent Caterpillar & Leafminer Spray	spinosad	Drench	0%	63%	89%	49.5
Untreated	–	–	0%	0%	13%	–

<sup>1</sup> Data analyzed by using logistic regression. Odds ratio relative to untreated check, pooled across all three dates (Wald chi-square = 25.4, P < 0.0001).

