



A STANDARD THAT NEVER
GOES OUT OF STYLE

FIRE ANT DOS & DON'TS

By: F. Oi, D. Oi, S. Porter, P. Koehler

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Several of the country's brightest ant experts offer advice about fire ant control.

Most of us in the Southeast have resigned ourselves to accept fire ants as a part of life. We're not going to eradicate them, so we have to learn to live with them. That's not to say we can't control them in sensitive areas such as parks, playgrounds and nursing homes. There are numerous products and methods available for controlling fire ants. We've come up with some lists on what works and what doesn't...

WHAT WORKS. There are experimental strategies, such as using biological control agents against fire ants, including the decapitating phorid fly and disease-causing microsporidia that infect fire queens. These strategies are in development at the laboratories at the USDA-ARS Center for Medical, Agricultural and Veterinary Entomology in Gainesville, Fla., and other research laboratories across the South. However, a pest management professional's best bet for control at this time is still baiting. There are three main baiting strategies that we have found to work:

Broadcast baiting. For large areas, the most efficient management method is to broadcast bait. A spreader of some sort is needed to apply the bait at about 1½ pounds per acre. However, always follow the label directions because some of the newer baits have different rates. About seven to nine granules of bait per square foot is the equivalent of 1½ pounds per acre. In order to get this kind of coverage with a hand-fertilizer spreader or grass seeder, you would have to almost run while broadcasting the bait. Broadcast baiting takes advantage of fire ants' aggressive foraging behavior. Ants haul the bait granules back to their mounds and share it with their nestmates. It is also the most time efficient method if large areas need treatment.

Individual mound treatments (IMTs) with baits. Sometimes there are just a few mounds in a small area that need to be controlled. In this case, an individual mound treatment would make sense. Just as the name implies, bait would be applied around the base of the mound, where the ants enter and exit the nest. We often see bait applied to the top of mounds but this is less effective. Throwing bait on the top of the mound is the equivalent of us throwing our groceries on the roof of our homes after shopping. It really would not be worth the effort to climb to the top of the roof to get food when you have an alternate food source within easy access.

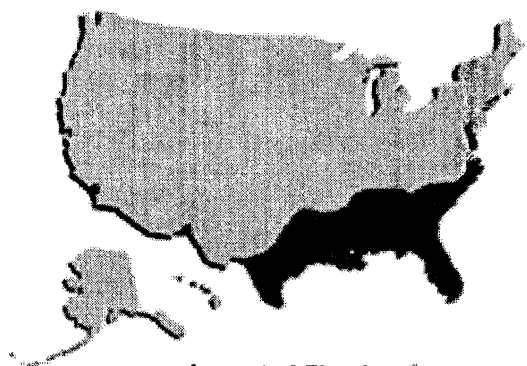
Two-step method. The process for this method is to broadcast bait, wait at least three days, then individually treat any active mound that is of particular concern. The three-day wait allows the ants to thoroughly distribute the bait among all its workers by social feeding. Any mounds remaining can be treated with a bait, dust or mound drench.

Fire Ant Control Baits			
Table 1. Examples of currently registered baits for fire ant control			
Trade Name and Manufacturer	Time to Deactivate Colony	Active Ingredient	Mode of Action
Eliminator, Pennington Gro-Tech United Horticultural Supply Fire Ant Bait, United Horticultural Supply Justice, Dow AgroSciences	2 to 6 Weeks	Spinosad	Inhibits Nervous System
Ascend, Whitmire Micro-Gen Advance, Whitmire Micro-Gen Clinch, Syngenta Varsity, Lesco/Syngenta	8 to 16+ Weeks	Abamectin	Nervous Inhibitor/Sterilant
Award, Syngenta Logic, Syngenta	8+ Weeks in Summer 4 Months in Winter	Fenoxycarb	IGR (Worker Caste Not Produced)
Amdro Pro, BASF			

Siege, Waterbury/BASF Maxforce Granular, Clorox	2 to 4 Weeks	Hydramethylnon	Metabolic Inhibitor
Extinguish, Wellmark International	8+ Weeks in Summer 4 months in Winter	Methoprene	IGR (Worker Caste Not Produced)

In Table 1, we present some currently registered bait products. One author defines "time to deactivate colony" as the time at which he feels comfortable sticking his hand in the mound after treatment. He claims only a few ants remain, although the queen may still be alive. The other authors suggest that using a hand trowel or shovel would serve the same purpose without the sting risk.

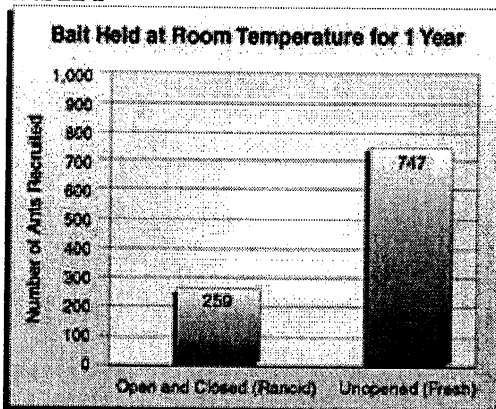
Successful baiting requires that the ants take the bait. Fire ant baits are formulated with vegetable or peanut oil. One of the biggest deterrents to ants not feeding on the bait is using rancid bait. If you open a container of bait and it smells like stale potato chips or rancid oil, the bait has gone bad and will not be effective in your management plan.



Imported Fire Ant Quarantine

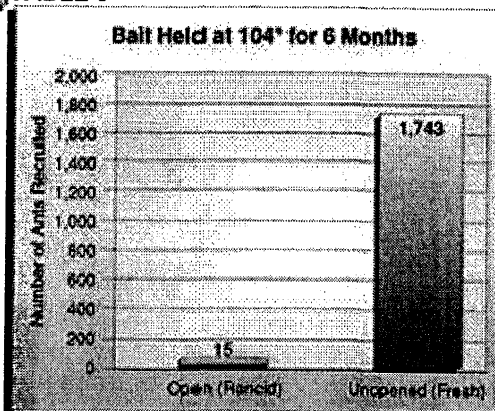
David Oi conducted a recent study and found that simply opening and closing a container of fire ant bait and then holding it at room temperature for a year can cause the bait to go rancid. Significantly fewer ants recruited to the bait from the container that was opened and closed when compared with bait from a container that was held at room temperature for a year without opening until the test (Table 2). Oi also tested bait from a container that was left opened and held at 104 degrees for six months and compared it to bait from an unopened container that was held under the same conditions. (As many PCOs know, it can get hotter than that in garages or trucks during the summer.) He again found that bait from the opened container was rancid and that the ants would not take the bait; but even when held at 104 degrees, bait from the container that was not opened until the test recruited significantly more fire ants (Table 3).

TABLE 2



In summary, PCOs should use fresh bait for successful baiting. There is a lot more tasty food out in the environment for these aggressive foragers to find if your bait is stale. But if your bait is fresh and it is placed so that it is convenient for the ants to take it, your chances of successful baiting are good. In addition to using fresh bait and properly placing it, it's important to bait under the right weather conditions. If it's too hot, the ants will not forage aggressively or find the bait and baiting will not be successful. If it rains soon after you apply the bait, that's also money down the drain. A good rule of thumb is to bait when the weather is good for a picnic. Fire ants will be out foraging on days (and nights) when the temperature is between 70 and 90 degrees and it's not raining.

TABLE 3



One other tip: whether you're baiting or using another product for individual mound treatments, it is important to resist the urge to kick the mound and watch the fire ants squirm. Disturbing the mound in this manner will only cause them to move the queen elsewhere in the mound, making it harder to control. Or worse, the

ants will move to another location and your treatment will be rendered ineffective.

WHAT DOESN'T WORK. The following "remedies" have actually been used in attempts to control fire ants, sometimes with dire consequences to the health and safety of people who could not fend off the attacking ants. Be sure to never use these methods — and advise your customers to do the same.

Right Guard® deodorant or a combination of Right Guard with a match. While the propellants and other chemicals associated with deodorants can kill individual fire ants, they definitely do not provide long-lasting and effective control. Using Right Guard as a flamethrower can kill ants by burning them, but the risk of burning the structure is also unacceptably high.

Hairspray. Same reason as above.

Household cleaning products. Most don't work. Some are repellent, causing the colony to build a new mound a few feet away.

Corn grits. The theory is that the fire ants will eat the dry corn grits, drink some water and die as the corn grits expand inside them, causing them to explode. The image of greedy little ants exploding like popcorn inside the mound is compelling. The problem is that fire ant workers only drink liquids; they are incapable of ingesting solids. Fire ant larvae will eat solid food, but they chew it up and mix it with saliva before they swallow it. Bottom line: grits don't work. Any perceived effects are due to mound disturbance and colony movement.

Dry rice. See corn grits above.

Straw itch mites. Some studies have shown moderate control while some don't show any control at all. The most dramatic effect has been the large rashes that researchers have gotten from some of the straw mites that they were releasing!

Exhaust fumes. Exhaust fumes from a car or riding lawn mower can be pumped into fire ant mounds. About 12 years ago, one of the authors tried it with his old Volkswagen Superbeetle. After about 15 minutes, most of the ants were motionless, but 30 minutes later, they woke up and did just fine. This was probably worse for the car's engine than the fire ants.

Sonic vibrators. Ineffective, and when tested, the fire ants built a mound around it after a month when the weather turned cold and the vibrating rod was warm.

OTHER METHODS. There are numerous products to control fire ants that are in liquid, dust and granular formulations, but only a few that feasibly can be used to treat a large area. Broadcast surface applications of contact insecticides are effective in keeping fire ants from invading specific areas.

Currently, Dursban 50W (Dow AgroSciences) granular is the only insecticide approved by the USDA-APHIS for quarantine use on sod. It is also available for use on residential and commercial properties. However, as of Dec. 31, 2001, professional-use formulations and residential formulations of chlorpyrifos products, including Dursban, will no longer be sold for use on residential properties. Of course, pest management professionals will be able to use any stock after this date until depletion. PCOs who have questions about the status of Dursban should contact their Dow Agro-Sciences representative.

Talstar (bifenthrin, FMC) granular is also labeled for broadcast barrier treatments of fire ants. However, it is not an approved quarantine treatment for sod. Research on the longevity of this product is ongoing. Talstar is available for use on residential properties. Finally, a fipronil (Aventis) product also is being considered for registration as a large area surface treatment, but is not currently available for fire ant applications.

CONCLUSION. We will likely not be able to eradicate fire ants from the continental United States, although we can effectively control them in sensitive areas using the products currently available. The best and most long-lasting control strategies, such as baiting and biological control, exploit ant biology and behavior.

The authors are Faith M. Oi, an assistant extension scientist, entomology and nematology department, University of Florida; David H. Oi, a research entomologist, USDA-ARS Center for Medical, Agricultural and Veterinary Entomology; Sanford D. Porter, a research entomologist, USDA-ARS Center for Medical, Agricultural and Veterinary Entomology;

Philip G. Koehler, Margie & Dempsey Sapp Endowed Professor of Urban Entomology, Entomology and Nematology Department, University of Florida.