

Randolph County Fire Ant Demonstration
Joe Marable Farm

Henry Dorough
Regional Extension Agent
Animal Science & Forages
East Alabama, Piedmont Region

In an effort to educate landowners about the proper treatment methods for imported fire ants and to encourage them to treat large parcels of land with fire ant bait products, the Alabama Fire Ant Management Program has placed 21 Herd GT-77 seeders at various Extension offices across Alabama (See attached map). These seeders are capable of spreading fire ant bait at recommended label rates of one to one and one half pounds per acre and can be attached to almost any vehicle for field applications. The seeder is equipped with a restrictor-plate that allows easy calibration of any bait product. The seeders are available for any citizen of the State of Alabama to use in order to correctly apply fire ant bait products on their property. Partial funding for the seeders came from a grant from the USDA Federal Crop Insurance Corporation.

One such seeder was placed in Randolph County. However, after two years it had remained unused and in its original box. Using a small grant from the Alabama Fire Ant Management Program and with the help of the Randolph County Cattlemen's Association, I set up a demonstration in an effort to educate the cattle producers of Randolph County and to encourage the use of the spreader.

The site of this demonstration was a commercial cattle operation owned by Mr. Joe Marable of Roanoke, AL. A survey of the pastures selected for this demonstration found an average of 236 live mounds per acre. Mound densities of this magnitude usually indicate the presence of polygyne, or multiple-queen colonies. Polygyne colonies are much less territorial than single-queen colonies, live very close together and may also share some resources.

Using a Herd GT-77 seeder calibrated to spread 1.5 pounds of bait per acre, Amdro Pro[®] fire ant bait was applied to a 7.8 acre pasture on May 26, 2006. An adjacent pasture was not treated for comparison.

Two sampling plots were established within each of the treated and untreated areas. At the time of application, the treated and untreated areas had an average of 284 and 188 mounds per acre, respectively. Five weeks after the application, an evaluation of the project revealed a 99% reduction of fire ant mounds in the treatment area while the untreated area had a 19% increase (Fig. 1).

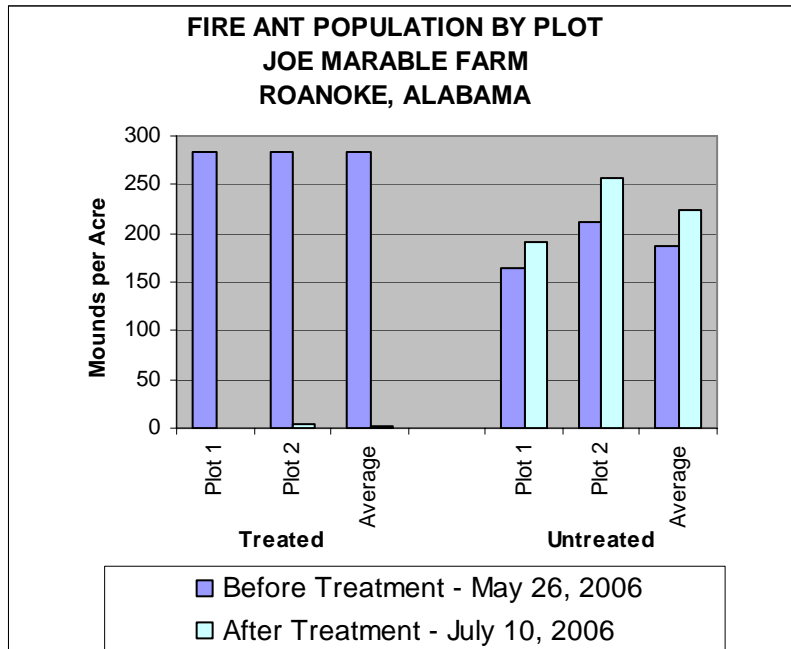


Fig. 1: Fire ant population by plot. Average number of mounds per acre in the treated area decreased from 284 to 2, while in the untreated area the average increased from 188 to 224 mounds per acre.

The cost of this application was \$10.80 per acre. This cost could be reduced to as low as \$6.00 per acre using the skip-swath method of application where every other 20-foot swath is left untreated allowing more acreage to be treated with one 25-pound bag of bait. Fire ants will forage over 100 feet from the mound for food so it makes sense that not every square foot of pasture needs to be treated.

In 2003, the USDA estimated production losses to exceed \$38 million in livestock operations. Therefore, whether your cost is \$11 or \$6 per acre, the expense of treating a pasture as heavily infested as this demonstration site is relatively cheap when considering cattle production losses associated with the presence of fire ants.

There are four commercial bait products labeled for the control of fire ants in cattle pastures and hayfields (Fig. 2) and they basically work in one of two ways. Insecticide-based baits kill the queen, immatures, and adult fire ant workers and typically control the colony in 2 – 4 weeks. These are considered “fast-acting” baits. Amdro Pro[®] and Siege Pro[®] fall into this category.

Insect Growth Regulator-based baits (IGR) prevent new fire ants from developing and can take as long as 4 – 12 weeks for complete control of a colony. IGR-based baits allow you to take advantage of the territorial nature of fire ants and minimize reinfestation because the queen does not die; the colony slowly disappears as the workers die-off naturally and no new workers develop. Ultimately, the queen dies when there are no workers left to take care of her. Extinguish[®] and Esteem[®] are IGR-based bait products.

Tradename	Active Ingredient	Rate	Timeline
Insecticide-based Baits			
Amdro Pro	hydramethylnon	1 – 1.5 lbs/acre	2 – 4 weeks
Siege Pro	hydramethylnon	1 – 1.5 lbs/acre	2 – 4 weeks
IGR-based Baits			
Extinguish	s-methoprene	1 – 1.5 lbs/acre	8 – 12 weeks
Esteem	pyriproxyfen	1.5 – 2 lbs/acre	4 – 8 weeks

Fig. 2: Fire ant bait products currently labeled for use in cattle pastures and hayfields.

Two things to consider when choosing between Insecticidal baits or IGR's are the number of fire ant mounds you can live with and how often you want to treat your fields. We cannot eradicate fire ants from our pastures because new queens will reinfest the area during the warmer months if conditions are favorable. Single-queen colonies of fire ants are very territorial and will kill all new queens entering their territory as long as their queen is alive. So, it is to our advantage to tolerate a few mounds per acre to take advantage of that natural control. However, this is not the case with a polygyne infestation. But, as long as the fire ant population is below your tolerance level, there will be no need to treat. You will have to treat again at some point to maintain the population at an acceptable level.

Products like Amdro Pro[®] work very well as illustrated in this demonstration, however, because of the relatively quick kill, reinfestation will likely occur several months after treatment. This is especially true if multiple-queen colonies are present. However, the population should remain well below the pre-treatment level. As long as you are treating your property for fire ants using the correct equipment and procedures you will notice an obvious decrease in fire ant activity. This reduction in fire ant population can be maintained at an acceptable level with only one bait application per year. For some farms, one treatment every other year may be adequate.

As a result of this project it is easy to see that effective and economical fire ant control is easy to achieve and can have a beneficial effect on your operation. If you are interested in treating your property you can do so easily by using one of the Herd GT-77 spreaders located in Extension offices across Alabama. Contact your local county Extension office or your Regional Extension Animal Science Agent to schedule the use of one of the spreaders free of charge. For additional information about management of fire ants on your farm visit your local Extension office or check us out online at www.aces.edu and look for our publication ANR-1248 Management of Imported Fire Ants in Cattle Production Systems.



Location of Herd GT-77 Seeders in Alabama