

WHAT FIRE ANT PROBLEM?

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Since their introduction in Mobile, AL in the early 1900's imported fire ants have become the scourge of the southland. The sting of fire ants is painful and can cause allergic reactions and even death of livestock and humans. Two species of imported fire ants were introduced into the United States from South America in the early 1900's. The black imported fire ant, *Solenopsis richteri* and the red imported fire ant, *Solenopsis invicta*, have interbred and produced a hybrid that lives in much of northern Alabama. Most fire ants in Alabama live in highly territorial single-queen colonies which may produce on average about 40 mounds per acre, however, in some portions of Alabama fire ants live in multiple-queen colonies which are more tolerant of each other and may produce in excess of 200 or even 300 mounds per acre.

In 2003, the USDA estimated production losses to exceed \$38 million in livestock operations. However, many livestock producers do not attempt to control fire ants because of a perceived high cost and low effectiveness of treatment options. To the contrary, effective and economical control of fire ants in pastures and hayfields is very easy to achieve. In fact, a once per year treatment can reduce fire ant populations by as much as 90% and maintain that level of control for less than \$6 per acre. For some producers, one treatment every other year may be plausible.

Oak Valley Farms in Munford, AL is a purebred Angus cattle operation that had a serious fire ant problem. A survey of pastures on the farm found an average of 236 live mounds per acre. It is easy to assume that such a fire ant population could disrupt cattle grazing and cause problems during the calving season and that immediate control of fire ants was necessary. With a State Beef Check-off grant from the Alabama Cattlemen's Association, I set up a demonstration to evaluate the effectiveness and economics of treating cattle pastures with a fire ant bait product.

Using a Herd GT-77 seeder calibrated to spread 1.5 pounds of bait per acre, a 50/50 blend of Amdro Pro[®] and Extinguish[®] fire ant bait was applied to approximately 12 acres using a skip-swath method. An adjacent twelve acres were not treated for comparison.

The seeder is equipped with a restrictor-plate that allows easy calibration of any bait product and will spread bait in a 20-foot swath. It is a well know fact that fire ants will forage over 100 feet from the mound for food, therefore, it makes sense that not every square foot of pasture needs to be treated. The skip-swath method (Fig. 1) simply leaves every other swath untreated allowing producers to cover more acres with one bag of bait thus reducing the cost of application.

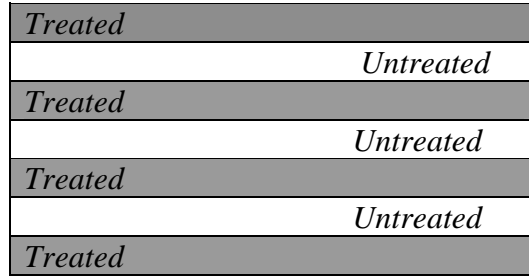


Fig. 1: Illustrates the skip-swath method for treating pastures & hayfields with a fire ant bait.

The 50/50 bait blend was applied on June 17, 2005. Four 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 239 and 234 mounds per acre, respectively. In November, evaluation of the project revealed an overall 90% reduction of fire ant mounds in the treatment area while the untreated area had a 5% increase (Fig. 2). On April 28, 2006, 10 months after treatment, the fire ant population had fallen slightly in the treated area to 20 mounds per acre while the untreated area remained relatively unchanged at 235 mounds per acre.

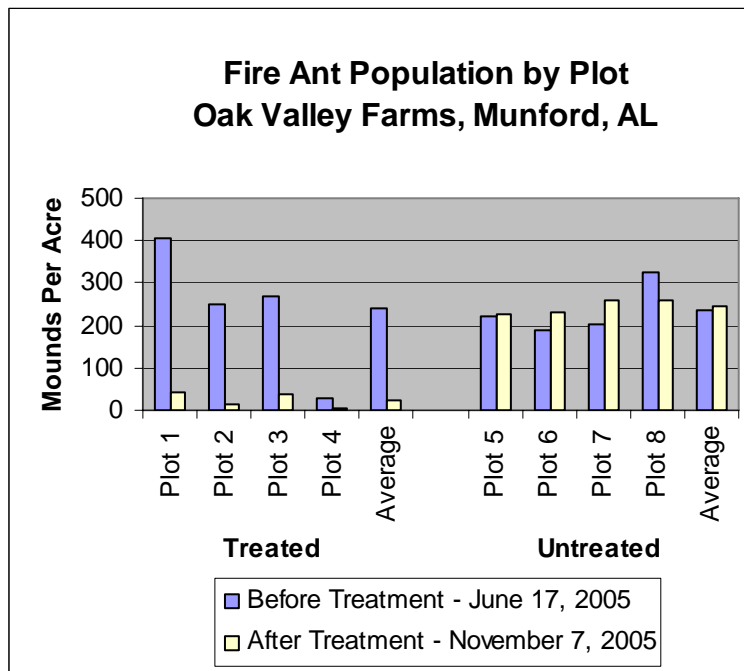


Fig. 2: Fire ant population by plot. Average number of mounds per acre in the treated area decreased from 239 to 24, while in the untreated area the average increased from 234 to 245 mounds per acre.

The cost of this application was \$5.94 per acre. This is pretty cheap by most standards, especially for a farm heavily infested with fire ants as was Oak Valley Farms. My best recommendation is to treat your pastures once a year, every year with a bait product using the skip-swath method; however, some farms may get by with one treatment every other year.

One question you need to ask yourself is “How many fire ant mounds can I live with?” 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. As long as the fire ant population is below your tolerance level, there will be no need to treat. But one thing is for sure, you will have to treat again at some point to maintain the population at an acceptable level.

The big question is “What bait should I use?” There are only a few baits labeled for use in cattle pastures and hayfields (Fig. 3) 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. 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.

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

As a result of this project it is easy to see that effective and economical control of fire ants is easy to achieve and can have a beneficial affect to your operation. If you are interested in treating your property you can do so easily by using one of 21 Herd GT-77 spreaders located at several Extension offices in 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 on-line at www.aces.edu and look for our publication ANR-1248 Management of Imported Fire Ants in Cattle Production Systems.