Fire ant control:

When, how, and why to apply insecticide

BY ANDREA FRASSONI

Probably no insect has caused as much damage and personal injury in the United States over the past 20 years as the red imported fire ant. If you live and work in the southern U.S., fire ants are likely the toughest insect you face. Fire ants are a serious threat on sports turf and other grassy areas.

A single fire ant colony may have as many as 100 queens, each capable of laying up to 1,500 eggs per day for as long as 7 years. The average colony houses 100,000 to 500,000 workers. Fire ant mounds are commonly found in open sunny areas. Although they may look large on the surface, this is just a small portion of the entire nest, which can extend 20 feet into the ground and stretch out more than 8 ft. in all directions.

In the U.S., more than $1 billion is spent on fire ant control every year. Unfortunately, much of that is wasted on ineffective treatments. Getting the best results requires choosing the right insecticide and timing the application correctly.

Fire ants are destructive and dangerous insects that cause property damage and demand control.

Weather matters

Like all insects, fire ants need a certain level of moisture, and they can't tolerate excessive heat or cold. Their intolerance to cold is the reason fire ants are only a problem in the southern states. Conversely, extreme heat and their need for moisture are the reasons fire ants seem to disappear during hot, dry conditions. In such weather, they burrow deeper into the ground. It might appear that they have left the turf, however, they're only waiting for better conditions to appear at turf surface.

Insecticides applied at times like these will be less effective, because fewer ants will contact them. Even when ants are actively foraging, traditional contact insecticides typically reach only 10% of the members of a colony.

Fire ants are most likely to be active on and near the surface of the soil when the temperatures are moderate and surface moisture is present. This is the time to apply insecticides. See sidebar, "Chemical control methods " for additional information about treatment options. Ideal conditions are most likely to be present November through March. Applications made in the springtime are most likely to control the highest percentage of queens, because this is the time when the majority of new queens are mating.

Fire ant behavior can also be manipulated for control purposes. For example, irrigation is just as effective at bringing ants to the surface as rainfall. If temperatures are in the appropriate range, but the weather has been dry, timing an insecticide application to follow thorough watering or irrigation may be effective. **ST**

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Chemical control methods

Individual mound treatments selectively control red imported fire ants. They generally requires more labor and monitoring than other methods, and are not suggested for heavily infested areas.

Mound drenching is when an insecticide is diluted and spread into and around the mound and surrounding area. The mound is broken open and the insecticide is poured directly into the galleries. Mound drenches may involve handling insecticide concentrates, thus requiring a professional for application.

Applied in the middle to late afternoon, **dusts** must be used only when the soil is not excessively wet or dry, when rain is not expected, and irrigation can be delayed for 24 hours. Dusts leave surface residue. Often dusts are applied to the mound, but the mound is not the customary entry/exit point for fire ants, making this application ineffective.

Baits take several weeks to eliminate a fire ant colony. During hot weather it is best to apply in the late afternoon or early evening. Baits must be kept dry. If it rains within a day of application, it will have to be reapplied.

Large fire ant mounds can be eliminated through **fumigants**. Only those professionals who have been specially trained should apply fumigants.

Broadcast treatments involve applying an insecticide over a large area rather than on specific mounds. One advantage of broadcast treatments is that newer colonies may be controlled before mounds even appear on turf. However, baits dissolve when they become wet making them useless.