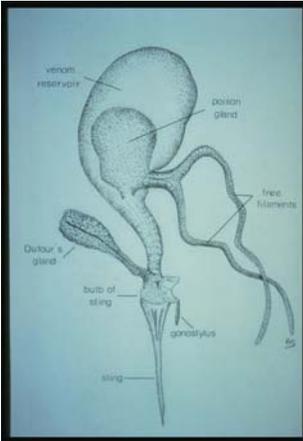


Fire Ant Biology

Solenopsis invicta even their scientific name sounds fearful. The name literally means "the invincible pipe".



One microscopic look at the stinger and you'll know why.

We are talking about fire ants of course. Everywhere I go fire ants seem to be one of the most popular topics. While scientifically fire ants are one of the most studied insects they seem to be one of the insects surrounded by the greatest number of misconceptions, old wives tales, and myths. I would like to tell you a little of what is known about fire ants. As sometimes is the case, truth is greater than fiction.



Fire ants mate when the temperature is between 70 and 95 degrees F, when the humidity is near 100%, and the wind is calm. For those keeping score this can occur anytime of the year, but mating activity peaks in the spring and fall months. The males and females fly into the air as high as 2000 ft. Yes, the sexual forms have wings and fly! After mating the males promptly die having fulfill the only purpose male ants serve (All of the stinging ones are females).

The newly mated females can fly as far as 2 -3 miles before landing. Once they land they tear



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their wings off or dealate themselves. It is also worth mentioning that 99.9% of all the females die before they get this far due to predation, poor landing sites (such as ponds etc.).

This "queen to be" burrows into the ground to a depth of 3 - 6 inches, forms a chamber she seals off with a waterproof mixture of soil and saliva. The queen then begins to lay eggs. Using the energy reserves from her wings and wing muscles she rears a few young to adulthood; a process taking approximately 20 to 45 days depending upon the temperature.



At this time the workers break out of the chamber and begin foraging for food. They begin to take care of the queen and care for the young. The queen from this point on does only one thing – lay eggs to the tune of 100,000 – 300,000 per year. She may live 6-7 years on average in the wild. Do the math; that's a lot of fire ants!

Fire ants while voracious predators do not eat solid food. They place food on the "lip" of the late stage larvae. The larvae excrete digestive enzymes into this "lip" and eat the liquid results. All of the other ants feed through a process called trophallaxis where they feed from oils secreted by these late stage larvae. Quite elegant actually, since this gives them built in food tasters. If anywhere in the colony ants become sick due to poisons the queen does not eat from the food source. She can always make more workers and the colony continues as long as she lives.

Fire ants forage when the surface soil temperature is between 70 and 95 degrees, in the summer months that is primarily at night. They have been shown to forage up to 80 yards from their mound in search of food.

Fire Ant Management

So what does this mean to the homeowner struggling to control this creature in their back yard? We can use this knowledge to gain the upper hand in our battle.

We must recognize that fire ant control will be a long-term commitment with the current technology. The ants can re-infest from long distances and the reproductive potential is so great.

Fire Ant Management Strategy 1—The Two Step Method

Step 1: Broadcast fire ant baits while the ants are foraging. Step 2: Seven to ten days later treat problematic mounds with an individual mound treatment.

Because fire ants are aggressive and efficient foragers, and we know they forage for long distances, and we know when they forage, we can use this in the timing and method of bait applications. It is crucial to apply baits when the ants are foraging and broadcast baits rather than treating individual mounds with the baits. Place bait in small pile and return in 20 minutes. If ants are found foraging it is a good time to broadcast fire ant bait. A pound per acre will do the job. What about the food tasters? The baits act slowly enough that the queen eats the toxin or insect growth regulator before the effects are manifest.

Baits include, but are not limited to: Amdro®, Logic®, Award®, Affirm®, Distance®, Extinguish®, Firestar®, and Maxforce®

Individual Mound Treatments include, but are not limited to: Orthene Fire Ant Killer® (Acephate), Sevin® (Carbaryl), Triazicide, Cypermethrin (this active ingredient is sold under various trade names), Velocity, Pinpoint

Label changes occur frequently so as always *read the label before you purchase and use any pesticide product.*

Fire Ant Management Strategy 2 — Broadcast Application of a Granular Insecticide.

Some new granular insecticides are now available to the commercial and home applicator. These products are not baits, but can be broadcast over the entire area that is infested with fire ants. These products are very effective and give up to a year or more of fire ant control. There are some limitations where they can be used so read the label carefully. These products appear to be friendly to desirable native ant species, while reducing the fire ant population by 95% or more. The disadvantages to these products are cost and they only control fire ants where you have directly treated.

For Home Applicators: Over 'n Out® (fipronil).

For Commercial Applicators these products include: Chipco TopChoice® (fipronil) and Talstar® (Bifenthrin)

This is only a small sample of the fascinating life history of the fire ant. While much is known more is unknown. If you are interested in more details of fire ant control contact your county extension office for a free copy of the home fire ant management handout.

By Tim Davis
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Areawide Imported Fire Ant Supression

This information is supplied with the understanding that no discrimination is intended and no endorsement by the Clemson University Cooperative Extension Service is implied. Brand names of pesticides are given as a convenience and are neither an endorsement nor guarantee of the product nor a suggestion that similar products are not effective. Use pesticides only according to the directions on the label. Follow all directions, precautions and restrictions that are listed.

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