

## JOHN'S CORNER: Fire Ants

*by John Ferguson*

We often get asked questions from customers to readers of the newsletter on how to control fire ants. There are both cultural and physical/chemical methods to help control this pest.

Managing fire ants starts with observing nature. If we look at the forest, we rarely have fire ant mounds in the trees but at the edge of forests and in grass lands we do have fire ants. Have you ever considered why?

The soil in the forest microbiome is dominated by fungal species while the most of the grassy area are extremely bacteria dominated. The fungal hyphae will invade an ant bed and digest the larva for nutrients, and they often produce natural glues like glomalin that creates problems for the ants. Many microbes and insects that live in a forest soil environment from beetles to beneficial nematodes all love to eat fire ants or their eggs, hence it is not a good home for fire ants.

Last fall I toured a restored prairie where the native grasses were over six feet tall and full of forbs, wildflowers, etc. that had replaced the King Ranch Bluestem and Bermuda. Native prairies are a fungal dominated system.

On the 300-acre property I did not observe a single fire ant mound. Were they there? Probably, but in a very low population density.

It has been observed that fire ants do not set up shop in flowerbeds that have a 3-4-inch layer of aged (composted) native mulch which is highly fungal dominated. However, they will form a mound at the edge of where the flowerbed meets the grass.

Many years ago, a group in town observed that a large area (maybe 100 feet by 200 feet, I do not remember exactly) that was covered with several inches of aged native



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mulch. They were working on building soil quality before starting a garden. This area only had 1-2 fire ant mounds around the edges. There was a second area similar in size where they used bark mulch to cover it. This area had many fire ant mounds scattered all through it.

If you remember from our study of mulches a few years ago, bark mulches have chemicals in them that prevent decomposition by killing the microbes that decompose organic matter. The chemicals in the bark mulch killed many of the good microbes that would attack the fire ant eggs, hence it made a good home for them. There has never been a rigorous study done, however many people have observed the same pattern.

This is why low-quality mulch is not a bargain as it not only hurts soil health and as a result it makes a good home for fire ants. In addition to barks, the dyed or ashen mulches or often found to have more fire ant mounds as they hurt soil health (microbial content).

The soil microbiome of our lawns is similar to the pastures and is bacterial dominated, which fire ants seem to love. When we top dress our lawns with compost, use a good organic fertilizer or humates to increase all biological activity of the soil and a significant increase in good fungus species. Thus, over time our yards become less attractive to fire ants. Note: They prefer grasses that have been mowed short. If St. Augustine is cut four inches tall or more, it is not as attractive to fire ants.

A customer shared the photo below on how his St. Augustine grass was being colonized with fungi.

Several times in this column I have mentioned in passing that a good compost tea can be an effective treatment, as can orange oil. Also, dry molasses is reported to repel them (actually I think it stimulates microbial growth that attack the fire ants).

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Many years ago, there was a liquid fire ant killer developed by Malcom Beck the founder of GardenVille composting company, called Gardenville Fire Ant Mound Treatment, which was just compost tea, orange oil, and molasses and was very effective as a mound drench. The Texas state chemist made them take it off the market since it killed fire ants and was not registered as a pesticide. They later repackaged it as a soil amendment called "Anti-Fuego"

Often after stepping into a fire ant mound and getting bit several dozen times, my softer compassionate side is severely depressed and all I am thinking about is



revenge. So, I turn to a product from Nature's Creation (there are other similar products on the market).

This is a diatomaceous earth mixed with pyrethrum's and is an extremely effective as a mound kill as they start dying in minutes. Diatoms are animals whom make their shell out of quartz and when they die the shell becomes fractured into microscopic razor blades. The ants crawl over the powder and it scratches their exoskeleton which allows the pyrethrum to enter their bodies. Pyrethrums from the chrysanthemum plant acts as a neurotoxin. The ants start staggering around like they are drunk, start falling off of things, and then die.

Note: These type products work best if one breaks up the mound and get the ants very mad and swarming all over the place. They get the material on their bodies and carry it back deep into the mound where it can reach other ants.

Often, one treatment kills the mound, but if it does not, they will rebuild a couple feet away but much smaller mound. A repeat treatment eliminates them.

For mounds that one cannot see or get to easily, baits can be an effective tool. My favorite that I have had good luck with is Fertilome's, "Come and Get It" shown below.



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Brenda mention the grits myth in her column above. Grits are made from corn meal, and fire ants love corn meal hence it is often used in baits like the one above.

Brenda also mentioned the transferring ants from one mound to another.

Originally, fire ants fought and killed each other creating territories that they defended. In the late 1960's our government mandated aerial spraying of the very toxic organochloride insecticide called Mirex. As a result, the ants no longer fought and killed each other, they developed multiple queens per mound so the nest would survive. Most likely back then if one mixed ants from different colonies, before the Mirex spraying, they probably would attack and kill each other. Mirex also killed our native ants that were highly competitive with fire ants hence the fire ant problem became many many times worse.

Fire ants do provide benefits as their digging activities help loosen soils and increase aeration and water infiltration. They also eat ticks, fleas and chiggers. They are also food for many other insects and microbes. Hence, they do provide some benefit.

Personally, if a mound is in a location where people or animals may step in it, then I will treat it. I also will treat mounds if they are near an electrical outlet or device as it seems they are attracted to electricity. If the mound is the back of a flowerbed or other out of the way location then I leave it alone as they are providing more benefit than harm.