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Remember to Treat for Fire Ants This Fall

Remember that the end of summer means treating for fire ants! Since the weather has been so hot this summer, we might not necessarily see the fire ant mounds in our yards. However, they are still in the area and are living deep in the soil. Since fire ants are a medically important insect pest, we need to treat this fall to decrease their populations next spring.

Before treating for fire ants, one must first survey the area to determine the number of mounds. If less than 5 mounds are present in a quarter acre plot, then it is advised to treat the individual mounds with a bait, drench or dust.

If more than 5 mounds are present, then treatment should be broadcasted over the entire area. A fire ant **bait** or **contact** insecticide may be used. **Fire ant baits** are comprised of defatted corn grit covered with an insecticide and soybean oil. Before broadcasting the fire ant bait, foraging activity should be evaluated by placing a potato chip or hot dog next to a mound. If fire ants find the food within fifteen minutes, then it is an appropriate time to broadcast the fire ant bait. Fire ants will typically forage when the soil surface temperature is between 70 and 90° F. Fire ant baits should never be watered into the soil and they should not be used if they smell rancid. **Contact insecticides** can also be broadcasted over the entire area and these need to be watered into the soil. One contact insecticide, containing the active ingredient fipronil, can be used for fire ant control and will usually provide 9 to 12 months control.

Both fire ant baits and contact insecticides can be broadcast using a hand-held spreader for small areas or a Herd Seeder can be mounted onto a truck or ATV to treat larger areas.

For more information, please visit the fire ant webpage at <http://fireant.tamu.edu>.



Horse Fly



Fire ant mound in a landscape. Photo by Dr. Bart Drees, Professor and Extension Entomologist, Texas A&M University.

Are Flies Biting You Outside?

Have you ever wondered what types of flies can bite you outside, besides a female mosquito? Well there are plenty of other biting flies, including deer flies, horse flies, stable flies, black flies, biting midges and sand flies. All biting flies locate humans and other animals by sensing things in the environment, such as the carbon dioxide, dark colors, movement, warmth and perspiration. Once a host is located, a biting fly inserts its piercing mouthparts and injects its saliva with anticoagulants to keep the blood flowing. In sensitive individuals, the fly's saliva can cause life-threatening allergic reactions. In addition, some flies can transmit disease.



Deer Fly

Deer flies are about ¼-inches in length and are typically yellow-brown to black in color with dark bands on their wings. The larvae of deer flies are aquatic so the adult flies are usually found around streams, lakes, ponds, marshes and swamps. The adult flies have scissor-like mouthparts that cut into skin, causing blood flow which they lap up. Deer flies (*Chrysops discalis*) can transmit tularemia, which is a bacterial disease.

Horse flies are over 1 inch in length and black in color or light brown with shiny green eyes. They are strong, fast fliers and use their scissor-like mouthparts to cut into skin. The larvae of horse flies usually live in water or in moist locations where they prey on other insects. As the larvae grow and then pupate, they move to dryer soils.

The stable fly is ¼-inches in length, and gray in color with four dark stripes on its thorax. This fly has pointed mouthparts that it uses to suck blood, causing a sharp pain when it bites. Stable flies lay their eggs in piles of decaying vegetable matter, such as haystacks, grass clippings and manure.

Black flies are around ⅛ inches in length with broad wings and a hump-backed appearance. They prefer wet environments so they are found near ponds, creeks and rivers. Even though black flies do not transmit disease to humans in the U.S, they can

threaten the lives of livestock and humans from inhalation of large swarms or by allergic reactions and blood loss from many bites.

Biting midges, also called “punkies,” and “no-see-ums,” are around 1/32 inches in length. Due to their small size, they can sometimes fly through window and door screens. The larvae of biting midges live in moist sand or soil, decaying vegetation, tree holes and near ponds, rivers, creeks or marshes so the adult flies can be pests around these waterways.

Sand flies are around 1/8 inches in length, hairy and brown to gray in color, with wings that form a “v” when at rest. The sand fly larvae live in moist, decaying vegetation, moss, mud or in water. Most feed on the blood of mammals, reptiles and amphibians. In many parts of the world, including south Texas, certain sand fly species are suspected of transmitting cutaneous leishmaniasis to humans, which is a disfiguring protozoan disease.

Ways to Prevent Bites

Repellents such as those containing DEET (N,N-diethyl-meta-toluamide) or picaridin are suggested to prevent most flies from bitings. Also avoiding wet areas inhabited by the biting flies and wearing light-colored long-sleeve shirts, long pants and hats will prevent some flies from biting.

Controlling Biting Flies:

Some Non-Chemical Controls:

Biting flies can be difficult to control due to all the moist habitats where the larvae can develop. However **sanitation** is always important, so all potential sites for larval development should be eliminated and decaying vegetation should be disposed of. Also, screens should be installed and maintained on windows and doors and finer mesh should be installed to keep out tiny biting flies, where these flies are a problem. Fans can also be used indoors and outdoors to keep areas free of flies, especially smaller flies that can not fly into the air currents.

Some Chemical Controls:

Ultra-low volume (ULV) treatments and sprays of non-residual pesticides can be used where flies are clustered in a small area. Residual pesticides can be used to spray surfaces where flies are resting, such as in vegetation and along the exterior walls of structures. Also applications of *Bacillus thuringiensis israelensis* (Bti) or insect growth regulators, such as methoprene, have been used to control some fly larvae.



A horse fly, *Tabanus* sp. (Diptera: Tabanidae), adult female. Photo by Bart Drees, Professor and Extension Entomologist, Texas A&M University.



A deer fly, *Chrysops* sp. (Diptera: Tabanidae), adult female. Photo by Bart Drees, Professor and Extension Entomologist, Texas A&M University.

Can Aphids Become Easier Prey?

It seems that researchers at the Boyce Thompson Institute for Plant Research and Cornell University found that aphids found on genetically engineered plants can become

easier prey for predators. Under normal circumstances, when a lady beetle eats an aphid, the aphid releases an alarm pheromone. This causes other aphids to walk away or drop off the plant. However, when aphids are raised on genetically engineered plants that emit this same aphid alarm pheromone all the time, the aphids no longer respond to the chemical; thus making them easy prey for the lady beetles. Genetically engineered plants that produce the aphid alarm pheromone could be used to increase the effectiveness of aphid predators in the future.

Grasshoppers Hopping At the End of Summer

As we walk outdoors, we might be overwhelmed by the number of grasshoppers in the landscape. This is due to our hot, dry summer which favors grasshopper survival and reproduction. The female grasshopper uses its long ovipositor to deposit eggs ½ to 2 inches into the soil in the fall. The eggs hatch into nymphs in the spring or early summer, depending upon species. The nymphal stage lasts for around 6 weeks before molting into an adult with fully developed wings. The adult grasshoppers will be found until late fall or until a frost.

Grasshoppers feed mainly on weeds. However when the weeds begin to dry, the grasshoppers will go into other areas in search of food, such as plants in your landscape.

Some Control Options:

Some Non-Chemical Controls:

- 1) Controlling weeds will decrease the number of grasshoppers in an area. If weeds are removed, the grasshopper nymphs will starve and the adults will lay fewer eggs in the area.
- 2) Also tilling the soil in the late summer will discourage female grasshoppers from depositing eggs, since they prefer to lay eggs in undisturbed soil.
- 3) Floating row covers can be used to protect vegetable and flower gardens, and small fruit trees from grasshoppers. The fabric allows sunlight through, while protecting plants from insects.

Some Chemical Controls:

Monitor grasshopper infestations and treat when grasshoppers are in the nymphal stage. The immature grasshoppers are more susceptible to insecticides. Some effective insecticides include the active ingredients diflubenzuron, cyfluthrin, bifenthrin, and permethrin. Also baits can be applied such as those containing a protozoa, *Nosema locustae*.



"Rainbow" grasshopper, *Dactylotum* sp. (Orthoptera: Acrididae). Photo by Texas A&M University.

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