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## **Spring Weather Means Attack of the Aphids!**

Aphids are small, soft-bodied winged or wingless insects about 1/25 to 1/8 inches in length, with relatively long legs and antennae. Aphids can vary in color from black, green, yellow to even pink. Some aphids lay eggs, while others give birth to live young that can mature in as little as 7 to 8 days. Aphids have piercing-sucking mouthparts that remove phloem from the plant, which can cause distortions in young leaves and stunt new growth. They can also feed on flower buds, which cause deformities.

Since aphids feed on phloem they excrete honeydew, which is a sticky waste product that collects onto lower lying leaves. Once deposited, the honeydew is a nice food source for sooty mold which may grow on the underlying foliage. Sooty mold will inhibit photosynthesis, so its growth can potentially cause severe harm to the plants.

### **Some Control Options**

**Some Non-Chemical Control Options:** Conserve beneficial insects, such as spiders, praying mantids, assassin bugs, lacewings, ladybird beetle larvae and adults and parasitic wasps in outdoor landscapes. Also spraying water streams is effective to dislodge aphids feeding on plants.

**Some Chemical Control Options:** Insecticidal soaps and oils can be used to control aphids and are considered low impact insecticides. Other foliar insecticides containing such active ingredients as permethrin, cyfluthrin, carbaryl, deltamethrin, pyrethrins and tebufenozide or systemic insecticides such as those containing imidacloprid or acephate can also be used.



Yellow sugarcane aphid, *Sipha flava* (Forbes) (Homoptera: Aphididae). Photo by Bart Drees, Professor and Extension Entomologist, Texas A&M University.

## **Emerging May and June Beetles**

During April and May, we begin to see the adult May and June beetles (*Phyllophaga* spp.) flying around lights or onto window screens usually at night. The female May beetle will usually deposit eggs into the turf in April-May; where as the June beetle will usually deposit eggs in May-June. The eggs will hatch into grub worms that are creamy white in color with brown heads and are “c-shaped.” The grubs feed on dead organic matter and then move to the roots of plants. Since the grubs feed on roots, they can injure roots of grasses and other plants. This causes infested turf to brown and removable in large clumps.

Before treating for grub worms, lawns should be inspected to determine the presence of an infestation which is more than 5 grubs found within a square foot. In order to inspect an area, soil sections 3 to 4 inches deep should be taken randomly to total one square foot for every 1000 square feet of infested area. One square foot of turf can be sampled by removing four, 6 inch square pieces of turf or ten, 4 inch cup cutter core samples.

The optimal time for inspection and treatment should be 5 to 6 weeks after the most beetles are seen. This will ensure that smaller grub worms (less than ½ inches) will be found in the turf. Insecticides should only be applied if a grub worm infestation exists

in your lawn, since unnecessary use of insecticides can cause insect resistance and harm to beneficial organisms.

### **Some Control Options:**

#### **Non-Chemical Control Options:**

Maintain healthy turf by fertilizing and watering properly.

Parasitic nematodes in the genera *Steinernema* and *Heterorhabditis* have been shown to be effective against white grubs. They can be purchased and applied to infested areas.

#### **Chemical Control Options:**

Irrigating the soil with  $\frac{1}{4}$  to  $\frac{1}{2}$  inches of water prior to treatment can improve the effectiveness of the insecticides, since the grubs will move closer to the soil surface. Imidacloprid, halofenozide, and clothianidin are some chemical options that are often applied before extensive grub worm damage is seen, since they are effective on smaller grub worms. Lambda-cyhalothrin and trichlorfon are some examples of chemicals used after grub worms are present as a curative control. Also there are combinations of chemicals such as imidacloprid and bifenthrin that can be used for a preventative and curative control option.



**Golf course fairway damaged by white grubs.** Photo by Texas A&M University, Department of Entomology.



**Grub worm from *Phyllophaga* spp.** Photo by Texas A&M University, Department of Entomology.

## **Protect Yourself Against Mosquitoes**

Around 29,000 cases of West Nile Virus have been reported in the US since 1999, according to the CDC. This makes the use of repellents very important as we begin to enjoy outdoor activities. There are many excuses for not using repellents such as it doesn't smell good, it's too expensive, but the bottom line is that repellents are needed to prevent the possible transmission of diseases from that female mosquito. The female mosquito consumes blood in order to develop her eggs, which causes her to be considered one of the biggest medical threats to humans, since they are capable of transmitting not only West Nile but Malaria, Eastern Equine Encephalitis, and Yellow Fever.

Mosquitoes are a diverse group of flies, and there are over 85 species in Texas. Mosquitoes develop through a complete lifecycle with an egg, larva, pupa and adult stage. Mosquito eggs may be laid individually or in clusters on the surface of water or in dry locations that will flood periodically. The eggs hatch into larvae that eat microscopic plants, animals and other organic material in the water. The larvae will then develop into pupae, which do not feed. Then the adult stage will emerge from the water and take flight.

### **Some Options to Prevent Mosquito Bites:**

- 1) Chemicals can be applied to the skin and clothes to prevent bites. There are many mosquito repellents on the market such as those containing DEET, picaridin, oil of eucalyptus, and soybean oil-based repellents.
- 2) Avoid wearing dark colors, since mosquitoes rely on visual cues to locate hosts.
- 3) Avoid exercising or yard work in the heat of the day, since mosquitoes are attracted to carbon dioxide and perspiration.

- 4) Avoid wearing fruity or floral fragrances in perfumes, hair products, or sunscreens, since these scents are more attractive to mosquitoes.
- 5) Wear long, loose-fitting clothing to avoid mosquito bites.

**Some Options For Controlling Mosquito Populations Outdoors:**

- 1) The number one way to reduce mosquito populations in your yard is **source reduction!!!** Mosquitoes need as little as a bottle cap full of water in order to complete their lifecycle. **If standing water is eliminated, then the overall mosquito population in your area will be reduced.**
  - A) Areas containing water should be changed once a week or emptied, such as wading pools, buckets, bird baths, pet dishes, ponds, boat covers, and irrigation systems.
  - B) Holes or depressions in trees should be filled with sand or mortar.
  - C) Leaky pipes should be repaired.
  - D) If standing water can not be drained, then mosquito dunks containing *Bacillus thuringiensis israelensis (Bti)* can be used.
- 2) Mow tall grass and reduce the amount of foliage, to reduce the resting sites for adult mosquitoes.
- 3) Insecticides can be applied to trees and shrubs, such as those containing pyrethrins, to kill adult mosquitoes.



A mosquito larva, (Diptera: Culicidae). Photo by Bart Drees, Professor and Extension Entomologist, Texas A&M University.

## **Finally a Good Use for Tobacco!**

Scientists in the Biotechnology Foundation Laboratories at Thomas Jefferson University in Philadelphia have been developing strains of tobacco plants to produce large amounts of biomass from the leaves and stems for the use in biofuel. Tobacco plants contain sugar, starch and cellulose that can be converted into ethanol. Also the tobacco seeds are rich in oils that can be used to make biodiesel. They expect to be able to at least double the amount of biodiesel produced per acre compared to the amount produced from soybeans. For more information, please visit the Nursery Management and Production magazine: <http://www.nmpromagazine.com>.

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