

mite that is attacking your citrus. The second step is to determine the best approach for managing this pest or preventing infestation of your citrus tree(s).

Depending on your preference and your tolerance for damage to your fruit, you can choose to use chemical or nonchemical means to control insects and mites on citrus. The specific guidelines vary depending on the pest.

Cultural control strategies include managing weeds near your trees. Weeds often provide a harbor for insects that may attack your trees. It also is important to scout frequently for insects and mites attacking your tree(s) in order to attempt to control them before they are abundant on your tree(s).

Biological control is the use of predatory mites or insects, pathogens or other naturally occurring mechanisms to control insects and mites attacking your citrus.

Chemical control is the use of pesticides to control insects and mites on citrus. Please contact a county agent in your parish LSU AgCenter office for the latest in LSU AgCenter Citrus IPM recommendations. If you intend to use pesticides to control insects and mites in your citrus, please consult the latest version of LSU AgCenter publication 1838, which provides the latest pesticide recommendations to control citrus in backyards.

In general, be sure to carefully read any insecticide labels before applying them to your citrus trees. Before you spray your citrus with any insecticides, make sure citrus is included on the label. Also make sure the insects or mites you would like to control are listed on the label.

Oils can be used to control many insects that attack citrus, including whiteflies and scales. These products work by suffocating insects and causing them to die. But keep in mind it is important to discontinue use of oils after Aug. 1 to avoid damage to fruit and delay in fruit maturity.

pH

It is very important to consider the pH of tank water when preparing pesticides to spray on citrus trees to control insects. pH is a factor of the acidity or alkalinity of your water. It is important for your water to be on the acid side (pH less than 7.0) when spraying insecticides. Most insecticides are acid-forming materials. If mixed in an alkaline water solution (pH greater than 7.0), they can break down before you spray them on your crop. If the pesticide breaks down, it will not kill the insects you are trying to control.

The average pH of water in Louisiana is 8.3, while the optimum range for most insecticides is between 5.5 and 6.5. It is best to check your water pH with a digital pH pen. pH can be adjusted by adding a buffer before adding the insecticide. Add buffer, check pH and repeat until the proper range is reached. Then add insecticide, mix solution and spray.

Using the correct pH allows the insecticide to give you the proper knockdown of the pest and extended

residual for proper insect management. Spraying without adjusting pH can cause you to spray more and lead to development of insect tolerance or resistance to the insecticide used. Tolerance is the ability of an insect or mite to tolerate exposure to an insecticide. Resistance is an inherited condition in which the offspring of an insect or mite that survived an insecticide treatment also have the ability to survive subsequent insecticide treatments.

Spraying insecticides from a tank solution with the proper pH will give better control of the pest with fewer sprays – thus saving you time and money, as well as being safer for the environment.

Disease Control

Citrus trees and their fruit are subject to several diseases. Only the most common ones are described.

Scab

Scab is primarily a disease of satsuma, grapefruit and lemons. It does not affect oranges. Scab affects fruit, leaves and young shoots, causing irregular raised corky, scabby wart-like outgrowths. Severely scabbed leaves and fruit become misshapen and distorted (Figures 15 and 16). The rind of scabbed fruit is thick and puffy. Scab infection occurs on young growth in the spring. Copper fungicides, tribasic copper sulfate or Kocide sprayed after bloom when the fruit is pea size will control scab.



Figure 15. Photo: Bob Fletcher, LSU AgCenter



Figure 16. Photo: Bobby Fletcher, LSU AgCenter

Melanose

Melanose is caused by a fungus that also affects leaves, shoots and fruit. It forms numerous dark brown dots or spots on the leaves, young shoots and fruit. These spots are at first sunken but later become slightly raised but not as much as scab. The spots may cover one side of the surface of the fruit, or they may run in streaks to form a tear stain-like pattern (Figure 17). Melanose infection occurs on young, tender growth. The fruit becomes progressively resistant with age.