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AGRIVIEW

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Grasshoppers are among the most widespread and damaging pests in Texas.

Approximately 150 species of grasshoppers are known to exist in the state; however, only five species cause 90 percent of the damage to crops, gardens, trees and shrubs.

These insects cause some damage every year, but become very destructive during outbreak periods. An often asked question during outbreak years is: Why are there so many? Weather is the main factor affecting grasshopper populations. Outbreaks are usually preceded by several years of hot, dry summers and warm autumns. Dry weather increases nymph and adult survival. Warm autumns allow grasshoppers more time to feed and lay eggs. Cool, wet weather slows nymphal development, reduces the number of eggs laid, and increases the incidence of diseases. Grasshoppers have a high reproductive capacity. The female can lay an average of 200 eggs during a single season. Under favorable conditions up to 400 eggs can be laid. Approximately 40 eggs can be laid even if unfavorable conditions exist. Thus, 10 times more eggs can be produced during favorable conditions. With an average of 200 eggs per female, 198 eggs or young grasshoppers would have to die if the population were to remain the same. If, instead of only two adults surviving, there are four, six, eight, ten or fifty then the adult population the following year will be increased two, three, four, five or twenty five times, respectively.

Farmers and ranchers should watch for grasshoppers early in the season and begin control measures while grasshoppers are in the nymphal stages and still within hatching sites (roadsides, fencerows, etc.). There are a number of advantages in treating grasshoppers early: 1) fewer acres will have to be treated and less insecticide is necessary to obtain control; 2) grasshoppers are killed before they have had the opportunity to cause significant crop loss; 3) smaller grasshoppers are more susceptible to insecticides than larger hoppers; 4) early treatment before grasshoppers reach maturity prevents migration of the winged (flying) adult stage and egg laying, which may help reduce the grasshopper threat for the following crop year.

Grasshopper infestation levels can be estimated by surveying for nymphs or adults. One method is the square-foot method. In the area to be sampled, count the number of grasshoppers that hop or move within a square foot area. With 15 to 20 paces between each square-foot sample, conduct 18 square-foot samples and divide the total number of grasshoppers by two to obtain the number per square yard. If the grasshopper's are predominantly first to third instar, (wingless and generally less than $\frac{1}{2}$ inch long), divide the number by three to give the adult equivalent. Consider fourth instar nymphs and above as adults. Control will generally be necessary when square-yard counts reach the threatening level of 21 - 40 in the margins or 1 - 14 in the field.

When grasshopper populations reach intolerable levels, or when crops are threatened a treatment program may need to be considered. You can contact the County Extension Agent or your Ag retailer for more information on recommended insecticides.

LANDSCAPE PREPARATION:

Landscape preparation for a summer vacation may sound like a lot of extra work, but it is really not much more than the normal weekend routine of maintaining a healthy, well-groomed landscape. Just a little extra effort on your part before leaving can make a big difference in the health and well-being of your plants. Here are some practical tips that should help ensure that your home landscape will not suffer the post-vacation blues. And don't forget to visit some gardens while you are away. There are many spectacular gardens to enjoy in just about any part of the country where you may be headed.

WATER - Water the home grounds well prior to leaving. Soak your lawn, garden and all landscape plants deeply. Our shallow soils can dry out rapidly even after a heavy watering, so if you will be gone for a week, plan to have a neighbor hook up your hose and do a little supplemental watering.

CUT - Mow your lawn a day or two before you leave. Use the same cutting height that you normally do. Don't lower the mower blade for a "closer shave". Doing so could easily cause sun scald and damage. If you plan to be gone more than a week, it would be a good idea to arrange to have a friend or neighbor mow the lawn for you. Prune hedges and other plants likely to get gangly by the time you return. Be sure that walks and flower beds are neatly edged before your departure. A buildup of growth while you are away will be difficult to manage on your return.

MULCH - Mulching helps conserve valuable moisture for plant growth while you are at home or away. Choose a clean mulch, free of weed seed and one which will remain loose and well aerated. Consider grass clippings, pine bark, compost or a variety of other organic materials. Mulching will also reduce or eliminate the weeding problem.

CHECK FOR INSECTS AND DISEASES - Spray, if necessary, for insects and diseases, to prevent a buildup of pests during your absence. Summer insects and diseases do not take a vacation, and will work overtime on your healthy plants. This goes particularly for chinch bugs. Make sure you have applied chinch bug control to your St. Augustine lawn, or you just might find it severely damaged by this little critter when you return.

HARVEST - Pick all ripe or nearly ripe fruit and vegetables. If you will be gone over a week, arrange for a friend to pull and use produce. Vegetables left unpicked will frequently cease to bear.

MAINTAIN EQUIPMENT - Take lawn and garden equipment by the repair shop if needed. They will have it ready by the time you return.

PROTECT PROPERTY - Arrange for a neighbor to pick up newspapers, or ask the paper delivery service to hold them until you return. Newspapers scattered over the front lawn are a dead giveaway that no one is home. Lights on a timer are a good idea, and can provide an impression that someone is home.

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