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Elm Leaf Beetle

Elm leaf beetles are one of the most common pests found on all types of elms in this area. The insects feed on the leaves and cause them to dry up and die. Heavily infested trees have an unsightly brown appearance. Repeated, heavy infestations weaken a tree by decreasing the amount of food it can manufacture with its leaves. Trees low in stored energy are prone to branch dieback, and decline.

Adult elm leaf beetles are also nuisance pests in houses. Large numbers of beetles may seek overwintering shelter in and around homes and come out of dormancy over the course of the winter.

The adults are about a quarter of an inch long and yellow to olive green with dark stripes running the length of the body. The worm-like larvae are up to half an inch long when mature and are pale yellow with black stripes.

Life History and Habits

Elm leaf beetles overwinter as adults in protected locations. Typically these areas include cracks and crevices in homes, woodpiles, and under debris. During the winter, the insects are hibernating and do not feed. In mid spring, as elm buds are opening, the beetles fly to the trees and feed on the expanding leaves. Adult feeding causes small holes in the leaf. The adult female beetles lay yellow-orange eggs in masses on the underside of the leaves. The individual eggs resemble small footballs. A single female can produce up to 800 eggs which are laid over several weeks.

The eggs hatch in about a week and the immature larvae begin feeding on the lower surface of the leaf, This type of surface feeding is referred to as skeletonizing as the network of leaf veins are exposed. As the larvae mature they begin feeding on the upper leaf surface as well. They do not feed on the larger veins. The feeding site eventually dries up and dies, causing the leaf to brown. When a large area of the leaf has been damaged, it may drop prematurely.

The larvae grow and molt (shed skins) repeatedly. Within two to three weeks, the larvae are full-grown and cease feeding. They then migrate down the trunk of the tree to pupate. Most pupation takes place at the base of the tree, although some occurs in folds in the bark. The adults emerge from the pupae within one to two weeks.

A second generation occurs in mid-summer. Leaf feeding injury is associated with each generation of elm leaf beetle, although the first generation is generally considered to be the most damaging. As the days begin to shorten in late August to early September, adult beetles seek overwintering shelter.

Control on Trees

Several insecticides are effective controls when sprayed on foliage at a time when the larvae are most vulnerable. These treatments are best applied after most eggs have been laid, but before larvae cause significant damage. Older larvae are more difficult to control. Spraying the trunk as the larvae are migrating down to pupate is not an effective time to treat as the leaf damage will have already occurred. Two foliar sprays (one for each generation), will provide the most effective control on heavily infested sites. However, if infestation is light and surrounding trees are not affected, treating only the first generation is usually satisfactory. The insecticide Carbaryl (Sevin) is useful for controlling elm leaf beetle.

It is important to always read, understand, and follow all of the instructions on manufacturers' product labels. It is illegal and unsafe to use

pesticides in any other manner.

Another strategy for the chemical control of elm leaf beetle outbreaks is the use of a soil-applied systemic insecticide. Imidacloprid (Merit) is the most commonly used insecticide for this purpose and is applied as either a soil injection or soil drench. Drenches are used for trees with less soil surface area available such as trees on boulevards or in planter boxes. Efficacy of soil applied insecticides can be improved if fertilization is done at the same time.

Control in the Home

Houses located near trees heavily infested by elm leaf beetles often have to deal with adult beetles moving into the home for the winter. It's important to remember that, although the beetles are an annoyance, they do no harm indoors. They do not reproduce in homes nor do they feed on or damage household food and furnishings. Beetles may become active indoors during warm periods until they move outside or die. The nuisance can be reduced if the following steps are taken.

- Control beetles on trees known to be infested
- Caulk cracks around windows and doors, or under siding before beetles move to home in late summer. (Migration into homes increases in early September.)
- Be sure all window screens are in place and fit tightly
- Use a vacuum cleaner to clean up beetles found in the house.
- Understand that no matter how annoying, the nuisance will end by mid-spring.

After assessing your site and plant health your Consulting Arborist can make specific recommendations regarding treatment of your important landscape plants.