



Ornamentals & Turf

Department of Entomology

THE ELM LEAF BEETLE

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In Indiana, the elm leaf beetle is found wherever elm trees are growing, but is usually more troublesome in the southern part of the state. Although all elm species are subject to attack, the beetle prefers "Chinese" elm. Trees growing in urban areas are usually more heavily infested than those in forests or woods. The Wilson variety of elm is resistant to the beetle.

DESCRIPTION

The adult beetle is somewhat oval and about 1/4 inch long. When newly emerged from the pupal stage, it is light yellow with a black stripe along each outer margin of the back. As the beetle ages, the yellow color dulls to an olive green, and the black stripes become less distinct.

The eggs are bright yellow and spindle-shaped. They are laid in clusters of 5-25 on the underside of elm leaves. New young larvae are black and slug-like. Full-grown larvae are about 1/2 inch long, dull yellow with black head, legs and hairs, and a pair of black stripes along the back.

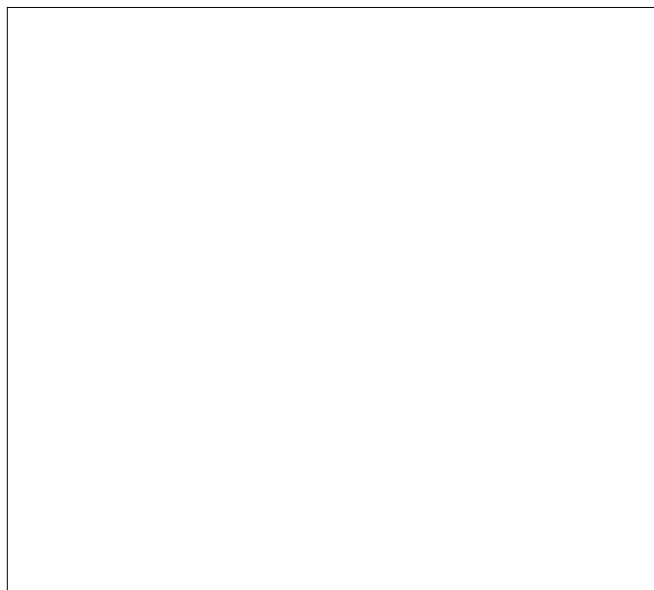
LIFE HISTORY AND FEEDING HABITS

The adult elm leaf beetle passes the winter in protected places, like under rough bark, in cracks and crevices, or in buildings, including houses and especially attics. Inside homes, adult beetles may become a nuisance both in the fall when they are actively entering and again in the spring when they attempt to leave the house.

Starting about mid-May, overwintering beetles deposit their eggs on the underside of leaves. These eggs hatch in about a week, and the larvae feed on the underside of the leaves for the next 2-3 weeks. Only the veins and upper surface are left, giving leaves a "skeletonized" appearance. Those heavily infested turn brown as if scorched by fire.

When full-grown, the larvae crawl down the trunk or drop to the ground and pupate at the base of the tree or in crevices in the bark. The adults emerge in about 10 days (during July), feed again on the elm leaves, and lay eggs for a second generation. Adults from this second generation go into hibernation as described earlier. The number of generations a year depends upon the length of the growing season, but in Indiana, the number usually is two.

Most of the tree damage is done by the first generation insects. Defoliated trees may grow new leaves the same season; but this second leafing becomes subject to attack by the second generation beetles.



DANGERS OF SEVERE FEEDING

Beetle-feeding alone will not generally kill an elm tree. However, severe feeding will weaken a tree, making it more susceptible to attack by other insects and diseases, especially Dutch elm disease. Although the elm leaf beetle does not carry this disease, the elm bark beetle, which will attack weakened trees, does. Even without secondary attack by other insect and disease pests, repeated elm leaf beetle damage may eventually weaken trees to the point of death.

CONTROL ON TREES

Spraying. Spraying of infested trees should be timed to kill the young first-generation larvae and later the second-generation larvae. Any of the insecticides in Table 1 will give satisfactory control when properly used.

Soil Injection. The elm leaf beetle can also be controlled by injecting a systemic insecticide into the soil

around the tree roots about June 1. This should be done by commercial arborists and nurserymen. Systemics also control scale insects, leafhoppers and aphids.

CONTROL IN HOMES

Most beetles can be kept out of homes by screening all openings. It will also help to spray cracks around window screens and outside foundation walls with carbaryl (Sevin) 80%SP mixed at a rate of 1 pound material to 10 gallons of water.

Hibernating elm leaf beetles in houses do no damage but are a nuisance. Household sprays or aerosols containing pyrethrins and/or dichlorvos (DDVP) will give temporary control. For best results, mist an entire room with the insecticide and close it off for several hours. Afterwards, dead beetles can be picked up with a vacuum sweeper.

TABLE 1. SPRAYS FOR ELM LEAF BEETLE CONTROL ON TREES (Use One Only).

Insecticide and formulation	Amount in 100 gal water	Amount in 1 gal water	Remarks
carbaryl			Make first application in late May or early June and second application in late July or early August.
Sevin 27%L	2 pt.	4 tsp.	
Sevin 80% SP	1-1/4 lb.	1-1/4 Tbs.	
Sevin 50% WP	1 lb.	1 Tbs.	
methoxychlor 2EC	1-2 qt.	2-4 tsp.	
Orthene 1.3 lbs./gal. CE	2-1/3 qt.	1-1/2 Tbs.	

Elm leaf beetle: *Pyrrhalta luteola* (Muller)

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

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