



Elm leaf beetle

Pyrrhalta luteola

Order Coleoptera, Family Chrysomelidae; leaf beetles
Introduced pest

Host plants: American, Siberian and other elms, and *Zelkova*

Description: Adult beetles are 5–7 mm long and yellowish to dull green, with a black stripe on the edges of each wing cover. There are three dark spots behind the head. Mature larvae are about 12 mm long. They are yellowish in color with two lines of black dots along the back.

Life history: Adults emerge in May and deposit eggs in late May or early June. Larvae feed on the undersurface of leaves and pupate at the base of trees. There are two generations a year.

Overwintering: Adults in sheltered places.

Damage symptoms: Adult feeding causes shot holes between the major veins of leaves while larval feeding on the underside of leaves causes skeletonization. Damaged leaves dry out and turn brown. Shade trees are often heavily defoliated.

Monitoring: Monitor for adult beetles in May. Look on the underside of leaves in June for eggs and larvae, and in late June at tree bases for pupae.

Cultural control: Plant resistant species such as *Ulmus wilsoniana* and *Ulmus parvifolia*.

Chemical control: Spray larvae and pupae at the base of trees with carbaryl or *Beauveria bassiana*. In cases of severe infestation spray foliage with residual insecticides.

Biological control: Few parasitoids offer control. Two parasitoids are *Tetrastichus gallerucae* and *T. brevistigma* (Eulophidae). *Harmonia axyridis*, the Asian lady beetle, feeds on eggs. Staphylinid beetles, ants, and carabid beetles feed on larvae and pupae on the ground. The most effective natural control is *Beauveria bassiana*, which has been found in Italy to kill overwintering adults (Triggianni 1986).

Plant mortality risk: Low

Biorational pesticides: azadirachtin, *Beauveria bassiana*, *Bacillus thuringiensis* var. *tenebrionis*, horticultural oil, insecticidal soap, spinosad

Conventional pesticides: acephate, bifenthrin, carbaryl, chlorpyrifos (nursery only), cyfluthrin, deltamethrin, fluvalinate, imidacloprid, lambda-cyhalothrin, permethrin



Skeletonizing damage caused by elm leaf beetle larvae. (92)
Photo: David Laughlin



Shot hole feeding damage caused by elm leaf beetle adults. (99)
Photo: Whitney Cranshaw



Shot hole damage caused by elm leaf beetle adult. (93)
Photo: Clemson University Cooperative Extension Service



Elm leaf beetle (continued)



Skeletonizing damage caused by elm leaf beetle larva. (95)
Photo: John Davidson



Elm leaf beetle eggs on underside of leaf. (96)
Photo: Oregon State University Extension Service



Elm leaf beetle larvae recently emerged from egg mass. (100)
Photo: Whitney Cranshaw



Elm leaf beetle pupae. (84)
Photo: John Davidson