

The Euonymus Scale

The Euonymus Scale (*Unaspis euonymi*) is a very common and serious pest of evergreen euonymus, especially *Euonymus japonica*, and bittersweet. Occasionally, infestations also are found on pachysandra. This armored scale insect develops large populations and is very difficult to control. Like most armored scales, individuals form a tough cover of waxes and proteins which they enlarge as they grow.

Appearance and Life Cycle

The male scale covers are elongate and white with three longitudinal ridges. They occur in greatest numbers on the lower branches and leaves of the plant. The female scale covers are broadly oystershell-shaped and dark brown. They are found mainly on stems, and only occasionally on leaves. They are about 1-2 mm (1/16 inch) long. The eggs are deposited under the female scale cover and begin hatching in May. The young scales, called crawlers, appear as yellow specks smaller than a pin head. The crawlers move to leaves or stems and begin feeding by piercing the plant tissue with thin, threadlike, microscopic mouthparts. They quickly begin producing the hard protective covering which they extend backwards as they grow. There are two generations of Euonymus Scale produced in Maryland. The hatching time of the second generation is not clear-cut, however, and the two generations overlap. All stages are present in the summer, but crawlers are most abundant in May and July.

Damage

Conspicuous white flecks on plant leaves are the best signal that this pest is present. On young green leaves each white fleck often is surrounded by a yellow halo. Heavily infested susceptible plants will prematurely drop large numbers of leaves in the winter and dieback will occur. Dieback is most serious in winters following droughts.



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Control

Cultural Control

Avoid planting *Euonymus japonica* because it is highly susceptible to this scale. Plant vigorously growing varieties such as *Euonymus kiautschovica* 'Manhattan' that can better tolerate leaf drop. Less vigorous varieties such as those which are variegated and dwarfed should be mulched and watered adequately during a drought to reduce winter leaf loss. Where possible, heavily infested Euonymus shrubs and hedges should be cut to the ground and the new shoots protected from reinfestations by sprays as needed. Over-fertilization increases scale insect populations.

Biological Control

An imported species of lady beetle, *Chilocorus kuwanae*, has been successfully established in Maryland to help control this pest. This round, 1/5" wide, black beetle has two red spots

on its' back (see illustration). Both the adult and the immature stages of this beetle have a hearty appetite for all stages of Euonymus Scale and research has shown that the can control infestations. When adults of this beetle move to new plants they can bring with them a small mite (*Hemisarcoptes malus*) that also feeds on the scales. Chemical sprays should only be applied to infested plants that do not have lady beetles on them. In this way the beneficial insects present will not be eliminated from the entire planting. Horticultural oil sprays cause the least reduction in lady beetle populations.

Chemical Control

Dormant sprays with horticultural oil, and summer sprays with oil or insecticides, will help control the Euonymus Scale. Spray all parts of the plants thoroughly. Do not use chemical sprays unless pests are present.

Dormant Spray: Spray in early spring before new growth starts.

Use: A horticultural spray oil labeled for scale insect control in the dormant season should be used according to label directions. This product is available in garden centers under several brand names.

Summer Sprays: Use one of the following for scale control during the summer: A horticultural oil spray at the summer rate or Insecticidal Soap (several brands). Oil and soap sprays will reduce scale populations on stems and leaves.

CAREFULLY FOLLOW ALL LABEL DIRECTIONS WHEN MIXING AND APPLYING THE SPRAY.

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