

Euonymus Scale

Insect Pest of Euonymus Plants Grown in Landscapes

Euonymus scale, *Unaspis euonymi*, is an insect pest of evergreen euonymus, *Euonymus japonicus*, and Japanese pachysandra, *Pachysandra terminalis*. This publication provides information on pest biology and plant damage, and the strategies that can be used to manage euonymus scale in landscapes.

Biology

Euonymus scale is typically located on the upper side and underside of leaves, on stems, and lower branches. Adult females are $\frac{1}{16}$ inch (3.0 mm) long, dark brown, flattened, and similar in shape to an oyster shell. Adult males are $\frac{1}{32}$ (0.8 mm) inches long and white with three ridges that extend lengthwise on the body (Figure 1). Males eventually become winged individuals, mate with females, and then die. After mating, females lay (oviposit) eggs underneath their body coverings during a 3- to 4-week period, producing approximately 80 eggs.

Starting in mid-spring, yellow nymphs (crawlers) emerge (eclose) from the eggs and crawl out from underneath the female coverings during a 2- to 3-week period. The nymphs are active from summer through fall. Nymphs move along the stem for 2 to 3 days, settle down, and then start feeding. During feeding, nymphs produce a hard, protective waxy covering that extends backward as the nymphs increase in size. The nymphs then become adults, and the hard, waxy covering protects them from exposure to contact insecticides. Euonymus scale overwinters as a

gray-to-brown mated (fertilized) female on plant stems. There can be up to three generations per year in Kansas.

Damage

Euonymus scale uses needlelike, piercing-sucking mouthparts to feed within the leaf tissues. Leaves fed on by euonymus scale are spotted white or yellow (Figure 2), which can ruin the aesthetic appearance of plants. Extensive infestations of euonymus scale can result in leaves and branches covered with white males (Figure 3). Leaves eventually fall off plants resulting in complete defoliation and branch dieback, and possibly plant death.

Plants located near shaded areas, such as along building foundations or walls are more susceptible to euonymus scale (Figures 4 and 5) than plants growing in areas that receive sunlight all day. Nymphs can infest adjacent plants by being carried on air currents, which can result in infestations not being detected until populations are extensive and damage is noticeable. Variegated euonymus varieties are more susceptible to euonymus scale than green varieties.

Management

Prune out infested branches to reduce euonymus scale populations. Cut back heavily infested euonymus plants to the soil level. A contact insecticide can be applied to protect emerging new growth. All pruned branches and other plant material should be discarded.



Figure 1. Male and female euonymus scale on leaf. Close-up of euonymus scale males (white) and females (brown). (Photo: Raymond Cloyd)



Figure 2. Leaves spotted yellow caused by euonymus scale feeding. (Photo: Raymond Cloyd)

Do not overfertilize euonymus plants with water-soluble, nitrogen-based fertilizers, which can promote euonymus scale infestations. In addition, plants should be watered regularly throughout the growing season to minimize susceptibility to euonymus scale.

Wrap double-sided sticky tape around branches of euonymus plants to capture nymphs, which will help time insecticide applications. Check the double-sided sticky tape for nymphs at least once a week and apply an insecticide when nymphs are present.

Apply dormant oil insecticides during the winter to kill the overwintering females. Make applications before new growth emerges. Dormant oil applications may reduce euonymus scale infestations early in the growing season because the nymphs do not have a protective waxy covering. Consequently, the nymphs are easily killed by applications of contact insecticides. Apply contact insecticides from spring through summer, when the nymphs are active, which will alleviate problems with euonymus scale later in the growing season. Multiple or repeat applications are required because the nymphs continue to emerge from underneath the female covering over a 2- to 3-week period. Three to four applications performed at 7- to 10-day intervals may be needed depending on the level of the euonymus scale infestation. Thorough coverage of leaves, stems, and branches with insecticide spray applications

is important to manage euonymus scale populations. Soil applications of systemic insecticides will not effectively protect plants from euonymus scale infestations.

Always read and follow label directions before applying any insecticide product. Water plants thoroughly before applying any insecticide to alleviate plant damage from insecticide sprays.

Euonymus scale is susceptible to an assortment of beneficial insects including parasitoids (parasitic wasps), ladybird beetles, green lacewings, and minute pirate bugs; however, beneficial insects will not manage extensive populations of euonymus scale sufficiently to prevent plant damage. Furthermore, most contact insecticides applied to manage euonymus scale may be harmful to beneficial insects.



Figure 3. White males of euonymus scale on branch. (Photo: Raymond Cloyd)



Figure 4. Extensive infestations of euonymus scale can cause leaf browning and defoliation of euonymus plants. (Photo: Raymond Cloyd)



Figure 5. Euonymus plants located near structures or walls are more susceptible to euonymus scale. (Photo: Raymond Cloyd)

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