Ash Bug Control

timing of application of insecticide important

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THE MOST IMPORTANT INSECT ENEMIES of the native Oregon Ash, and the commonly planted Arizona Ash, in California are plant bugs of the genus *Neoborus* and lace bugs of the genus *Leptoypha*.

Ash trees are grown extensively for shade and ornamental purposes in parks and along highways throughout California. Because of their rapid growth and resistance to drought, they are considered suitable for planting in the central valleys and in southern California. Unfortunately this otherwise admirably adapted tree is subject to attack by several native insect pests.

The ash plant bug and the ash lace bug may be controlled effectively with almost any contact insecticide such as rotenone, nicotine, or pyrethrum, in a summer strength oil or with DDT, provided control measures are timed to coincide with the leafing out of the trees and with the life histories of the bugs.

The Ash Plant Bug

The ash plant bug, *Neoborus illitus*, is about one-fourth inch in length, yellowish in color with dark brown spots, and is similar in body form to its close relatives, the well-known Lygus bugs. The nymphs are oval, yellow to brown, shining bugs with externally developing wing pads. The eggs hatch when the first leaves appear early in March. Nymphal development requires approximately 25 days, the insect passing through five nymphal instars.

Mating takes place about the middle of April and the males die off soon after this. The females oviposit in the stems of the current year's growth during April and May. The eggs remain imbedded in the plant tissue in a relatively undeveloped condition during the summer and fall. They develop more rapidly and swell by absorption of water during the winter. Hatching follows in the spring and the annual cycle is repeated.

Neoborus pacificus is less abundant on ornamental trees. It resembles *illitus* but lacks the brown markings in both the adult and nymphal stages. It undergoes a life cycle similar to *illitus* except for a second spring generation.

Neoborus injury starts with the feeding of newly emerged nymphs on the opening buds. White areas devoid of chlorophyll—the green color—and black excrement spots are characteristic evidence on large leaves, while the stems and entire current season's growth wilt as the season advances. Finally entire limbs become defoliated.

After oviposition and death of the bugs, new leaves are put forth and the tree regains a superficially normal appearance during the summer months.

Control

Control of the eggs may be accomplished with a dormant oil spray or one of the dinitro preparations applied in January or early in February.

The most effective control is with rotenone, pyrethrum, or nicotine in a summer strength oil at dilutions of one part insecticide to 800 parts of water or one part to 1200 parts, or with DDT at a rate of one pound of actual DDT to 100 gallons of water. From 12 to 20 gallons of spray are required, depending upon the size of the tree.

Application should be made in March after the eggs have hatched but before the developing nymphs have reached maturity.

At this time, the bugs are most susceptible to the spray and are wingless. Also they have not laid eggs so control at this time solves the problem for the current season and also for the following year, since there will be no eggs laid to hatch during the following spring.

Ash Lace Bug

The ash lace bug, *Leptoypha minor*, differs from other common lace bugs in that it is brown in color and compact in body form but without the lacy lateral lobes.

Adults hibernate during the winter in and around the trees. Eggs are laid on the undersides of the leaves beginning late in April after which generations follow one another continuously at monthly intervals until October. The population gradually builds up, attaining injurious numbers in late summer.

The nymphs are flattened, spiny, and gregarious, living in colonies on the undersides of leaves. They pass through five stages, leaving their cast skins adhering to the leaf surface long after they have left.

Defoliation caused by the feeding of the ash plant bug.

Ash lace bugs cause a whitening of the leaves and a black spotting of the under surfaces due to fecal deposits. As the season progresses, the foliage becomes brown and partial defoliation may occur. The spiny cast skins of the nymphs adhering to the under surfaces of the leaves are helpful in recognizing ash lace bug injury.

Control

Both nymphs and adults of the lace bug may be controlled with the same contact sprays mentioned for the ash plant bug. Good coverage, especially of the under surfaces of the leaves, is essential. Control need not be timed to the opening of buds in the spring. Contact insecticides are effective against nymphs and adults at any time during the season, though early applications—May or June—will prevent serious injury.

The eggs are not killed by the spray materials mentioned, so two applications at two-week intervals are necessary for complete control. A dormant spray applied in January or early February as an ovicide for ash plant bug will destroy most of the ash lace bugs which normally hibernate in the crevices of the bark of the trees.

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