



BUG BIZ

Pest Management and Insect Identification Series



Yellow Aphids on Pecans

Distribution

Two species of yellow aphids (Fig. 1) are found on pecans in Louisiana; these are the yellow pecan aphid, *Monelliopsis pecanis* (Bissel), and the blackmargined pecan aphid, *Monellia caryella* (Fitch). Both species are found throughout Louisiana and in all pecan-producing states.

Description and Life Cycle

The immature stages (nymphs) and the wingless adults cannot be readily identified except by trained individuals, but the winged adults exhibit characteristics that allow for easy identification. The wings of the yellow pecan aphid (Fig. 2) are held rooflike over the body when at rest and are free of any markings. The wings of the blackmargined aphid (Fig. 3) are held flat over the body at rest, and a black stripe can be found along the outside margins of the wings. Adults of both species are about 1/16 of an inch long.

The life cycle of these two aphids are similar, and they can usually be found together on the trees. Both species overwinter under the bark of the tree, with the eggs generally hatching in late March or early April. After hatching, the nymphs move to the undersides of the leaflets and begin feeding on the veins. There are about 22 to 32 generations of the yellow pecan aphid per year, with the adults producing from 5 to 83 offspring each. The blackmargined aphid has from 16 to 32 generations per year, with the adults producing from 80 to 215 offspring each. Large populations can develop in May and June, but the greatest outbreaks will usually develop in late summer and early fall.

During the summer the aphids give birth to live young, all of which are female. As they mature, both winged and wingless forms appear. As day-length shortens and temperatures fall in late autumn, males are produced which will mate with the females to produce the eggs of the overwintering generation.



Figure 1. Yellow aphids.

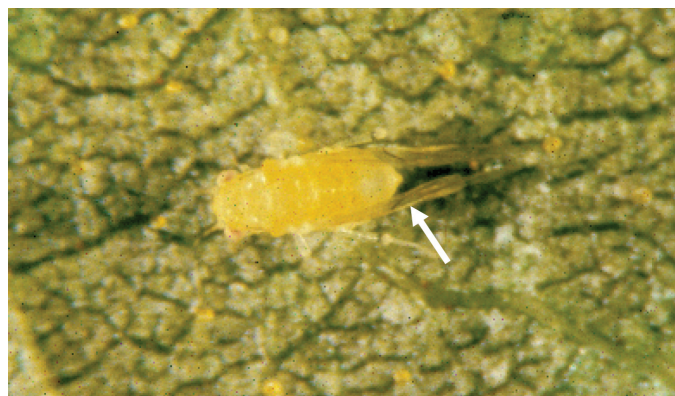


Figure 2. Yellow pecan aphid.

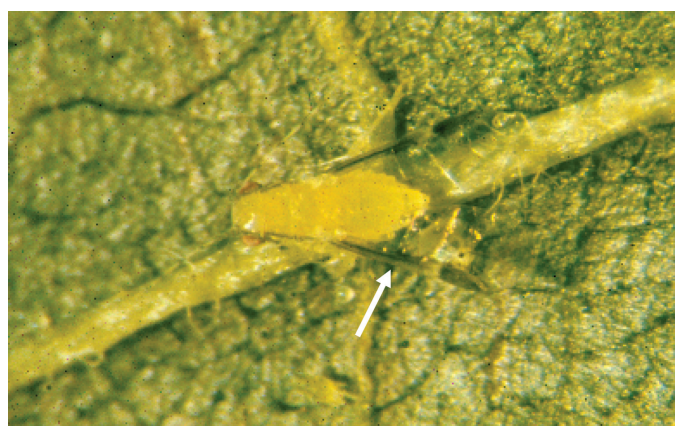


Figure 3. Blackmargined aphid.

Damage

Previous reports have indicated that the feeding behavior of these two aphid species results in the withdrawal of carbohydrates and water from the leaves and damage to the vascular system. Large amounts of honeydew are produced by both aphid species. It coats the leaves and serves as a medium for the growth of the sooty mold fungus. This fungus shades the leaves and greatly reduces photosynthesis. Studies have also shown that feeding reduces chlorophyll production, leaf size and stem and root growth. Leaflet loss can also occur during heavy infestations. Bees, wasps, and ants may be attracted to trees with heavy honeydew production.

Control

Control measures are generally not required before late summer. Natural enemies, rain and insecticide applications for control of other pests, such as the pecan nut casebearer, will usually keep aphid populations below damaging levels. In fact, unless the number of aphids is extremely high, early season aphid control is discouraged. Spraying late in the season and as little as possible encourages the conservation of natural enemies, and reduces

the chances for the aphids to develop pesticide resistance to the insecticides being used.

Treatment thresholds for yellow aphids vary from state to state. Because of their similar life cycle and the fact that they are usually found together, treatment thresholds are based on the combined counts of both species, including both immature and adult stages of development. In general, aphid control is usually not required before July 1. Treatments specifically targeted at yellow aphids before August 1 are discouraged, unless absolutely necessary. After August 1, make treatments when 10 to 15 aphids per compound leaf are found. Proper selection, timing and application of pesticides are critical for good aphid control. For a listing of insecticides that can be used for controlling yellow aphids, refer to the Louisiana Recommendations for Control of Pecan Insects. This can be found at www.lsuagcenter.com. When using insecticides, be sure to check the pH of the water being used for spraying. The pH needs to be between 5.5 and 6.5 for optimum insecticide efficacy. Use of a buffering agent will help maintain the desired pH once pesticides have been added to the solution.

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