

Black Pecan Aphid

Michael J. Hall

Distribution:

The black pecan aphid, *Melanocallis caryaefoliae* (Davis), is found throughout Louisiana and in all pecan producing states.

Description and Life Cycle:

Nymphs are yellowish green to olive green in color (Fig. 1a). The legs and antennae of the nymphs are dark gray in color. The adults are dark green to black in color and can be winged or wingless (Fig. 1b). The wings are held roof-like over the body. Abdominal tubercles (knob-like projections) are present on the upper surface of the abdomen on both the nymphs and the adults. Black pecan aphids overwinter as eggs under the bark of the trees. The eggs hatch in the spring and the nymphs begin feeding on the newly formed leaves. According to Tedders 1978, black aphids are not abundant at this time and the damage to the leaves is limited. Larger populations occur later in the growing season. Large populations capable of severe defoliation generally occur from mid-September until frost. Each aphid gives birth to approximately 35 young (Tedders, 1978) and produce approximately 20 to 30 generations per year.



Figure 1. (a) Late nymphal stage of black pecan aphid, and (b) winged adult black pecan aphid.

Damage:

The feeding of both the adult and immature black pecan aphid causes rectangular to multi-angular spots between the veins of the leaflets (Fig. 2). These spots, initially yellow in color, eventually turn brown. High numbers of black pecan aphids can cause

severe defoliation during the late summer and early fall. No honeydew is produced by this aphid.



Figure 2. Black pecan aphid damage. The black spots on the leaves are black pecan aphids.

Control:

The use of an insecticide is the primary method used by growers to control the black pecan aphid. Because of their potential for causing severe defoliation and their rapid rate of reproduction, the treatment threshold for black pecan aphids is one aphid per compound leaf. It is very important that trees are inspected on a regular basis, particularly during the summer months and into the fall, as this is when populations of the black pecan aphid can quickly reach damaging levels. Inspect at least ten compound leaves on five to 10 trees in the orchard. For a listing of insecticides that can be used for controlling black pecan aphid, 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 to maintain the desired pH once pesticides have been added to the solution.

References Cited:

Tedders, W. L. 1978. Important biological and morphological characteristics of the foliar-feeding aphids of pecan. USDA Tech. Bull. 1579. 29p.