

Pecan Weevil

Curculio caryae (Horn)

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The Entomology and Forest Resources
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Male pecan weevil

Photo by Clemson Univ/USDA slide series



Female pecan weevil

Photo by Dr. HC Ellis
UGA Extension Entomologist



Pecan Weevil larva and damage

Photo by: Dr. Jim Dutcher
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Order Coleoptera: Family Curculionidae

Description: The adult is a light-brown or grayish beetle about 12 mm long, with a long beak. The beak of the female is longer than the body. That of the male is $\frac{1}{2}$ as long as the body. Larvae are fat, creamy-white, legless, C-shaped grubs, 9 -15 mm long, with reddish-brown heads.

Hosts: Pecan and hickory

Damage: Pecan weevils cause two types of damage. Feeding during the water stage prior to shell hardening causes damaged nuts to drop. Nuts damaged by weevil feeding have a tiny, pin-sized hole penetrating into the nut and may bleed. The most serious damage is caused by weevil larvae feeding on developing kernels. They feed on the kernels for several weeks, destroying the interior of the nut. Damaged nuts can often be recognized by circular emergence holes through which the grubs exited the nuts.

Life Cycle: Weevils overwinter as larvae and adults in the soil. Adults emerge from the soil from late July to October. Most emerge between August 10 and September 20. When the nuts reach the dough stage of development, mated females lay two to four eggs in separate pockets within the kernels. Larvae feed for about 35 days inside the nuts. Most grubs leave the nuts between late September and December, drop to the ground and enter the soil to a depth of four to 12 inches. They remain in the soil, in earthen cells, for one or two years. After a year or two as larvae, they pupate in their cells. The pupal stage last about three weeks. They remain in the soil as adults until the following summer. There is one generation every two to three years.

Control: Weevil sprays are timed based on adult emergence. Emergence should be monitored starting no later than August 1. Several sampling techniques have been used to monitor adult emergence. The Tedders masonite board trap is the method currently preferred. Prior to shell hardening, when nuts are still watery inside, treat if high numbers of weevils are caught or if nut drop caused by weevil feeding is considered excessive. After the nuts reach the dough stage, treat when weevils emerge and continue sprays at seven to 10 day intervals, especially following rains, until emergence ceases. Normally, three to five sprays are required.

¹In: Roberts, P. M. and G. K. Douce, Coordinators. 1999. Weevils and Borers. A County Agent's Guide to Insects Important to Agriculture in Georgia. Univ. of GA, Col. Ag. Env. Sci., Coop. Ext. Serv., Tifton, GA USA. Winter School *Top Fifty Agricultural Insect Pests and Their Damage Sessions*, Rock Eagle 4-H Ctr., Jan. 20, 1999.