

# Nut Curculio

Michael J. Hall

## Distribution:

The nut curculio, *Conotrachelus hickoriae* Schoof, is found throughout Louisiana and in southwest Arkansas, east Texas and Mississippi.

## Description and Life Cycle:

The adult nut curculio is a small, reddish to reddish-brown, long-snouted weevil (Fig. 1). Adult nut curculios range in length from 0.17 to 0.27 inches. They are somewhat rough-textured. A light tan to whitish band runs across the back of the insect.



Figure 1. Adult nut curculios.

Adult nut curculios emerge from the soil in the late spring. Peak emergence occurs between mid-June and mid-July. During the period, the adults mate, feed on the nuts, and deposit eggs within the nuts. The eggs are small, oval and white. They are laid just below the surface of the shuck. Within five days the eggs hatch, and the larvae begin feeding within the nut. The larvae are creamy-white with a brown head capsule (Fig. 2). They are legless and can reach a length of 0.375 inches at maturity. Nuts usually abort within two weeks after being punctured. The larvae will continue to feed and develop within the aborted nut for an additional ten days to two weeks. The larval stage lasts from three to four weeks. At maturity, the larvae emerge from the nut and enter the soil

to pupate. The pupal stage lasts about 30 days. Following pupation, the adults emerge from the soil and briefly feed on the shucks of the nuts before reentering the soil to overwinter.



Figure 2. Nut curculio larva.

### **Type of Damage:**

Pecans damaged by the nut curculio are aborted from the tree (Fig. 3). The aborted nuts are characterized by a small, circular puncture, usually found around the middle of the nut. A brownish liquid (endosperm) often seeps through the puncture leaving a syrup-like deposit on the side of the nut.



Figure 3. Nut curculio damage.

Damage from this insect can be extensive, particularly in years when the crop load is light. In orchards with heavy infestations, the ground under infested trees is covered with aborted nuts.

### **Control:**

The use of an insecticide is the primary method for controlling infestations of the nut curculio. Before using an insecticide, it is important to determine if nut curculio are present in an orchard. As of yet, no treatment thresholds have been established for the nut curculio. However, there are two types of traps (Figs. 4 and 5) that can be used to determine if the insect is present and, if so, to allow growers to monitor its seasonal activity. See ‘Construction and Use of Traps for Monitoring Nut Curculio, *Conotrachelus hickoriae*.’



Figure 4. Wire cone emergence trap.

Figure 5. Pyramid trap.

When insecticide applications are made, they are usually made the latter part of June, followed by a second application ten days to two weeks later. The need for a second application is determined by the numbers of curculio trapped following the first insecticide application. Remember, variations in seasonal emergence patterns can occur from orchard-to-orchard and from year-to-year, so it is important to monitor the activity of this insect on an annual basis and within individual orchards. For a listing of insecticides that can be used for controlling nut curculio, refer to the Louisiana Recommendations for Control of Pecan Insects. This can be found at [www.lsuagcenter.com](http://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 a solution.