

Don't Forget Hickory Shuckworm

The past couple of years weather events (e.g., late freezes and ice storms) have created problems for pecan growers. Decreased crop loads forced commercial growers to make management decisions on seasonal insecticide and disease applications. Due to lack of crop load, many growers decided to save the cost by not spraying. This has created the potential for some insect pest populations, such as pecan nut casebearer, webworm, and others, that are normally controlled by timely applications throughout the season to increase.

So far this season, it looks like the pecan crop is progressing nicely. Based on assessments from the last couple of years at Cimarron Valley Research Station (Perkins, Ok) another insect of concern that can cause problems this time of year is the Hickory Shuckworm (HSW). While normally controlled by timely applications as described above, reduction in management over the past couple growing seasons has caused an increase in populations prompting additional attention this year.

Hickory Shuckworm *Cydia caryana*, is distributed throughout most of the areas where pecans are grown. Primary host are pecan and hickory and the larvae feed mostly in the nut shucks after shell hardening.

Description

The adult hickory shuckworm is a small, dark brown to smoky black moth about 1/3 inch long. There is a series of dark and white marks on the outer edge of each front wing near the outer end (Fig. 1). The larvae are white, or cream colored with brown heads and are about 1 1/2 inch long at maturity (Fig 2).



Figure 1. Adult Hickory Shuckworm. BugGuide



Figure 2. Hickory Shuckworm Larvae. OSU Extension

Life Cycle

Shuckworms overwinter as pupae in old pecan shucks on the tree or scattered about on the orchard floor. Adults emerge from mid-April to mid-May, mate, and lay eggs. First generation eggs may be laid on hickory nuts, small pecan nutlets, or phylloxera galls (Fig. 3). Larvae in pecan nutlets die when the nuts fall from the trees as the nuts are too small to allow development.

Larvae in hickory and phylloxera galls develop in May and June and first-generation adults emerge in late June and July. Second generation larvae feed in the nuts during July and August (Figure 4). Nuts damaged by this generation usually drop from the tree. Continued adult activity in August and early September give rise to a third generation of larvae. They feed in the pecan shucks during the fall, pupate, and overwinter. There are three generations per year in Oklahoma.



Figure 3. 1st generation HSW in Phylloxera Gall. Georgia Pecan



Figure 4. Second generation Hickory Shuckworm Oviposition site. Northern Pecans

Damage Symptoms

First generation larvae may destroy a few pecan nutlets, but this damage is usually not heavy enough to be serious. Second generation larvae feed in the nuts causing them to drop from the trees. Third generation larvae mine the shucks (Fig. 5), reducing nut fill and causing the shucks to adhere to the shell “sticktights” (Fig 6). This reduces nut quality and yield.



Figure 5. Third generation HSW mining. OSU Extension.



Figure 6. HSW Sticktight. Northern Pecan

Control

Shuckworms overwinter as pupae in old pecan shucks on the tree or scattered about on the orchard floor, therefore, to reduce shuckworm infestations, remove and destroy old shucks, where possible. Also, manage for early season pecan phylloxera.

Based on pecan tree phenology, first application of insecticides may be needed around mid-late July. This coincides with the (water stage) of nut development. Timing may vary depending on cultivar and environmental conditions. A repeat application (two weeks later) may be needed.

Intrepid (18) or Confirm (18) are growth regulators, and good options, while remaining easy on beneficials. The mid-July application also coincides when many growers are putting out second applications for early season pests such as PNC and webworm.

Organic options such as Entrust (5) and Grandevo are also available, however, they are more expensive.

Broad-spectrum options, but not as easy on beneficials.

Can be a problem into weevil season, however, applications for weevil will help in control.

More information on Hickory Shuckworm control can be found in CR-6209, Commercial Pecan Insect and Disease Control.