

The Pecan Weevil

THE pecan weevil is one of the most important insect pests of pecans in central and northern Alabama. Although it is present in practically every county of this state, it apparently is not a serious pest in southern Alabama along the coast. In groves in the central part of the State it has caused the loss of as high as 80 per cent of the entire crop of Schleys.

Description of the Stages of the Pecan Weevil

The adult weevil resembles the cotton boll weevil, but is much larger and has a longer beak. It is brown or greyish-brown, and about three-eighths of an inch long. The beak of the male is slightly shorter than the body, and is used to puncture and to feed upon the immature nuts. The beak of the female is longer than the body, and can puncture even the hardened pecans for feeding and egg deposition (Fig. 1).

The eggs are oval, greyish-white, and slightly less than one-sixteenth of an inch long. They are placed inside the kernel of the pecan nut by the female weevil which usually lays three eggs in each nut.

The larvae are white when small but change to a creamy-white color upon becoming full grown. Their heads are reddish-brown. Full grown larvae vary from one-fourth to one-half inch in length.

Seasonal History

The adult weevils emerge from the soil from the last few days of July until the first of September. They immediately fly to pecan or hickory trees and begin to feed upon the immature nuts. The punctured nuts fall to the ground within four to ten days and often constitute a large majority of the August "drop."

As soon as the nut kernels pass the watery stage and harden, the female weevils begin to lay eggs in the nuts. No eggs are laid in any variety while the kernels are watery. Egg deposition usually begins during the last week in August or the first week in September. The actual date depends upon the time of hardening of the pecan nut kernels. A single female may lay as many as one hundred eggs, but the average number laid

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is about twenty-five per female. A hole is bored with the beak through the hull and shell and each egg is placed within the kernel of the nut. The eggs hatch within seven to ten days, depending on the temperature, and small legless larvae (or worms) come out. The small larvae feed upon the kernel of the pecan until full grown. This requires two weeks or more. The full grown larvae may then gnaw a hole through the side of the nut and drop to the ground, or they may remain within the nut several months after harvest.

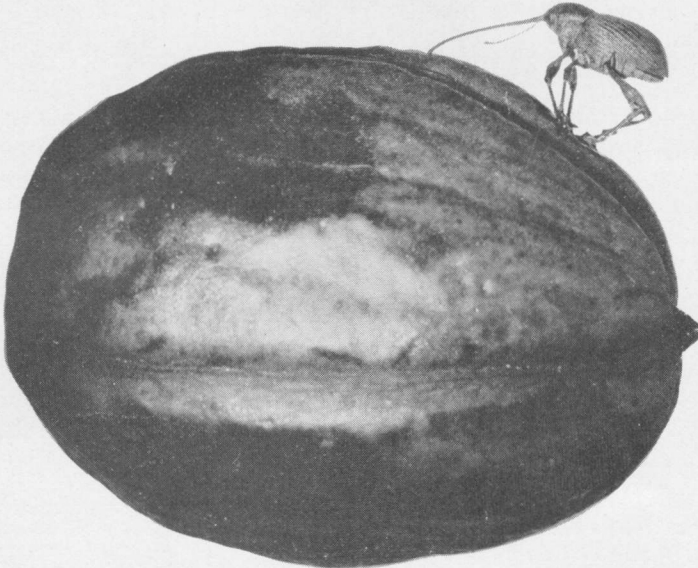


FIGURE 1.—Female pecan weevil puncturing a pecan.

Larvae emerge from the nuts during the latter part of September and throughout October and November, enter the soil to a depth of three to nine inches, and remain there for from one to two years. They then pupate from the middle of September to the middle of October and transform into the adult stage within approximately three weeks. These adults remain within the soil until the following August, when they emerge and begin to feed upon the nuts. The complete life cycles require two and three years.

Varieties Attacked

The pecan weevil will feed and lay eggs on any variety of pecan, but the damage is most severe upon the Schleys and Stuarts. When these varieties are not available, considerable damage may be done to Success and Van Demans.

Extent of Damage

Where the crop is light and the weevil infestation heavy, the feeding of the adults may result in the loss of the entire crop due to the dropping of the punctured nuts. Even when a large crop is set, the damage is usually heavy.

Each female requires from ten to thirty or more nuts in which to deposit her eggs, and where large numbers of weevils are present, practically the entire crop at harvest may be wormy.

Control

Control measures are usually unnecessary except upon trees of the Schley and Stuart varieties.

Jarring.—The adult weevils have the habit of “playing dead” or “sulling” when the limbs upon which they are resting are slightly jarred. They relax their hold, fall to the ground, and remain motionless for several minutes. This habit can be utilized in the control of the pecan weevil.

Picking sheets should be placed under the spread of the branches of the trees. Each limb should then be jarred sharply two or three times, either from the ground by the use of a padded pole or, in the case of higher trees, by climbing the tree and jarring each large limb with the foot. Heavy shaking is neither necessary nor desirable, and the jarring should not be severe enough to shake off the nuts. The weevils should then be picked up from the sheets and dropped into buckets containing a small amount of kerosene.

Trees should be jarred at least once a week beginning the second week of August and continuing for four or five weeks, or as long as weevils are found in the grove. Results are somewhat better if jarring is done during the cooler parts of the day when the beetles are least active.

For large top-worked trees, the cost of each jarring will amount to approximately six cents per tree, or from fifty to sixty cents per season.* Where trees are headed lower and may be jarred from the ground, or where farm labor may be used, the cost will be much less. A saving of from three to six pounds of nuts will pay for jarring.

Destruction of Worms in Nuts.—Nuts containing worms retain their husks long after the normal ripe nuts have opened. Where the pecan weevil infestation is especially bad, the nuts should be gathered as soon as they are ripe enough to be easily beaten out of the husks. All nuts should then be knocked from the trees and those with clinging husks should be separated from

*These figures for jarring on a commercial scale were furnished by the Lanett Mills, Lanett, Ala., from records kept by Mr. J. O. Roquemore, manager of the company's pecan grove.

the good nuts. Some of these nuts with clinging husks should then be examined by cutting them open to see whether or not they contain worms. If over 5 per cent are wormy, the nuts should be placed in racks with quarter mesh wire bottoms. These racks should be placed in chicken houses having tight board or concrete floors. The larvae which emerge from the nuts will fall through the screen to the floor and may be eaten by chickens or turkeys. Nuts should be moistened occasionally and left in these racks until the following February. The few good nuts present may then be sorted out and the remainder discarded or burned.

It should be remembered that not all nuts with clinging husks contain pecan weevil larvae, as this same condition may be caused by other insects and diseases and by various physiological disturbances.

While this method will greatly reduce the number of worms entering hibernation, it cannot be relied upon alone for their control as large numbers of larvae often leave the nuts before harvest.

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