

FACT SHEET

SAMPLING FOR ADULT PECAN WEEVILS IN TEXAS

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The pecan weevil, *Curculio caryae* (Horn), is one of the most destructive pecan insects. Its status varies because it is not found everywhere pecans are grown, and there are more weevils during certain months than others.

The pecan weevil completes a generation every 2 to 3 years. Most of this time is spent below the soil under pecan trees. The pecan weevil life cycle starts with adult emergence from cells in the soil during August and September. Adults then mate and begin laying eggs in pecan nuts. Approximately 42 days after eggs are laid, full-grown larvae emerge from the nut and enter the soil. The following August and September, most of these larvae transform to adults and the year after that they emerge to attack the nuts.

Adult emergence must be established before insecticides can be applied properly. Two sampling methods are tree trunk banding and cone emergence traps. Regardless of technique, have everything in place by mid-July and check it weekly through October.

Tree trunk banding with burlap — After emerging from the soil, pecan weevils often crawl up the nearest tree trunk. When a cloth band is placed around a tree, insects crawl under it, become trapped and subsequently can be counted.

Burlap bags opened at the seams are a good banding material. Attach a bag to the pecan tree to be sampled by wrapping it around the trunk 2 feet from the ground. Tie it in place with a piece of wire across the band's lower third (figure 1). Staple or tack the bottom edge to prevent weevils from crawling between the burlap and the tree trunk. Cut the material into 18-inch panels vertically from a point just above the wire band to the top (figure 2). Each panel is in two parts. Drop the first layer down below the wire and fold it back underneath itself. Drop the second layer straight down over the folded panel producing a

double-layered flap under which weevils can crawl and hide (figure 3). Wrap at least one monitor tree per acre. To detect emergence, lift the panels and record the number of pecan weevils hiding underneath. Be careful; spiders and snakes often hide under a band.

Tree trunk banding with sticky strips — Make bands by circling a tree trunk with a 12-inch strip of sticky material 4 feet above the ground (figure 4). Commercially these sticky substances are known as Tack Trap®, Stickem Special® or Tanglefoot®. Weevils crawling up a banded tree become entangled and should be removed and counted once a week. Reapply the sticky material every week or two.

Cone emergence traps — Position these traps under pecan trees to detect adult emergence and check every week from mid-July until the end of October. By comparing weekly trap catches, weevil abundance can be assessed accurately. The cone emergence trap method is recommended most often for detecting adult pecan weevils.

A sturdy material for constructing cone traps is 1/8-inch mesh wire hardware cloth. Cut the wire in a 3-foot by 6-foot strip and then fold this strip into a circle (figure 5). Bring the straight edges together and solder, forming the cone (figure 6). Leave a 1/4-inch hole in the top of the cone. Place a fruit jar lid rim over the hole and secure it with silicone rubber caulking compound. Be sure enough of the cone is through the ring to form a baffle, so when a jar is attached and weevils are inside, they cannot escape (figure 7).

Pecan weevil infestation varies from tree to tree within an orchard. To determine which trees have weevils, look for pecan nuts with a pencil-lead size hole in the shell. Trees bearing these damaged nuts are good trapping sites. Once heavily infested trees are located, use them as indicator trees year after year.

Under the pecan tree to be sampled, about 6 feet from the trunk, place at least four cone traps equal distances apart in a circle. Bury the bottom of the

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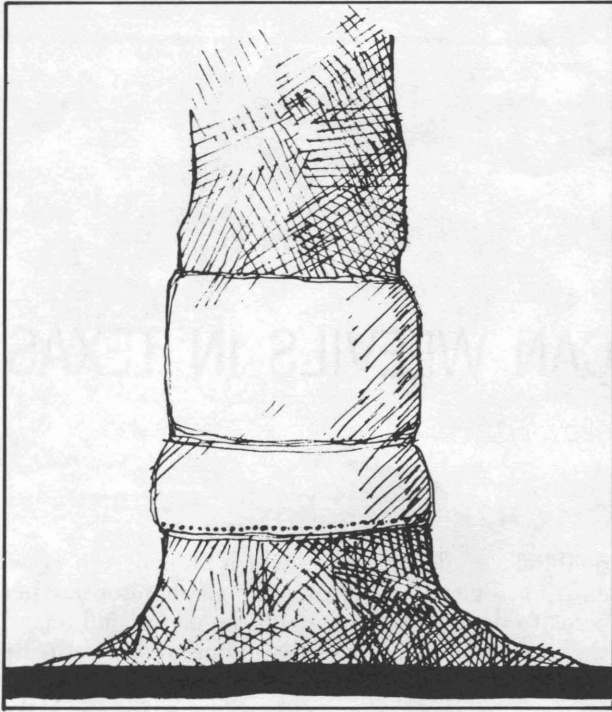


Figure 1

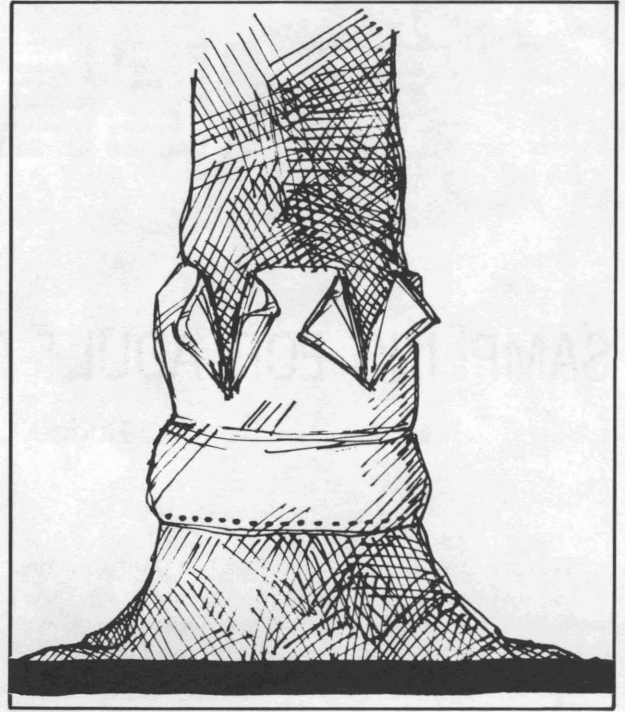


Figure 2

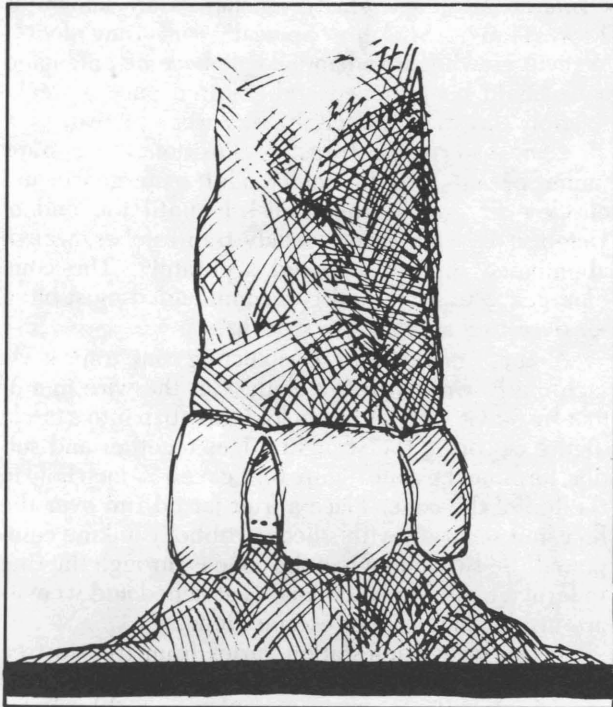


Figure 3

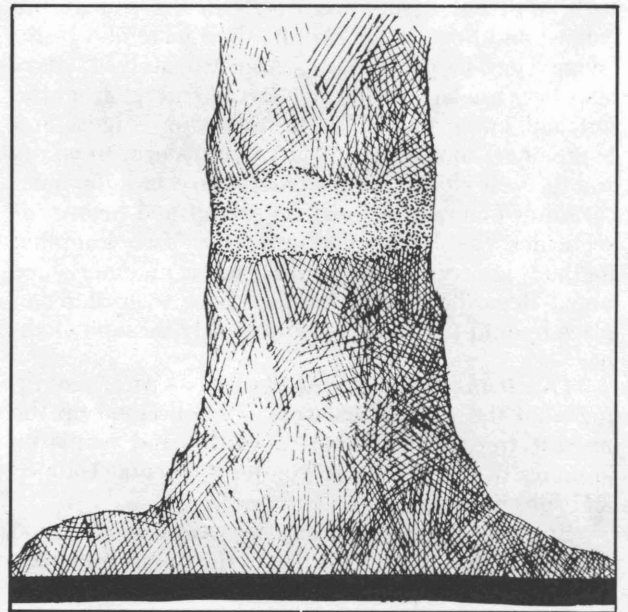


Figure 4

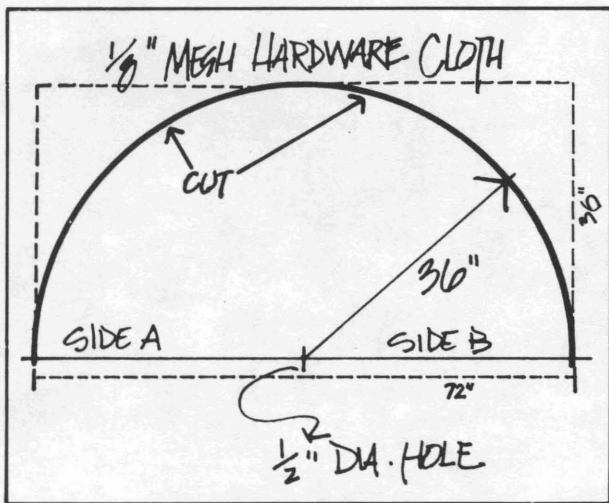


Figure 5

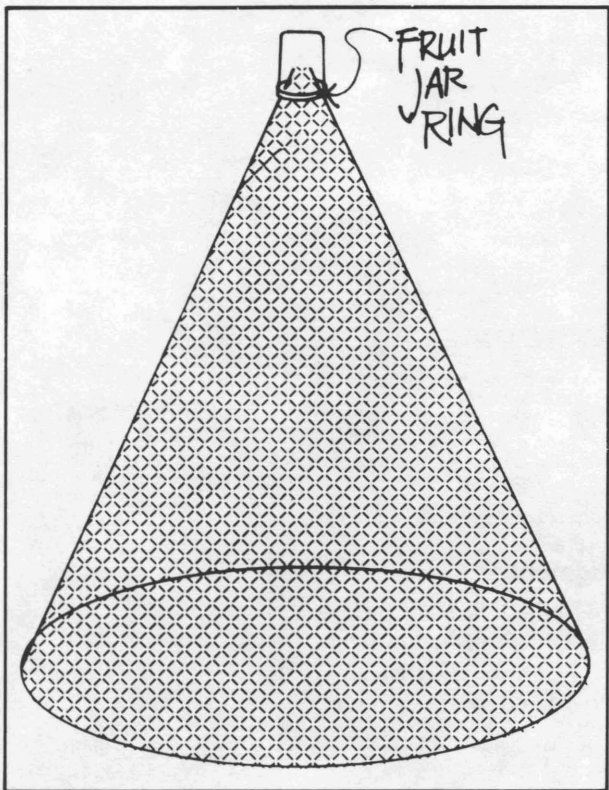


Figure 6

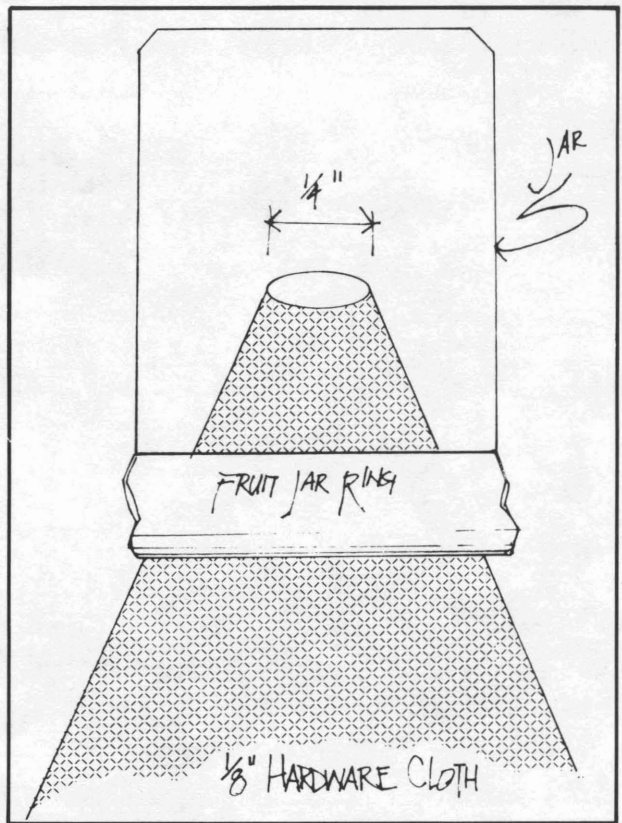


Figure 7

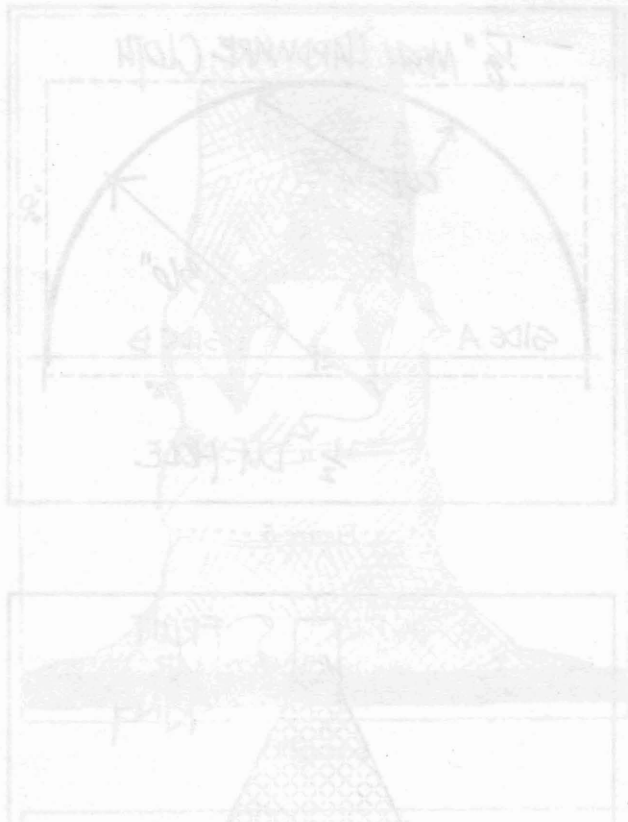
cone in the soil about 2 inches to prevent emerging weevils from escaping. Count the weevils at 7-day intervals, and empty the jars after each count.

When to spray — Female weevils begin laying eggs 3 to 5 days after emergence. Successful oviposition cannot be achieved until nuts are in the gel or dough stage. This susceptible period is from the gel or dough stage through shucksplit. Chemical control of the weevil is most effective during this period.

Start spraying when the band catches an average of one weevil per tree, and nut maturity is at or beyond the gel stage. Begin treatments based on cone emergence catches when weevils appear in traps and nuts are susceptible to egg laying. Continue treatment at 7- to 14-day intervals as long as weevils are detected and the crop is in its susceptible period.

Prolonged drought in August and September delays emergence of some weevils. Closely monitor orchards when it rains during the weevil emergence period.

Consult your county Extension office for recommended pecan weevil spray program materials.



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