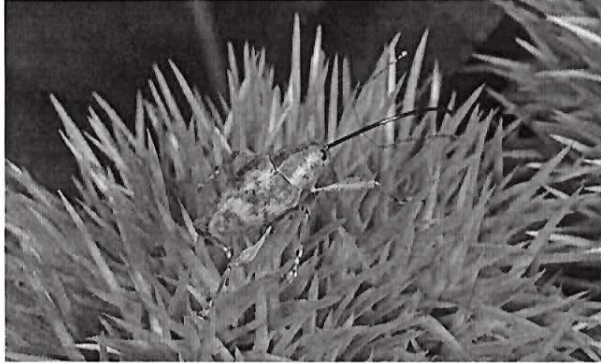


CHESTNUT WEEVIL

Lesser Chestnut Weevil and Larger Chestnut Weevil *Curculio sayi* and *Curculio caryatrypes*

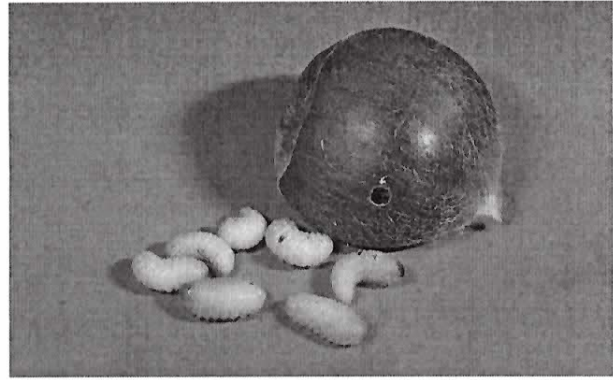
Of the larger and lesser chestnut weevils, the lesser chestnut weevil is the more common of the two species of weevil infesting chestnuts in Kentucky. These weevils breed exclusively in chinquapin, American and Chinese chestnuts. At one time these weevils were common, but since the passing of the American chestnut they have become much less common.



Larger chestnut weevil

The 1/4 inch lesser chestnut weevils emerge from the ground beginning in late May until July, about when the chestnuts bloom, but do not lay eggs until the fall. Egg laying begins when the nuts are nearly mature and most eggs are laid after the burr begins to open. Eggs are usually laid in the downy inner lining of the brown shell covering the nut. Eggs hatch in about 10 days and larval development is completed 2 to 3 weeks later. Soon after the nut falls to the ground, the grubs chew a circular hole in the side of the nut to enter the soil. Most of the lesser chestnut weevil grubs overwinter the first year as grubs, pupate the following fall, and overwinter the following winter as adults. Some pass two winters in the grub stage and a third winter as adults before emerging from the ground. The life cycle is completed in 2 to 3 years.

The biology of the larger chestnut weevil differs from that of the lesser chestnut weevil. Adults begin to emerge in late July and August. The adult is 3/8 inch long exclusive of the snout. The female has a 5/8 inch beak and the male's is 1/4 inch. Larger chestnut weevils begin egg laying soon after emerging, before egg laying begins with the lesser chestnut weevil. Eggs hatch in 5 to 7 days and the larvae feed for 2 to 3 weeks before leaving the nut. Larger chestnut weevil grubs chew an exit hole in the side of the nut and drop to the ground usually before the nuts fall. Grubs overwinter in earthen cells in the ground. Pupation and adult emergence takes place the following summer. A few grubs will overwinter a second year before pupating. The life cycle is completed in 1 to 2 years.



Lesser chestnut weevil

Management

Weevil infestations can be reduced by picking up chestnuts daily and after curing, heat them to 140° F for 30 minutes to kill the larvae in the nuts. A cold treatment of holding the nuts at 0° F for four days may also be effective, but it may also affect the nuts' flavor. Sanitation is important, always collect and destroy fallen nuts before the larvae have a chance to escape and enter the soil. Only one insecticide, carbaryl (Sevin) is registered for use against chestnut weevils on chestnuts. Trees can be jarred similar to monitoring for pecan weevils to determine the presence of adult weevils.

Revised: 11/03

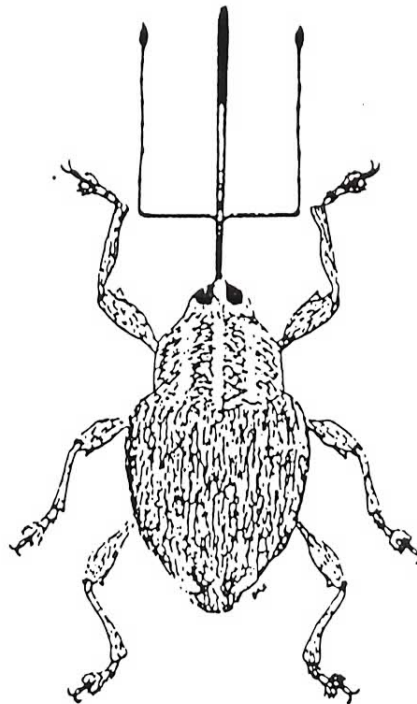
The Chestnut Weevil

By Robert C. Tetrault, PA State University, Ext., Entomologist

The large chestnut weevil, *Curculio caryatryes* Boheman, is a major pest affecting production of marketable chestnuts in Pennsylvania. Until recently, effective insecticides were not labeled for weevil control and it was common to find commercial growers and hobbyists sharing their crop with the "worms."

DESCRIPTION

The chestnut weevil is recognized by its long snout ("beak" or "nose") which extends forward and down from its head. The snout is longer than the body on the female and over half the length of the body on the male. Arising from the snout is a pair of long, slender, elbow-shaped antennae (feeders). The weevil is one half inch long overall and mottled brown. The worm (larva or grub) is whitish, legless and C-shaped.



LIFE HISTORY

The life cycle of the chestnut weevil has four stages — egg, larva (worm), pupa, and adult. It overwinters as a larva in the soil beneath trees. In late spring, the larva changes to a pupa which later gives rise to the adult. The adult weevil emerges from the soil in August and feeds on developing burrs. The female weevil spends several hours drilling a hole, with teeth at the end of her snout, into the developing nut (up to 25 holes can be made by each female). Once the hole is completed, she withdraws her snout, inserts her egg laying tube into the hole, and lays a single egg which will hatch into a larva in 7 to 10 days. The larva feed for 7 to 10 weeks before leaving the nut to overwinter in the soil. There is only one generation per year.

CONTROL

Effective weevil control can be obtained with correct pesticide application with either air-blast or hydraulic sprayers. A dilute spray using about 400 gallons of water per acre is required for trees 20 to 25 feet tall. Larger trees may require more water. To effectively control weevils, apply up to 5 sprays on a weekly schedule starting in late July to early August. Spray with Sevin 4 XLR, 2 to 3 quarts per 100 gallons water. For dilute sprays apply the specified dosage per 100 gallons of water. For low volume and aerial sprays increase the amount per acre equivalent to that in a dilute spray. The optimum spray gallonage will depend on tree size and density.