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THOMAS P. COOPER, Dean and Director

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(Revised)

**The Peach Borer and the Paradichlorobenzene
Treatment**

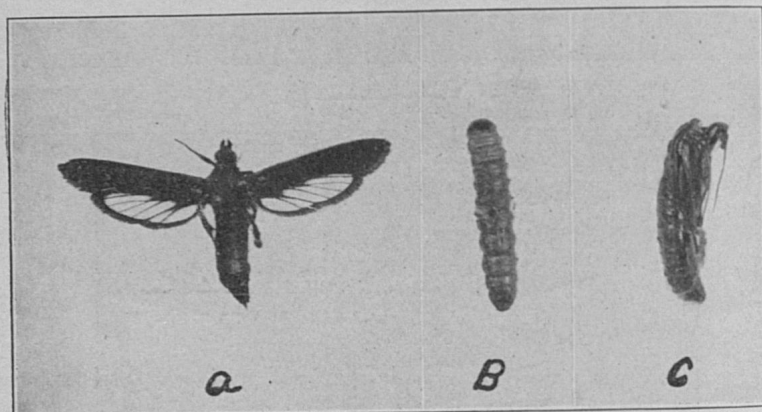


The ring of P. D. B. ready to be covered with three inches of soil.

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Stages in Life Cycle of the Peach Tree Borer.

a. Adult female moth, slightly enlarged, July to August. b. Larva $\frac{3}{4}$ grown, September to June. c. Pupa, June to July.
The female measures about $1\frac{1}{4}$ inches from tip to tip of the spread wings. The male is a little smaller and its wings are transparent.

Eggs are deposited on the base of the tree by the adult female "fly" thruout the summer, but especially in August and September. Within two weeks the eggs hatch and the young larvae, or "grubs," begin feeding on the bark just under the ground level.

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(Revised)

The Peach Borer and the Paradichlorobenzene Treatment

By W. W. MAGILL and A. J. OLNEY

THE PEACH BORER

The Peach Tree Borer destroys more peach trees annually in Kentucky than all other insects combined. Trees of all ages are subject to attack. The injury is done by the borer, or "grub," which eats and burrows in the soft inner bark, or cambium, at and below the crown of the tree. Young trees may be girdled completely and older trees so injured that their vitality is lowered and their fruitfulness reduced.

The first indication of borers usually is the appearance of a jelly-like gum exuding from the trunk of the tree, near the ground.

Until recently the main dependence for the control of the borers has been the laborious process of digging them out with knives and other appliances, in spring and fall, a method which often fails to destroy all the pests.

Common home remedies of control consist of using lye soap around the base of the tree, wood ashes around the trunk, white-washing the tree trunk, etc. Such remedies cannot be depended on and in many cases two or more borers have been found in trees so treated.

Amateur growers often are alarmed at the sight of from a few to several hundred transparent worms, the size of a pin and three-fourths of an inch long, working in the wax around the base of the tree, thinking they are young borers. These worms need cause no concern for they live only in this jelly-like material and never cause injury to the tree. They are not the young peach borers.

PARADICHLOROBENZENE

A new and effective control has been found in the use of a chemical compound known as paradichlorobenzene.

Paradichlorobenzene (P. D. B. for short), is a white, crystalline substance that has the appearance of coarse salt, with an odor resembling that of moth-balls. The fumes from this material, while harmless to persons, are poisonous to insects. Being heavier than the air, the P. D. B. fumes readily permeate the soil.

WHEN AND HOW TO APPLY

P. D. B. should be applied in Kentucky between September 1st and October 20th—preferably the first half of September. At this time the eggs have been laid and the young larvae or "grubs" are near the surface, where they are easily killed by the gas. If the treatment is delayed until late October or November the "grubs" will have already eaten quite a portion of the bark, especially on

young trees, and, too, at this late a date the soil temperatures are not high enough to cause the P. D. B. to volatilize sufficiently to kill the borers. The peach trees should be treated every fall, but only one treatment is needed annually.

Scrape the grass and weeds away from around the trunk of the tree, leaving the ground smooth 3 or 4 inches in all directions from the trunk. After the scraping process, draw in a few inches of fresh soil around the trunk of the tree so the ground level at the tree trunk is an inch or two above the surrounding ground level. A number of instances of poor control have been observed during the past season where P. D. B. was applied at too low a level.

The P. D. B. is applied evenly in a circular band, entirely around the tree, care being taken that the band is **not closer than 3/4 inch nor farther than 3 inches** from the tree trunk. (See title page.) If the P. D. B. is 5 inches or more away from the tree, unsatisfactory control may result. For convenience in measuring the material provide a small wooden or tin box that holds the proper amount for the size of the tree being treated. After spreading the P. D. B., mound up the soil around the tree to a depth of three inches so as to bury the chemical, and pack firmly with the back of a shovel.

- Amount to Use.
1. For trees 3 to 5 years old, use one-half to one ounce per tree.
 2. For trees 6 years or older, use 1 to 1½ ounces per tree.

Treating Young Trees. Experiments with 1 and 2-year-old peach orchards in Kentucky and adjoining states indicate that P. D. B. may be used without injury to the trees. A majority of reliable commercial growers in Kentucky are using one-third ounce on 1-year-old trees, and three-eighths ounce on two-year-old trees. They have reported complete control of the borer, with no injury to the trees, on the several thousand trees tested. Care should be used in all cases in accurately weighing or measuring the insecticide, especially for young trees. As a further precaution against possible injury to the youngest trees, it is advisable to remove the mounds after four weeks. After the mounds are removed, fresh earth should be replaced around the base of the tree to avoid winter injury to the exposed bark.

Spring Treatment. Spring treatment with P. D. B. has not given satisfactory borer control in Kentucky. In order that the material may volatilize or make sufficient fumes to kill the borer, the soil temperature should be above 60 degrees. This, in turn, means that the material cannot be applied effectively until after May 1st. By this time the borers are well grown and have caused severe damage to the trees. Where P. D. B. is not applied in the fall, it is recommended that the borer be dug out with a knife during early spring.

Late fall treatment seldom gives satisfactory control.

P. D. B. can be purchased from most drug stores or from the various firms thruout the state who handle orchard spray materials and chemicals. In small quantities the material costs between 40 and 60 cents per pound, and in larger quantities, 20 to 40 cents per pound.