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## EC58-1581 Entomology : Shade Tree Borers

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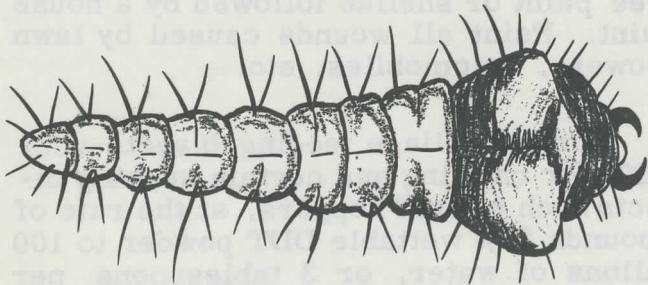
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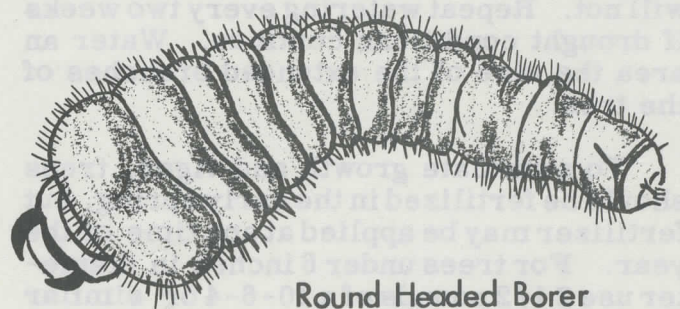
# entomology

## SHADE TREE BORERS

By BOB ROSELLE Extension Entomologist



Flat Headed Borer



Round Headed Borer

### Description:

Several kinds of borers attack deciduous shade trees in Nebraska. Elms are especially susceptible to damage by the elm borer; ash to the ash borer; birch to the bronze birch borer; oaks and nearly all other shade and fruit trees to the flat-headed borer. Several other kinds of borers are of importance in shade trees during some years.

It is much easier to prevent than to control borers, for after borers are in trees they can only be killed by removal with a sharp knife, crushing with a stiff wire, or fumigating by injecting carbon tetrachloride or borer pastes into the burrows.

### Injury:

Adult borers, usually beetles or moths, deposit eggs on the surface or just under the surface of the bark. The little borer upon hatching either bores into the trunk of the trees or in the cambium layer. Severe infestations can weaken and kill trees, especially young trees and older trees which have been weakened by disease drought or injury.

Newly transplanted trees and weakened trees are especially susceptible to borer attack. The trunks of young trees should be wrapped with nursery wrapping paper to prevent egg laying by adult borers. Wrapping will also prevent sun scald. Sun scalded areas are subject to borer attack. Keep wrapping on all year, and replace when it becomes torn.

### Control:

DDT sprays may have some value in preventing borers in trees too large to wrap. It will also help protect young trees if they are sprayed before wrapping is applied. Prepare the spray by mixing 6 level tablespoons of 50% wettable DDT powder to 1 gallon of water. For larger amounts use 6 pounds to 100 gallons of water. Apply the first spray about the 20th of April, and repeat every three or four weeks until three applications have been made. Make applications to the trunk and lower branches. It is not necessary to spray the foliage.

(over)

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W. V. LAMBERT, DIRECTOR

White washes containing 10% lime-sulfur may have a repelling effect on adult borers. White washes also help to prevent sun scald. Never mix white washes with DDT sprays.

Borers are more prevalent during periods of drought and more apt to attack trees in poor condition. To help prevent borers, water trees heavily during dry periods of summer and winter. Water with a lance or prolonged surface application. Give each tree all the water the soil will absorb for a period of 6 - 12 hours, longer if the soil will absorb water, shorter if it will not. Repeat watering every two weeks if drought conditions continue. Water an area the size of the extended branches of the tree.

To stimulate growth and vigor, trees should be fertilized in the early spring, but fertilizer may be applied at any time of the year. For trees under 6 inches in diameter use 2 1/2 pounds of a 10-6-4 or similar complete lawn or tree fertilizer per inch of diameter. For trees 6 inches or larger in diameter use 5 pounds per inch of diameter. This fertilization can be done every year or two.

For small trees, apply to the surface of the soil and water in with a sprinkler. For large trees, drill holes in the soil 1 or 2 inches wide, about 18 inches deep and 2 feet apart under and slightly beyond the spread of the branches, then apply the fer-

tilizer mixed with soil in these holes. If 10-6-4 or similar fertilizer is not available, apply 1/4 pound of available nitrogen per inch diameter for trees under 6 inches and 1/2 pound of available nitrogen per inch diameter for trees over 6 inches. The recommended nitrogen fertilization for lawns will help promote shade tree vigor. Twice the amount recommended for lawns should be applied to the feeding area of trees.

Prune out all dead or dying branches of trees, painting the wounds with asphalt tree paint or shellac followed by a house paint. Paint all wounds caused by lawn mowers, automobiles, etc.

Control foliage feeding insects with DDT for chewing and certain sucking insects such as leaf hoppers, at the rate of 3 pounds 50% wettable DDT powder to 100 gallons of water, or 3 tablespoons per gallon of water for smaller amounts. Sucking insects such as aphids and mites can be controlled with malathion sprays at the rate of 2 pints 57% emulsifiable to 100 gallons of water.

A good all purpose shade tree spray can be prepared by mixing 3 pounds of 50% wettable DDT powder and 4 pounds of 25% malathion wettable powder to 100 gallons of water. For smaller amounts use 3 tablespoons DDT and 4 tablespoons malathion wettable powders to 1 gallon of water.

DDT sprays may have some value in preventing borers in trees too large to wrap. It will also help protect young trees if they are sprayed before wrapping is applied. Prepare the spray by mixing 3 level tablespoons of 50% wettable DDT powder to 1 gallon of water. For larger amounts use 3 pounds to 100 gallons of water. Apply the first spray about the 5th of April and repeat every three or four weeks until three applications have been made. Make applications to the trunk and lower branches. It is not necessary to spray the foliage.

It is much easier to prevent than to control borers. For after borers are in trees they can only be killed by removal with a sharp knife, crushing with a stiff wire or rustling by injecting carbon tetrachloride or borax paste into the borrows.

A bait borer, usually beetle or mite, deposit eggs on the surface or just under the surface of the bark. The little borer upon hatching either bores into the trunk of the tree or in the cambium layer. Bore infestations can weaken and kill trees, especially young trees and other trees which have been weakened by disease through or injury.