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 J. A. LOFGREN

The Bronze Birch Borer

Several species of birch are commonly used in the landscape throughout Minnesota. The texture of the white bark and attractive growth characteristics, either as clumps or as single specimens, make them interesting and valuable additions to a yard, park, or other landscaped area. Unfortunately, many attempts to grow birch fail because of a combination of factors. Usually the ultimate cause of death is an attack by the bronze birch borer.

The different species of birch vary in their susceptibility to the borer. Generally the river, or red, birch is more resistant than the other species or varieties.

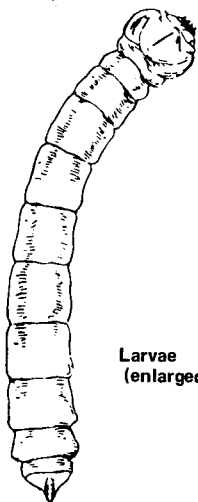
Improper site selection for planting the birch tree often contributes to the borer attack and death of the tree. Under natural conditions, birch grows best in cool, moist, shaded situations. It is not adapted ecologically to an open, sunny exposed location, such as the middle of a large open yard or the exposed south or west side of a building. A birch tree or clump struggling along in such an unfavorable site will lose vigor and become weakened so that the borers are able to become established successfully. Adult borers also prefer to lay eggs on trees in full sunlight.

Therefore, the most important preventive measure against the bronze birch borer is to plant the birch in a cool, shady, moist place where there will be a minimum of motorized and walking traffic. Then keep it healthy by watering and fertilizing it as needed. Currently there is no practical and effective borer chemical control or preventive treatment available. Some of the new systemic insecticides are being used on a trial basis by some nurserymen and professional tree service companies. These chemicals offer some future promise for combating the pest.

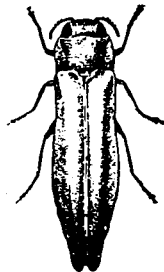
The bronze birch borer adult is a slender, dark, iridescent, often greenish, bronze-colored beetle, 1/4 to 1/2 inch long. Adult beetles emerge from oval-shaped holes in the branches and trunks during the summer, usually in June and July. The females lay their eggs in cracks in the bark or in niches chewed into the bark. The eggs hatch into tiny white larvae, or grubs, which tunnel into the inner bark. The larvae make crooked, criss-crossing galleries in the inner bark. The galleries are packed with dark brown sawdust-like grass. The tunnels often girdle the branches, cutting off the flow of sap.



Borers cause these galleries to appear under the birch bark.



Larvae
(enlarged)



Adult
(enlarged)

This causes the tips of the branches to die back to the point of girdling. When the larvae are full grown, they are slightly longer than $\frac{1}{2}$ inch, very slender and with a flattened, enlarged thorax. In the fall they bore into the sapwood and excavate over-wintering cells. In the spring the larvae pupate in these cells and undergo the transformation to the adult stage. The adults chew oval-shaped holes through the bark and emerge.

Frequently callous tissue will form around the winding larval galleries and cause ridges to appear like varicose veins on the bark. Branches showing this symptom or branches killed by the borers should be cut out and destroyed by early May. This will destroy large numbers of the insects before they emerge. Sprays of methoxychlor applied to the foliage and bark surfaces of the trees, when the adults are active, may also help reduce their numbers but will not give complete control. If such sprays are applied, use 2 tablespoons of 50 percent methoxychlor wettable powder or 4 teaspoons of the 25 percent emulsifiable concentrate per gallon of water and spray the trees in June and July when the adults are observed.

The information given in this publication is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no indorsement by the Minnesota Agricultural Extension Service is implied.

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