EMERALD ASH BORER

The emerald ash borer (EAB) is a recently introduced insect from China that is destroying ash trees in Michigan. Through the movement of infested firewood and nursery stock the beetle has began to expand into other states and into Canada.

South Dakota is heavily dependent on ash trees for urban and shelterbelt trees. The tree is also a common riparian tree across the state.

If the insect is accidentally introduced in South Dakota the economic impact will be enormous. It is critical that firewood brought in from outside the state be promptly burned to avoid the introduction of this pest into the state.

Adult emerald ash borer

For more information on the emerald ash borer, visit:

www.emeraldashborer.info

or contact the
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South Dakota Department of Agriculture
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Pierre, SD 57501-3182
605-773-3623

or contact the SDSU Cooperative Extension Service at
605-688-4737

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Keeping the Emerald Ash Borer out of South Dakota

Emerald Ash Borer: a potential threat to South Dakota trees

Adult emerald ash borer

Emerald ash borer (*Agrilus planipennis*) is a serious threat to all ash trees in North America. This small boring beetle was accidentally introduced into Michigan several years ago in ash crates from China. Since that time the beetle has been responsible for the loss of more than 8 million trees in that state alone and the infestation has now spread to the other nearby states of Ohio and Indiana as well as the Canadian province of Ontario.

The insect , a close relative to the bronze birch borer, is an aggressive killer of all ash species, including green ash, white ash, black ash, blue ash and Manchurian ash and their many cultivars and hybrids. No ash can be considered safe from infestation.

The beetle can fly up to several miles to find a suitable host but its rapid spread across Michigan and into other states has been through the movement of infested firewood and nursery stock.

The life cycle of the Emerald Ash Borer

The adults are slender, green metallic beetles about 1/2 inch long. They began emerging from infested trees and wood in early summer. The adults fly to a nearby ash and deposit eggs on the bark. The larvae hatch in about a week or two, burrow into the inner bark of the tree, and begin to feed.

EAB larvae feeding on tree tissue

Tunnels created by EAB larvae feeding on tree tissue

The larvae are legless, white, segmented and will reach a length of 1-inch long by fall. The larvae create S-shaped galleries or tunnels just beneath the bark and these galleries are packed with a saw-dust like material. The S-shaped galleries cut off the movement of food from the leaves to the roots and this interruption results in the tree's decline and eventual death.

The larvae form a whitish pupa just beneath bark in the spring and the new formed adult emerges in a few weeks.

How to identify infested trees

The first indication that a tree is infested is yellowing and thinning of the foliage. Later, often within the same season, the upper branches will begin to dieback. This progressive dieback continues until the tree dies, a process that may take one to several years. Sometimes the tree forms epicormic sprouts - long, thin, fast-growing shoots- along the trunk during the advanced stages of decline.

EAB Infected tree with dieback at the top

Another indictor of an infestation is the presence of woodpecker activity on the declining tree. These birds are searching for the borer larvae that are inside the tree. Woodpeckers will search for any insect beneath the bark so this is not a definite indicator of the insect.

The best indicator that the tree is infested with emerald ash borer is the presence of small D-shaped holes on the bark of the tree. These holes are created as the adult emerald ash borer emerges from the tree or log and flies to another tree to lay eggs. These 1/8-inch D-shaped holes are not usually present on the lower trunk until the tree is near death or has already died. A tree can be infested for several years before the holes occur low enough on the trunk to be detected.

The distinctive D-shaped exit holes made by emerging adult EAB

What to do if you find an infested tree

Any suspected infested trees should be brought to the attention of your local forester. They may need to inspect the tree to determine if it is infested with the beetles. In many instances the tree may be dying from other problems or insects .

How to prevent the beetle from entering the state

Ash firewood brought into South Dakota from Michigan, Ohio or Indiana may contain the larvae of the emerald ash borer. Since the adults emerge from infested wood during the summer months, any logs or firewood, containing the larvae can become the source for a new infestation. Campers bring firewood from outside the state may be inadvertently carrying this destructive insect, or other recently introduced pests such as the banded elm bark beetle. It is important that all firewood brought in from outside the state be promptly destroyed or burned.