MINNESOTA INVASIVE TERRESTRIAL PLANTS AND PESTS CENTER

Emerald Ash Borer Research Update

Minnesota is home to more than 1 billion ash trees in urban and natural forests, all of which are threatened by the emerald ash borer (EAB). Urban ash trees help reduce air pollution, stormwater runoff, and cooling costs; while also increasing property values. Natural ash stands have significant economic, ecological, and cultural value. Fortunately, the emerald ash borer is not yet statewide.

Researchers at the Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC) are making bold efforts to protect ash trees and forests and mitigate the effects of this devastating terrestrial invasive species by:

Creating herd immunity to EAB: Insecticide treatments for EAB-infested ash trees exist, but can be costly and difficult to administer. MITPPC researchers are optimizing the protocol for treating ash trees to achieve herd immunity – when treating a certain portion of a population confers protection to untreated members as well. This strategy will efficiently protect as many mature trees as possible. This approach also minimizes possible effects on bees and other local pollinators. The information from this project will help communities plan for safely and effectively protecting their ash trees.

Using fungi against them: EAB carry an array of fungi with them. MITPPC researchers are identifying these fungi and testing their effectiveness at parasitizing the EAB, and either killing it or slowing its spread. These fungi could then be harnessed for biocontrol.
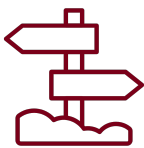
Engaging recreationists in EAB management: Outdoor recreation such as hiking, camping, and picnicking in forests can generate significant revenue for public and private forests and campgrounds. Site characteristics affect where recreationists go. Researchers are using virtual reality to explore the acceptability of different EAB treatment outcomes – from standing dead trees, to open vistas, to replanted saplings – before costly actions are taken.

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