

Where do we go with what we know about the ecology and management of the emerald ash borer?

Robert C. Venette

*USDA Forest Service, Northern Research Station
Minnesota Invasive Terrestrial Plants and Pests Center*

Emerald ash borer, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae), is the most destructive insect to have invaded North America. Information about the ecology and management of the insect has increased dramatically since 2002, when the insect was first detected in Michigan and Ontario. Much of that research suggests a bleak future for nearly all ash (*Fraxinus* spp.). Most North American ash species, including green ash (*F. pennsylvanica*) and black ash (*F. nigra*), are highly susceptible to emerald ash borer, and native natural enemies seem unable to keep populations of emerald ash borer in check. Results from monitoring studies consistently report that nearly 100% of ash are killed shortly after the insect arrives. Effective management depends on early detection, which has relied on visually-attractive traps for adults and/or inspections and dissections of trees for larvae or damage. Current management options include removing and destroying infested trees, treating surviving trees with insecticides, or biological control. Perspectives on preemptive management through phloem reduction are varied. The Slow-Ash-Mortality (SLAM) approach, wherein multiple management techniques are integrated to preserve ash, has proven effective. Most of these insights come from research in Michigan, Ohio, and Indiana. Management recommendations need to be tailored to conditions that are unique to Minnesota, where statewide spread, and subsequent tree mortality, have been slower than initially projected. Early detection, aggressive management, and cold winters likely contribute to these differences. In northern Minnesota, in particular, the future fate of ash is highly uncertain. Management strategies for ash are need that build on principles from Integrated Pest Management and are not driven by fear or apathy to the future impact of emerald ash borer.

Presenting Author: rvenette@fs.fed.us