



OS I-04

Will ash persist in the presence of emerald ash borer? Evidence from a multiple-year field study

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Emerald ash borer (EAB) has killed millions of trees near its introduction point in southeastern Michigan, and several researchers have predicted at least a functional elimination of green ash and other ash species from the landscape. Data that confirm the likelihood or unlikelihood of ash persistence in the presence of EAB is critical to justify intensive management in yet unaffected ash forests. I examined the potential for persistence of green ash in the presence of EAB by measuring surviving trees, regeneration, and seed rain characteristics in 17 small, near-pure stands of green ash in five consecutive growing seasons in southeastern Michigan. Ash mortality in these stands (58%) was significantly less than that reported for ash in mixed stands, although 20% of surviving ash still exhibited signs of EAB. Stump sprouting was very common, some (27%) producing seeds during a mast year, and advanced regeneration and new seedlings were significant over the five years of the study even when considering sapling and seedling mortality. Seed production was reduced compared to pre-EAB conditions but seed dispersal did not appear to limit seedling recruitment. Thus the seed-producing ability of small trees and basal sprouts may allow green ash to persist in the presence of EAB, although green ash populations and individual trees are unlikely to ever resemble the stature of those prior to EAB. The relationship between EAB and ash species remains fluid within the core outbreak area, but care should be taken when making genus-level predictions about future conditions of ash.

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Science & Management of Ash Forests after Emerald Ash Borer

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