Agrilus planipennis Fairmaire

The emerald ash borer (Agrilus planipennis), is a phloem-feeding beetle native to Asia; it belongs to a family of beetles generally referred to as metallic wood-boring beetles. The beetle was discovered in North America- near Detroit and Michigan in the United States and Ontario in Canada in 2002. As of March 2009, isolated populations of emerald ash borer were detected in nine additional states and Quebec in Canada. By January 2010, satellite infestations have been detected in 13 states and two Canadian provinces. The emerald ash borer is a highly invasive forest pest that has the potential to spread and kill native ash trees (Fraxinus sp.) throughout the United States. All North American ash species that occur within the current range have been killed by this beetle, including white ash (F. americana), green ash (F. pennsylvanica), black ash (F. nigra), blue ash (F. quadrangulara) and pumpkin ash (F. profunda). The invasion spread of the beetle is characterized by the formation of satellite populations that expand and coalesce with the continuously invading population front; understanding this characteristic is critical when planning and costing preventative measures to control spread.

Adult beetles feed on ash leaves from late May through to September causing minor damage. Eggs that are laid on the bark hatch within two weeks. The larvae, through mid-summer to fall, feed on the phloem and cambium under the bark forming galleries that girdle the phloem disrupting the transport of water and nutrient within the tree. As beetle densities build over time the health of the tree declines till it dies. The symptoms of beetle attack are not visible till the canopy dieback and death of the tree.

Simulation studies predict an expanding infestation that will likely cover most of the 25 states of the United States and warrant treatment, removal, and replacement of more than 17 million ash trees with mean discounted cost of $10.7 billion.

References:

Global Invasive Species Database (2011) Agrilus planipennis Fairmaire


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