

Emerald Ash Borer Survival in Firewood

Robert A. Haack and Toby R. Petrice, USDA Forest Service, North Central Research Station,
rhaack@fs.fed.us, *tpetrice@fs.fed.us*

Objective:

This study looked at firewood infested with emerald ash borer (*Agrilus planipennis* Fairmaire), or EAB, to determine the survival rate. EAB is spreading naturally through adult flight as well as artificially through movement of infested ash nursery stock, logs, and firewood. EAB larvae feed and develop in the cambial region of host trees during summer and fall, and then overwinter in the outer sapwood or outer bark. Because of EAB's staggered development, infested trees can contain EAB life stages throughout the year. As is typical for *Agrilus* species, early larval stages of EAB require a living host. Therefore, if infested trees are cut early during larval development, host tissues should dry and thus reduce *Agrilus* survival. This has been documented for the native twolined chestnut borer, *Agrilus bilineatus*, which attacks oak (*Quercus*) (Haack and Benjamin 1980).

Methods:

As of November 2003, EAB has only been found to infest ash (*Fraxinus*) trees in North America, although other hardwoods (e.g., *Juglans*, *Pterocarya*, *Ulmus*) are listed as hosts in Korea and Japan. EAB is spreading naturally through adult flight as well as artificially through movement of infested ash nursery stock, logs, and firewood.

In 2002, EAB-infested firewood was felled and stacked in Michigan at various intervals from July to October. The firewood was either placed in direct sunlight or in shade. Exit holes were counted on the firewood during summer 2003. EAB were able to survive and emerge from all treatment combinations. However, survival was significantly lower on logs that had been cut during July and August vs. September and October. Similarly, EAB survival was greater on logs that had been stored in shade vs. direct sunlight. Therefore, cutting infested trees early during larval development and placing the logs in full sunlight will dramatically lower EAB survival, but apparently not kill all larvae. A larger study was initiated in 2003, which had the following treatments: month of felling, sun vs. shade, split vs. whole bolts, and tarped vs. not tarped.

(Haack RA, Benjamin DM. 1980. Influence of time of summer felling of infested oaks on larval development and adult emergence of the twolined chestnut borer, *Agrilus bilineatus*. University Wisconsin Forestry Research Note 236. 4 pp.)