

Emerald Ash Borer

Agrilus planipennis Fairmaire

Coleoptera: Buprestidae

Francese, J. A.; Mastro, V. C.; Oliver, J. B.; Lance, D. R.; Youssef, N.; Lavalley, S. G. 2005. Evaluation of colors for trapping *Agrilus planipennis* (Coleoptera: Buprestidae). *Journal of Entomological Science* 40: 93-95.

Objective: To evaluate trap color as an attractant for flying *A. planipennis* in detection surveys.

Abstract: Emerald ash borer is an established, exotic woodborer attacking healthy green (*Fraxinus pennsylvanica* Marsh.), black (*F. nigra* Marsh.), and most importantly, white ash (*F. americana* L.) in northern North America. Tree mortality is high and rapid. Attempts at eradication appear to be failing, but nonetheless a useful survey system is required for this pest. There is evidence that other *Agrilus* spp. use color, sound, and semiochemicals to locate potential hosts. This study reports the effect of trap color and placement height on catch rates of adult *A. planipennis*.

Purple sticky traps caught significantly more borers than all other colors tested at both the 1.8 m and 6.1 m placement heights of the traps. Moreover, significantly greater numbers of borers were caught at the 1.8 m height than at the 6.1 m height with purple-colored traps. Therefore, purple-colored traps suspended at the 1.8 m height should be sufficient at detecting borers until useful semiochemicals are developed for this pest. This type of detection survey is useful because flying adult borers are recovered before large numbers of borer exit holes and crown dieback are detected in host trees.

Sampling Procedure: Purple panels are the most efficient color in trapping adult *A. planipennis*. Using plastic cable ties, tie four 37.5 x 60 cm corrugated plastic panels (0.26 cm thick; Coroplast, Dallas, TX) together to form an open-ended box. Attach a stainless steel umbrella rig (Zing Products, Westport, MA) to each open end of the box to maintain the shape of the trap. Attach two ash logs, 3.8 cm in diameter and 50 cm long, to the steel spreaders inside the box as an attractant. Bait logs should be enclosed entirely by the box trap. Suspend the trap 1.8 m above ground from the crown of an ash tree. Coat the outside of each panel with Pestick insect trapping glue (Hummert International, Earth City, MO). Check traps bi-weekly for adults.

Notes: No information was provided regarding the spacing of box traps within a given area.

An improved trap consisting of a three-sided prism of corrugated purple plastic and baited with attracted volatiles is now recommended for detection of *A. planipennis* (Crook et al. 2008; see our review in this volume), but the original box trap baited with ash logs may be useful for some surveys. Also see our review of Francese et al.

(2008) in this volume for additional information regarding trap placement for *A. planipennis*.

References:

- # Crook, D. J.; Khrimian, A.; Francese, J. A.; Fraser, I.; Poland, T. M.; Sawyer, A. J.; Mastro, V. C. 2008. Development of a host-based semiochemical lure for trapping emerald ash borer *Agilus planipennis* (Coleoptera: Buprestidae). *Environmental Entomology* 37: 356-365.
- # Francese, J. A.; Oliver, J. B.; Fraser, I.; Lance, D. R.; Youssef, N.; Sawyer, A. J.; Mastro, V. C. 2008. Influence of trap placement and design on capture of the emerald ash borer (Coleoptera: Buprestidae). *Journal of Economic Entomology* 101: 1831-1837.