

ATTRACTANTS FOR LONGHORN BEETLES IN THE SOUTHEASTERN U.S. - PINE VOLATILES AND ENGRAVER PHEROMONES

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ABSTRACT

Our objective was to determine the effect of adding the binary combination of pine engraver pheromones, ipsenol and ipsdienol, to the binary combination of pine volatiles, ethanol and (-)- α -pinene, on catches of some common pine longhorn beetles (Cerambycidae) in the southeastern U.S. Six trapping experiments were conducted in stands of mature pine in four states (Florida, Georgia, Louisiana, and Virginia). Four experiments were conducted in the summer of 2006 and two in the fall of 2006. In each experiment, thirty 8-unit multiple-funnel traps were grouped into 10 replicates of three traps per replicate with traps spaced 10 to 15 m within a replicate and replicates spaced 15 to 30 m apart. Sites contained various combinations of the following species of southern pines: *Pinus taeda*, *P. echinata*, *P. palustris*, and *P. elliotii*. Sites were selected based on recent history of thinning or prescribed burns in the past 12 months. In Virginia, replicates were divided equally between two locations (>500 m apart). The following treatments were randomly assigned to one of the three traps within

each replicate: ethanol + (-)- α -pinene (**EA**); ipsenol and ipsdienol (**SD**); and ethanol, (-)- α -pinene, ipsenol and ipsdienol (**EA + SD**). The release rates for ethanol and (-)- α -pinene were about 1 to 5 g/day at 23 to 25 °C whereas ipsenol and ipsdienol were each released at 0.1 to 0.2 mg/d at 23 to 25 °C. Collection cups contained RV and Marine antifreeze. Summer collection periods in 2006 were April 4 to June 6 in Florida, April 11 to June 13 in Georgia, April 4 to May 31 in Louisiana, and May 25 to July 27 in Virginia. Fall collection periods were August 23 to October 4, 2006 in Georgia and September 6, 2006 to January 5, 2007 in Louisiana. Traps baited with the quaternary lure combination of ethanol, (-)- α -pinene, ipsenol and ipsdienol (**EA + SD**) were attractive to *Acanthocinus obsoletus*, *Astylopsis arcuata*, *A. sexguttata*, *Monochamus titillator*, *M. scutellatus*, and *Rhagium inquisitor* in the southeastern U.S. Attraction of *Xylotrechus sagittatus* to traps baited with ethanol and (-)- α -pinene (**EA**) was unaffected by the addition of ipsenol and ipsdienol (**SD**) to traps.