

Podosesia syringae (Harris) morph *fraxini*, a “new clearwing moth record for British Columbia”, has been recovered since 2006 from infested nursery-grown trees in British Columbia and Alberta.

The adult (picture) is brownish to black. Wings are covered with orange-brown scales dorsally. All abdominal segments except the first are yellow posteriorly. Segments 5 to 7 are mostly reddish.

The Eastern morph, common in the Prairie provinces, Ontario and Québec, lacks the color bands and is usually brown-black with brown to black forewings.

The morph *fraxini* was first reported in California and is now found throughout the West Coast of the United States.



Eggs are laid in bark crevices and ridges. The young larvae bore into the tree through the bark. The insect overwinters as a mature larva inside the infested tree.

While inside the tree, the larvae feed on phloem tissue then sapwood, pushing sawdust outside the trunk (picture to left).

Both entrance and exit holes are visible on the trunk of the tree (pictures below). During entry, the young larva feeds on bark tissue causing scarring. During exit, the mature larva opens a circular hole the diameter of a large pen. The exit hole is typically 10 to 30 cm above the entrance hole. There is only one larva per gallery.

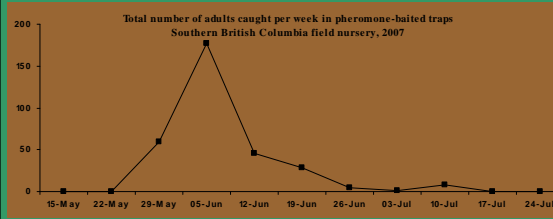
Infested trees survive insect damage but show susceptibility to water stress in late summer. In nursery production, the trees become structurally unsafe and must be culled.



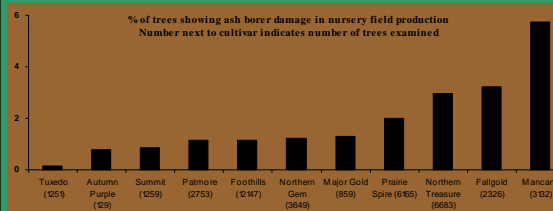
The ash borer *Podosesia syringae* (Lepidoptera:Sesiidae): the morph *fraxini* as a new pest of nurseries in Western Canada

Mario Lanthier, CropHealth Advising & Research, Kelowna BC www.crophealth.com
 Marius V. Aurelian, University of Alberta, Department of Biological Sciences, Edmonton AB
 Gary J.R. Judd, Agriculture and Agri-Food Canada, Pacific Agri-Food Research Centre, Summerland BC

Pheromone-baited traps were installed to track adult flight. In Southern British Columbia in 2007, adult males were captured from late-May to mid-July (see graph below). In Southern Alberta, adults were captured mid-June to mid-July.



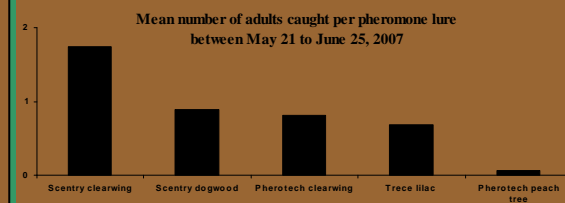
Surveys in late summer 2007 indicated losses between 1 and 3% of field-grown trees at all nurseries impacted. Damage (frass at the base of the tree associated with entrance hole) was visible on all *Fraxinus* species (*F. pennsylvanica*, *F. nigra*, *F. mandshurica*) and all ornamental cultivars (see graph below).



At affected nurseries, the insect has been successfully controlled with repeated application of pesticides.

Confirmed direct cost to the industry was approximately \$180,000 for the years 2006 to 2008. This includes \$165,000 for nearly 5,000 destroyed trees and \$10,000 for repeated pesticide applications.

Commercially-available pheromone lures were field-tested for attractiveness to the ash borer in replicated field trials. The lure “Scentry clearwing borers” attracted significantly more adult males than five other commercial lures tested. The difference in moth captures between commercial lures is likely due to different release technology. Most lures are based on pheromone compounds being released via rubber septa. The “Scentry clearwing borer” releases via capillary tubes.



In 2008, controlled field trials with mating disruption resulted in control over 80% in treated blocks.

The commercial product Isomate-P (Pest Control Products Act Number 27141) was affixed as twist ties on trees (picture to right). The tie contains a blend of molecules identified as sex pheromone components of many clearwing moths.

The mode of action is disruption of adult mating rather than killing the pest as do traditional pesticides. This method is least-disruptive and compatible with IPM programs.



References:

Aurelian V.M., Lanthier M. and G.J.R. Judd. In Press. *Podosesia syringae* (Lepidoptera: Sesiidae): a new clearwing moth record for British Columbia. J Entomological Society of British Columbia
 Eichlin, T. D and Duckworth, W. D. 1988. Sesiioidea: Sesiidae in: Dominick, R.B., *The Moths of America North of Mexico, fascicle 5.1*. Wedge Entomological Research Foundation, Washington, DC
 Solomon, J.D. 1995. *Guide to insect borers of North American broadleaf trees and shrubs*. Agricultural Handbook 706. Dept Agriculture, Forest Service, Washington, DC