

Saddled Prominent

Heterocampa guttivitta (Walker)

Lepidoptera: Notodontidae

Spear-O'Mara, J.; Allen, D. C. 2007. Monitoring populations of saddled prominent (Lepidoptera: Notodontidae) with pheromone-baited traps. *Journal of Economic Entomology* 100: 335-342.

Objective: To monitor *H. guttivitta* populations in sugarbush using pheromone traps; to predict mean peak flight and flight termination by *H. guttivitta* using a degree-day model.

Abstract: Saddled prominent, *Heterocampa guttivitta* (Walker), is a periodic defoliator of sugar maple (*Acer saccharum* Marsh.), and other hardwoods in northern USA. Populations of *H. guttivitta* are of a concern in sugarbush management as multiple years of heavy defoliation results in extensive crown damage with reduced yield and quality of sap in healthy, growing trees and mortality in younger, understory maples. Trends in *H. guttivitta* populations can be estimated using bucket traps baited with a 90/10 blend of Z13-hexadecen-11-yn-1-yl aldehyde (Z13Y11-16:ALD) and hexadec-11-yn-1-yl aldehyde (Y11-16:Ald) with sufficient time for sugarbush operators to consider management options for this pest. Egg density approximates 1.0 viable eggs per 10 leaf clusters when the average peak trap catch equals 70-80 moths. At this approximate density, defoliation of terminal branches in overstory maples becomes visible from the ground level and warrants control measures. Using a base temperature of 5.5°C with temperature data provided by the closest weather stations, mean peak flight and termination of flight period occurred at 304 ± 10 and 571 ± 8 degree-days, respectively.

Sampling Procedure: Traps should be installed by late May. Use either Pherocon 1C wing sticky traps (Trécé Inc., Salinas, CA) or green Multiplier bucket traps (Le Groupe Biocontrol, Ste. Foy, Quebec). High-capacity, nonsaturating bucket traps are preferable when moth populations are high because sticky traps will saturate quickly. However, sticky traps may be more effective than bucket traps when *H. guttivitta* populations are very low. Bait traps of either type with rubber septa containing 10 µg of a 90/10 blend of Z13Y11-16:ALD and Y11-16:Ald (Research and Productivity Council, Fredericton, New Brunswick). Install a 90 x 25 mm strip of insecticide-impregnated tape in each trap to kill attracted moths. Hang traps below the canopy of each stand and approximately 2 m above the ground. Use a stake with a cross bar instead of hanging traps directly on a tree branch. Place traps at least 20 m within the stand, with 40 m between traps. Service traps every 4 days and leave in place until termination of the flight period. Mean peak flight and termination of flight period can be predicted at 304 ± 10 and 571 ± 8 degree-days, respectively, using a base temperature of 5.5°C with temperature data provided by the closest weather stations. Sugarbush operators should consider management options when the average

peak trap catch equals 70-80 moths, which approximates the threshold of defoliation on branch terminals that is visible from the ground.

Notes: Sugarbush management represents the management of sugar maple for its sap to make maple syrup or sugar. Conspecific notodontid species were not attracted to the pheromone blend. The authors did not suggest a specific number of traps to be installed in each stand, but 5 sticky traps were placed in each stand in this study. Estimates of *H. guttivitta* populations should consider the density of sugar maple to other favored hardwoods, particularly American beech (*Fagus grandifolia* Ehrh.), within the stand.