





# Technical Bulletin for: Spruce Budworm

*Christoneura orae* (Freeman) • Lepidoptera, Tortricidae • CHOORA



<b>DISTRIBUTION</b>	North America (primarily Alaska and Canada, the Rocky Mountains)
<b>HOSTS</b>	Lutz ( <i>Picea x lutzii</i> ), Sitka ( <i>P. sitchensis</i> ), White ( <i>P. glauca</i> ) spruce, Black spruce ( <i>P. mariana</i> ), larch ( <i>Larix sp.</i> ), hemlock ( <i>Tsuga spp.</i> ). Balsam fir ( <i>Abies balsamea</i> ) is a primary host outside Alaska.
<b>DESCRIPTION</b>	
<b>Adult Moth</b>	With a wingspan of 24mm, adult <i>C. orae</i> can have mottled-brown, dark brown, or orange brown forewings with tan hindwings.
<b>Larvae</b>	Larvae undergo 6 instars, not feeding until third instar. Mature larvae are 20-30 mm long and are reddish or olive brown, green, or black in color, with white spots running along their flanks.
<b>Eggs</b>	Greenish in color, laid in clusters of 5-50, for a rough total of 170 eggs
<b>LIFE HISTORY</b>	Adult budworms emerge in mid-June to mid-July, females attract males with pheromones, and commence mating. Females oviposit over a 1-2-week period. The majority of egg clusters will be found in upper spruce crowns but can be also found among lower branches. Newly emerged females are not active fliers but take wing once roughly half their eggs have been oviposited. Female moths are capable of using wind directed dispersal to travel (and oviposit eggs) across distances of 150 miles. Eggs hatch in 10-14 days.
<b>MONITORING INFORMATION</b>	
<b>LURE ACTIVE INGREDIENTS, SUBSTRATE &amp; FIELD LIFE</b>	Z-11-14Ac, E-11-14OH, E-11-14Ald, and E-11-14Ac on a red rubber septum. Lure longevity: Thirty (30) days.
<b>TRAP TO USE</b>	Plastic Delta Trap or Uni Trap  
<b>MONITORING STRATEGY</b>	Hang traps near affected trees.
<b>CULTURAL &amp; PHYSICAL CONTROL</b>	Search trees carefully for larvae in May, when buds are swelling, shaking them off when discovered.

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