

Recognizing the Western Spruce Budworm around your home



Western spruce budworm mature larvae (caterpillar)

The **western spruce budworm** is a very destructive native defoliator of western coniferous forests, which periodically reaches outbreak levels in British Columbia. It was first recorded in 1909 on Vancouver Island and since that time, infestations have occurred throughout BC. In 1987, and again in 2007-2008, over 800,000 hectares were affected by the western spruce budworm, mostly in the southern interior of the province. It feeds primarily on **Douglas-fir, but is also seen on true firs, larch and occasionally on spruce.**

During an outbreak, trees of all ages are susceptible, although mature forests are preferred. Budworm larvae feed primarily on new needles and developing buds. By July, defoliated trees appear reddish in colour. Repeated budworm defoliation causes tree mortality over large areas, reduction of growth rates and reduced lumber quality.



Current defoliation by budworm

The budworm has a one-year life cycle and overwinters as tiny larvae under bark scales. Adults appear from mid to late July, mate and lay eggs in late July or August. Male and females are similar in appearance and females emit a pheromone to attract males. Both sexes fly, allowing for long-range dispersal and colonization of new sites.



Western spruce budworm moth

The female deposits overlapping, shingle-like egg masses on the underside of foliage on large, overstory Douglas-fir trees. Up to 150 eggs may be laid. The egg masses are bright green when laid, and translucent white when empty.

Newly hatched larvae do not feed. Instead, they seek shelter primarily under bark scales where they overwinter. In spring, they emerge and begin feeding by mining needles or newly swelling buds.



Mature budworm caterpillar with chewed needles (left) and pupa (right).

Mature budworms are about 25 mm long, with a brown body and **four distinct spots on each segment.** Larvae feed primarily on new foliage, spinning loose webs, which are used as feeding shelters. If all new foliage has been destroyed then the insect will feed on old foliage. Damage is most severe in years when this back-feeding occurs.



Outbreak cycles can last for up to 25 years.

For more information on Western spruce budworm and its control, please contact:

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