

Eastern larch beetle outbreak in Manitoba

There has been an outbreak of eastern larch beetle, *Dendroctonus simplex*, in Manitoba since 2001. The outbreak has expanded throughout much of the range of tamarack larch, which is the major host species of this bark beetle. Eastern larch beetles often attack trees that have been stressed by factors such as insect defoliators, drought or flooding. However, during outbreaks healthy tamarack trees that are not under stress are also attacked. Infested trees are often killed within two years.



Signs and Symptoms of larch beetle attack

- yellowing of foliage in the lower portion of the tree in late July and early August
- adult beetle entrance holes (2 mm in diameter) bored through the bark into the phloem (inner bark)
- red-brown boring dust below the entrance holes
- winding vertical egg galleries etching the sapwood beneath the bark
- conspicuous resin flow on the surface of the bark during the summer
- bark removal by woodpeckers feeding on the beetle broods in winter and early spring

Life Cycle

Small dark brown adult beetles (approximately 3.5 to 5.0 mm in length) emerge from infested trees in spring and attack live healthy tamarack trees by boring through the bark. Following mating, female adults lay white, oval to oblong eggs (approximately 0.9 mm long) in galleries constructed in the inner bark. Larvae (cream-colored legless grubs approximately 4.5 mm long) hatch, feed by mining the phloem, and then complete their development in about a month. Following this period, larvae change into pupae (transition stage between larva and adult) and then adults. Both the adults that emerged in spring and their offspring leave the infested trees to attack other tamarack trees. Eastern larch beetles over-winter as adults, pupae and larvae in standing trees and cut logs. However, during cold winters larvae and pupae survival is poor.

Suggested Management

Since the current outbreak is widespread and the adult beetles can fly a few kilometres, there is no guaranteed prevention for eastern larch beetle attack. However, sanitation involving timely utilization and/or removal of infested wood can reduce the risk of attack. Eastern larch beetles breed in standing trees as well as stored logs with bark intact. Adults will emerge from this material in spring and attack live healthy trees. Infested trees and logs should be utilized or removed from tamarack stands before the emergence of beetles in spring. Tamarack fuelwood should not be stored with bark intact through spring and summer in close proximity to live healthy tamarack trees. If it cannot be utilized during the winter months, it should be debarked for longer term storage.