

**Mountain Pine Beetle (MPB),** *Dendroctonus ponderosae*, is native to North America's western region. Generally they attack ponderosa, lodgepole, scotch and limber pines. This beetle has a one year life cycle with adults exiting from infested trees and emerging into flight during mid-late July from lodgepoles and mid-August from ponderosas.



Females choose living green trees emitting pheromones to attract males to mate causing mass attacks which encircle the trees with popcorn shaped masses of resin called pitch tubes on the trunks. [For more details see Mountain Pine Beetle Spraying and Inspection information on the VMI website Projects page] MPB larvae spend the winter under the bark and once they have entered the tree there is nothing that can be done to save it.

Proper preventative spraying prior to mid-summer flight can protect trees from entry. It is thought that bluestain fungi (*Ceratocystis* species) which contaminate the bodies of MPB infect the tree when beetles enter and both the fungal growth and the larvae feeding disrupt the transport of nutrients in the tree rapidly killing it.

Tree vigor can greatly contribute to a trees ability to reject beetles. Healthy trees are less attractive to beetles than trees under stress and can "pitch out" the beetles.





Under epidemic conditions, enough beetles can emerge from one infested tree to kill about two same sized trees. Outbreaks can result in the loss of millions of trees and pines that might be miles from an infestation can succumb to beetles imported in infested firewood.

Ips and related beetles that emerge early in summer are sometimes mistaken for MPB leading to early reports that "MPB is flying". Proper identification is necessary in these instances. Trees from which MPB has emerged contain numerous round pitch-free exit holes in the bark. These trees do not need to be sprayed.

