

# CHEMICAL TREATMENTS FOR PINE BEETLE MITIGATION

*Protect selected trees before beetles attack.*

Chemical tools can help protect healthy, high-value pines when beetle pressure is present. These treatments are preventive, not curative, and work best alongside accurate identification, sanitation, monitoring, and healthier stand structure.



*Preventive bark treatments require complete, label-compliant coverage before beetles begin attacking new trees.*

## ● BARK SPRAYS

### PROTECT HEALTHY TREES

Registered preventive insecticides are applied to the trunk before attack.

- ✓ Common active ingredients include carbaryl, permethrin, and bifenthrin.
- ✓ Treat selected high-value pines—not trees already successfully infested.
- ✓ Coverage, concentration, timing, and bark condition all matter.

## ● SEMIOCHEMICALS

### ALTER BEETLE SIGNALS

Verbenone products mimic an anti-aggregation signal that may reduce attacks.

- ✓ Place the correct formulation before the expected flight period.
- ✓ Use where beetle pressure and site conditions fit the product guidance.
- ✓ Treat as one part of an integrated strategy, not guaranteed protection.

## ● INJECTION

### INTERNAL DELIVERY

Systemic products are placed directly into a tree's vascular system for targeted treatment.

- ✓ Uses small treatment volumes without broad bark coverage or airborne drift.
- ✓ Offers internal delivery for selected healthy, high-value trees.
- ✓ Results against mountain pine beetle can be inconsistent; timing, uptake, and label compliance are critical.

## ✓ START HERE

- ✓ Confirm beetle species, activity, and whether target trees remain uninfested.
- ✓ Prioritize healthy trees whose loss would matter most.
- ✓ Compare sprays, semiochemicals, and injections with a licensed applicator or arborist.
- ✓ Record treated trees and inspect them again after the flight season.

## ▲ THE RAVEN WORKS PERSPECTIVE

Chemical protection is best reserved for healthy, high-value trees within a broader management plan. It does not replace thinning, sanitation, species diversity, or prompt handling of infested wood.

*Protect selectively, follow the label, and keep building resilience across the whole property.*

Guidance basis: Colorado State Forest Service and CSU Extension mountain pine beetle recommendations; pesticide use must follow the current product label.

## ◎ IN THE FIELD

*Three practical realities shape responsible chemical treatment decisions:*

### PREVENTIVE, NOT CURATIVE

No spray or pheromone treatment can restore a tree after successful infestation.

### COVERAGE AND TIMING

Incomplete coverage or application after beetle flight begins can reduce protection.

### SELECTIVITY MATTERS

Focus treatment on suitable high-value trees and manage the surrounding stand for vigor.