

## Western Bark Beetles Blake Fentress

We have had Western Bark Beetles destroy our two southern facing Ponderosas. They killed one 40 foot tree and started gnawing on another beautiful tree about 5 feet away. We had them removed so they would not spread to our neighbor's trees.

There is data showing that effective preventative treatment can reduce the risk of losing your Ponderosa Trees. They only work if you get them applied BEFORE beetles attack your tree. Once they dig under the bark, it is too late. You will lose the tree.

Effective spray treatments for western bark beetles use active ingredients like **permethrin, bifenthrin, or carbaryl**. These are preventative measures applied to the tree bark before the adult beetles begin their flight and attack the tree.

Permethrin lasts just one season but bifenthrin and carbaryl seem to be effective for two seasons.

Most information I can find recommends these products be applied by professional arborists so they can be applied with high pressure and many feet up the tree trunk. However, I can tell you that the beetles and holes in the bark of our trees did not extend above 5-6 feet above the ground. So, if you have a sprayer, it might be effective to just treat as high as you can get to with a standard sprayer.

### **Important Application Guidelines**

- **Prevention Only:** These sprays are only effective as a preventative measure. They must be applied **before** the beetles attack the tree and bore under the bark. If a tree is already heavily infested (needles turning yellow/red), it is unlikely it can be saved with a spray.
- **Timing:** Apply in the **late spring** (around May in many areas) before the adult beetles emerge and seek new host trees.

- **Coverage:** The entire bark surface of the trunk must be thoroughly saturated to the point of runoff, from the base up to a height of 30-50 feet for larger trees. Misting is not sufficient.
- **Equipment:** High-pressure spray equipment (at least 250-400 psi) is necessary to ensure adequate coverage of the upper trunk, especially for taller trees. This is why application for large, high-value trees is often best handled by a certified arborist or pest control professional.
- **Safety:** Always read and follow all label instructions and safety precautions. Treated areas should be allowed to dry completely before allowing re-entry by children or pets.
- **Alternative:** For very high-value trees, a professional arborist may recommend a systemic injection of **emamectin benzoate** (e.g., brand name Tree-äge), which can provide internal protection for two to three years.
- In most cases, **stressed trees cannot recover after a successful bark beetle infestation, even with spraying.** Insecticide sprays are a *preventative* measure only, effective at killing adult beetles as they attempt to enter an uninfested, healthy tree.

## Why Recovery Is Unlikely

- **Beetles Bore Under the Bark:** Once beetles have successfully attacked a tree, they bore beneath the outer bark into the **cambium layer**, which is vital for transporting water and nutrients. Sprays applied to the *outer* bark cannot reach the insects or the damage they are causing inside the tree.
- **Blue-Stain Fungus:** Western bark beetles introduce a blue-stain fungus that further disrupts the tree's vascular system, essentially choking it from the inside out. This damage is irreversible.
- **Symptoms Appear Too Late:** By the time visible symptoms appear, such as the needles fading from green to yellow, and then to rusty red, the infestation is advanced, and the tree is already dying or dead.
- **Irreversible Damage:** Unlike some deciduous trees that can regenerate after losing leaves, pines typically cannot recover once heavily infested. The extensive

tunneling (galleries) under the bark permanently damages the tree's ability to sustain itself.

## **What to Do with an Infested Tree**

If a tree is successfully infested (indicated by pitch tubes, boring dust, or discolored needles), the best course of action is generally **removal** to prevent the beetles from emerging and attacking nearby healthy trees.

- **Timing of Removal:** The tree should be removed as soon as a successful attack is confirmed. Removing the tree prevents the new generation of beetles from developing and spreading to other pines.
- **Proper Disposal:** Infested wood should not be left lying around. Options for disposal include chipping, burning (where permitted), or covering logs tightly with black plastic in a sunny area (solarization) to kill the larvae.
- **Protect Healthy Neighbors:** Focus your efforts on protecting high-value, uninfested trees on your property with preventative insecticide sprays best applied by a professional arborist or forester.