

Healthy Trees

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Healthy trees can expel pine beetles and prevent infection. Trees weakened by competition for limited water and sunlight often cannot. Thin your trees to prevent overcrowding.

I stumbled upon this method around 2010. We had a line of 5 trees that were too close to our back deck. When the trees were felled, I got a look at the stumps with all growth rings exposed. There were growth rings around the perimeter of each stump, and I counted back 10 years. The growth rings shrunk to about 25% of the size of the outer 10 rings! Then I realized, 10 years back the house's construction footprint had just been cleared, removing dozens of trees and reducing competition between trees! The growth rate then increased 4-fold over the next 10 years!

About 90 years ago, this land was clear cut for lumber to supply demand in El Paso County. Many replacement trees were then planted all around the same time. The photo shows a smaller tree on the right and a tree of the same age but much larger on the left. What caused one tree to grow much faster than the other? Competition. So, imagine how healthy all your trees might be if they weren't competing so much.

A forest of fewer, much healthier trees is the absolute best defense against the pine beetle.

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Proper Spacing for Ponderosa Trees

From the Web....

Proper spacing is critical for **ponderosa trees** because overcrowding triggers intense resource competition, compromises wildfire resilience, and increases vulnerability to devastating pests and diseases. In their natural habitat, ponderosa pines naturally form open, widely-spaced parklands or savannas. Replicating this spatial arrangement—typically **15 to 30 feet apart** depending on the landscape goal—ensures each tree can reach its full genetic potential.

Giving ponderosa pines adequate room to grow addresses several critical ecological and biological needs:

1. Survival in Water-Scarce Environments

Ponderosa pines thrive in semi-arid environments where soil moisture is limited. They rely on a dual root system: a massive, deep taproot to draw up groundwater and an expansive shallow network to collect rainfall. When planted too close together, their roots entangle and rapidly deplete the available water table, stalling growth and causing drought stress.

2. Extreme Intolerance to Shade

Ponderosa pines are highly intolerant of shade and crave **6 to 8 hours of direct sunlight** daily.

- **Overcrowded trees** experience a "race to the top," growing tall, skinny, and structurally weak.
- **Properly spaced trees** develop thick, majestic trunks and symmetrical, healthy crowns.
- Without enough sunlight, the lower canopy limbs will self-prune and die off completely.

3. Wildfire Defense and Resilience

In modern forestry and residential landscaping, spacing acts as a crucial line of defense against forest fires. Ponderosa pines have evolved with fire; they feature thick, flame-resistant bark and shed lower limbs to prevent ground fires from climbing. Close spacing defeats this natural mechanism by creating a continuous "fuel ladder." Tight canopies allow raging crown fires to leap effortlessly from tree to tree, while proper spacing starves the fire of fuel.

4. Air Circulation and Pest Prevention

Densely packed stands trap humidity and stagnant air. This microclimate creates an ideal breeding ground for destructive needle blights and fungal pathogens. Furthermore, water-stressed, overcrowded trees cannot produce enough sticky resinous sap to fight off invasive insects like the Pine Tip Moth or bark beetles. Strategic spacing keeps the air moving and the foliage dry.