

“I don’t have to worry about
freezes anymore, we now
have global warming!”

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Freeze Damage

- Cold Damage,
 - Ranges from slight, leaves may wilt but can regain turgor, left with dark flecks on the leaves
 - To severe, leaves freeze, turn brown and dry out
 - If twigs are frozen, leaves may hang on for several weeks
 - If twigs are not severely frozen, leaves will shed

Fruit Damage

- The stem attached to the fruit is thin and loses heat rapidly
- The water in the xylem may freeze, expand and rupture tissues
- Freeze damage extends into the fruit following the xylem elements
- This fruit is not acceptable for packing

Trunk Damage

- Water in the phloem (just below the bark) may freeze, expand and rupture through the bark
- This results in bark cracking and eventually peels off

Assessing Damage

- Cut the bark, if wood appears to be drying, this will need to be pruned off
- This is fairly obvious in the small branches and twigs
- However, it may take 3-4 months to really assess the damage to the trunk and large branches since tissue may take some time to die

Assessing Damage

- “Observations following previous freezes have shown that wood, which appeared discolored and severely damaged, put out vigorous new growth later in the season. It is best, therefore, to wait and let the tree indicate the extent of damage.”
– R.G. Platt

Whitewashing

- Defoliated avocados should be whitewashed, or painted with white paint mixed 50/50 with water, on the southwest side of the tree.
- Whitewash can be made from 50 lbs hydrated lime, 4 lbs zinc sulfate in 100 gallons water.

Pruning

- Trees should be pruned to get rid of dead wood that can support growth of wood decay fungi
- Do not rush to prune
- Premature pruning may have to be repeated
- Or, you may be cutting too deep and slow tree recovery

Pruning

- Light damage – only leaves and small twigs damaged, pruning not required
- Medium damage – trunk and main limbs OK, branches should be removed back to living wood above vigorous sprouts
- Severe damage – Sprouts just above bud union, prune back to uppermost sprout

Pruning

- Extreme damage – trees are killed to the bud union, trees should be removed and replaced with new trees

Irrigation

- Irrigate carefully! – damaged trees use very little water
- Over-irrigating may induce root rot problems, or root asphyxiation

Fertilization

- There is no evidence that frozen trees respond to any special fertilizer that is supposed to stimulate growth
- Cut back on nitrogen
- Watch for minor element deficiencies in the new foliage (especially zinc)