



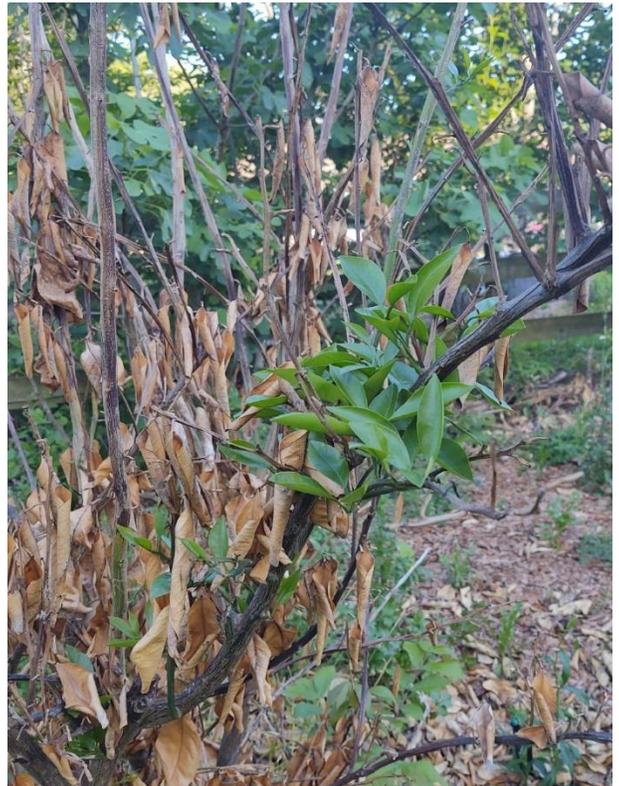
## What to Expect from Citrus After the Freeze

By Deborah Birge, Fort Bend County Master Gardener

After a freeze, our instincts tell us to do something right away. However, there is little that can help the situation at the time. It is impossible to determine the complete extent of tree damage. Why? Because twigs and branches will continue to die for a period of several months to a couple of years following the severe freeze, we just experienced.

If we look at the recommendations made to commercial growers in Freeze Damage Symptoms and Recovery for Citrus by Mongi Zekri, Chris Oswalt, Steve Futch and Laurie Hurner, we find the best practices are listed as:

1. No attempt should be made to prune or even assess freeze damage until the new spring flush gets fully expanded and mature.
2. No pruning should be done until late in the spring or the summer after a freeze. This delay is desirable since it is difficult to determine the actual extent of freeze injury until new growth commences and fully develops.
3. In early spring, freeze-damaged trees often produce new growth that soon dies back. Sufficient time should be given for the dying back to cease and for the new healthy growth to take place and fully expand.
4. Experience has shown that early pruning does not promote recovery and that delaying pruning to the proper time will save money.
5. Pruning cuts should be made into living wood and, where possible, at crotches, leaving no stubs or uneven surfaces.



In Citrus Industry Magazine a publication of AgNet Media, Inc., we find these recommendations for proper care after a severe freeze:

1. Fertilization of freeze-damaged trees should be reduced until the trees are back to their original canopy size and foliage density.

2. Fertilizer should be applied more frequently, but rates should be reduced in proportion to the amount of tree damage and to the expected crop load.
3. Trees suffering 10 to 15 percent wood loss should receive a regular nutritional program as fruit will be produced that year.
4. Trees suffering 50 to 60 percent wood loss will not produce fruit that year, and the nutritional program should be reduced according to the damage.
5. When leaves are lost, transpiration from the tree canopy is greatly reduced. Therefore, the amount of water required should be reduced. Excessive irrigation does not result in rapid recovery, but may result in root damage and nutrient movement below the root zone.
6. Normal irrigation should be practiced when trees regain their normal foliage development and canopy density.
7. Trees that put forth new growth should not be allowed to get water-stressed.

The recent freeze we experienced was one of the most devastating stresses in memory. If given proper care, we can expect our trees to recover and become vigorous once again. But recovery cannot be rushed. Trees suffering defoliation and minor twig damage can be expected to return to pre-freeze condition in one year. Trees with extensive damage to small branches, but no damage to scaffold branches and the trunk should recover by the second year. Trees with substantial damage to scaffold limbs and the trunk will continue to decline and may begin showing signs of decay. Take time to evaluate your tree's full damage. Expect some new growth to die off but do not be too quick to grab the pruners.