Cold protection for citrus

The cold weather we typically receive now through February can cause problems for citrus growers. For the home gardener, it’s important to know the critical temperatures for citrus and how to protect your fruiting trees during cold weather.

Citrus varieties vary in cold tolerance. The most cold tolerant are the kumquat and satsuma mandarin. The least cold tolerant are the lime and lemon. Oranges, grapefruit and mandarin hybrids are intermediate in tolerance.

Temperatures in the high 20s will kill or severely damage the least cold tolerant citrus like citrons, lemons and limes. Sweet oranges and grapefruit are a little more cold hardy and usually require temperatures in the mid-20s before incurring major damage to large branches. Tangerines and mandarins are quite cold hardy, usually withstanding temperatures as low as the low 20s without significant wood damage.

Keep in mind that the stated temperature ranges refer only to leaf or wood damage. Citrus fruits easily freeze at 28 degrees F when these temperatures last for several hours. Ripe lemons are less cold tolerant, and may be damaged at 31 degrees F. Tangerines and satsumas are the most easily frozen of the common citrus fruits.

Anyone growing citrus along the northern Gulf Coast should prepare to implement both active and passive methods of cold protection.

Among passive methods, site selection is the most critical. Plant citrus trees in protected areas of your landscape whenever possible. Southern exposures enclosed by hedges, fences or buildings on the north side offer protection from the north wind. When possible, plant citrus trees near the house—but not closer than five feet.

Cold damage can also be minimized by following some annual cultural practices. Do not fertilize after July. A late application of fertilizer can stimulate a new flush of growth in the fall that is especially susceptible to freeze damage.
Trunks of young trees can be insulated with a commercial tree wrap or mounded with sandy soil to a height of two feet. This protects the trunk so that even if the branches freeze back, the tree will be able to re-sprout from dormant buds on the trunk above the graft. Remove the wrap or mounded soil each spring.

When temperatures below 25 degrees F are predicted, additional protection should be considered. A day prior to the freeze, thoroughly wet the soil around your trees. Wet soils retain more heat than dry soil and provide a degree or two of additional protection.

Protect trees planted in the ground that are not too large by constructing a simple frame over each tree and encasing the tree with a covering such as blankets or quilts. The frame should hold the covering off of the foliage. An incandescent 100-watt light bulb or strings of small Christmas lights inside can raise the temperature in the enclosure a few degrees. Use outdoor extension cords and make safe connections. Do not allow the light bulb to touch the foliage of the tree or the covering. If the next day is sunny and mild, vent or remove the covering to prevent excessive heat from building up.

You can help reduce cold damage and ensure recovery to citrus by maintaining a healthy tree with a thick canopy of leaves. Weak trees that are in too much shade, those with insect or disease damage or those with nutrient deficiencies are the ones most severely damaged and are the slowest to recover after freezes.

Theresa Friday is the Environmental Horticulture Extension Agent for Santa Rosa County. The use of trade names, if used in this article, is solely for the purpose of providing specific information. It is not a guarantee, warranty, or endorsement of the product name(s) and does not signify that they are approved to the exclusion of others.

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