

# Frost Protection and Frost Recovery

**B**ay Area gardeners tend to “stretch the zone” in order to enjoy beautiful (but frost-tender) plants such as Bougainvillea, citrus, bananas, passion vine and Brugmansia. Every few years Mother Nature jolts us with several icy nights of 20 to 30 degree temperatures. It is not unusual for us to even have a couple nights in the teens. Tender growing tips freeze, whole plants turn brown, gray, or turn to a mushy green. A few plants may die. Some will recover quickly and completely. Some will recover slowly but may not bloom for a couple years.

Frost damages plants in two ways: Internal ice crystal formation (wet damage) and desiccation (dry damage). With internal ice crystals, water in leaves and stems expands as it freezes, breaking delicate cell walls. Plants with fleshy leaves like Agapanthus, Myoporum, Fuchsia, garden geraniums and jade plants are all at risk. With desiccation, frozen roots and stems can't supply branch tips with needed water. When the frozen plant is exposed to wind, the tips dry out, wilt and die back.

Here are some tips for protecting your plants during freezing temperatures and tips for recovery in the event of frost damage:

## Frost Protection

Protecting plants from frost can be quite easy. Twenty minutes' work on an evening when frost is expected will save many plants. The secret is having the materials you will need on hand and ready - burlap, micropore plastic (row cover sheet or weedblock), insulating blanket, shredded or bark mulch, and Bonide Wilt Stop anti-transpirant.

Make sure plants are well watered. The air temperature above moist soil is about 5 degrees warmer than over a dry soil. Spray your plants liberally with Bonide Wilt Stop. It slows the rate at which plants lose water to the surrounding air, preventing drying and wilting. Move container plants under an eave or put them in the garage.

If you choose not to move them, protect them like in-ground plants as follows: Cover the sensitive plants with a porous, lightweight covering. Freezing air flows over the cover and the unfrozen soil beneath buffers the cold. Beneath the covering, air temperatures may be 8 degrees warmer the first night of frost and 5 degrees warmer on succeeding nights. You can safely leave the covers on for one or two cool days. Remove the covers if the days warm up and re-cover at night should the threat of frost continue. If using non-porous vinyl or plastic sheeting it *must* be supported so it does not touch the foliage (they have a tendency to supercool the plants and will freeze them.) If you have already applied a mulch around your plants, it's simple to heap the mulch closer to the main stem of the plant for added insulation. (Be sure to remove the added mulch from around the crown after the frost is over.)



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## **Frost Recovery**

Don't despair if frost has scathed your garden. Though those sad, dead leaves and stems look unattractive, don't remove them or prune your plant until freezing weather is definitely over. The dead portions offer protection to the still living portions. Premature pruning exposes healthy tissue or encourages the plant to push tender buds just in time for another frost!

When the last frost date arrives (February 10<sup>th</sup> in San Francisco, March 15<sup>th</sup> in Marin and March 20<sup>th</sup> in Contra Costa), examine all damaged plants. Use sharp pruners to cut brown, blackened or soggy stems back to healthy tissue. Do not immediately fertilize frost stressed plants; allow them to bounce back on their own. Some plants and trees will recover valiantly and soon put forth new growth and blooms as robustly as before. Others are better discarded to ensure good looks and vigor. If a plant is still struggling in late April or May, it's probably wiser to replace it with a hardier variety or different plant. Sloat Garden Center staff can suggest a range of beautiful, hardy plants better suited to the needs of your garden. Should you choose to replace the plant or shrub you lost with the same plant/shrub, plant it in another, more sheltered location.

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