

Prevention and Care of Freeze Damage

Freeze damage to plants usually occurs at temperatures between 32 and 24 degrees F, depending on the plant. Temperatures below 24 degrees will cause some level of damage to many ornamental plants in the Valley. Temperatures for an extended period of time near or below 20 degrees will cause extensive damage to many ornamental plants in this area.

PREVENTION: On a night when a freeze is predicted cover the plants as soon as you can, ideally before sundown. Plants may be covered with materials specifically for this purpose, such as frost blanket, or with sheets, blankets, burlap, etc. Match the weight of the material to the size and sturdiness of the plant, or use a frame to hold the weight of the material. Never use plastic to cover a plant directly, or let parts of the plant touch plastic, as it will freeze at the point of contact (unless this is plastic especially made for frost protection).

Large, particularly evergreen, trees provide a good deal of protection, as do eaves, porch roofs and a location next to the house. Potted plants should be brought under the protection of a porch or placed inside a garage, shed or house if a freeze is expected, since they are much more susceptible to freeze damage.

Never water succulents directly in advance of a freeze. Most succulents survive freezing temperatures best if the soil around them is dry.

Columnar cacti, such as organ pipe cactus, are most vulnerable on the tip. The tip can be covered with frost blanket, or Styrofoam cups. When covering a cactus take care not to remove spines if possible, since they do not regenerate.

Many aloes are frost hardy here, but their blooms are not. Covering the plant during a freeze will help prevent loss of the winter bloom.

Remove all coverings, other than frost blanket, the next morning once the sun is up and the temperature is above freezing. If several nights of freezing are expected the frost blanket can be left on for up to a week, often longer, depending on the type used.

SYMPTOMS: Freeze damage on woody plants is usually seen as leaf browning and then leaf drop, or a blackening of a portion of the stem. Scraping the stem will reveal whether the stem is alive or not. Severe freeze damage will result in death of all or part of a stem.

Freeze damage on a succulent is usually seen as a light color, almost white, soon after the freeze. Later the affected part of the plant will wilt, frequently turn black with a secondary bacterial rot. In some succulents, the affected part will simply wilt, exhibit signs of bacterial rot, and then fall off.

PRUNING: Regardless of the symptoms of freeze damage, all pruning of affected parts of woody plants should be delayed until after the danger of frost is past. Not only is there increased risk of infection when



pruning before then, but the old plant material provides protection to areas lower on the plant which may not have been affected. When pruning freeze damage from a plant, prune back to healthy tissue. When all the damaged part of the plant is pruned, look carefully at the plant. Many woody plants require further pruning at this point for shaping. Some plants can be pruned entirely to the ground. If you need or want to prune a freeze-damaged plant entirely to the ground, make clean sharp cuts leaving about 6" of stem above the ground. The pruned plant material can be laid on the top of the stumps to provide extra protection in case of subsequent frost.

In the case of succulents with freeze damage, if bacterial rot symptoms occur prune the affected parts to avoid spreading the infection through the plant. A cut in cold weather is susceptible to infection also, so it should be treated with sulphur powder. If at all possible, delay pruning until the weather is warm, and all danger of frost is past.

DESERT PLANTS WHICH ARE ESPECIALLY FROST SENSITIVE:

- Cereus hildmannianus* – Peruvian Apple Cactus
- Aloe species (blooms are sensitive)
- Calliandra californica* – Red Fairy Duster
- Lantana
- Tecoma stans* – Yellow Bells

Need Help?

For more information about particular desert plants or problems, call the Desert Botanical Garden's Plant Hotline, 480-941-1225, Monday through Friday, from 10:00 – 11:30 a.m.

The Desert Botanical Garden provides a range of services to homeowners including a desert Plant Hotline, a variety of classes about landscaping and gardening in the desert, an onsite library, and an extensive selection of resources in the Garden Shop.

