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SUMMARY

When the potential for frost is right around the corner, plan to watch the weather forecasts and take frost protection measures. You can irrigate plants, cover them, provide them with a heat source, etc. All but the most tender plants can usually be helped.

Plan Ahead to Protect Frost-Tender Plants

by Emma Connery, UC Master Gardener Program Coordinator

Last year I lost plants to a frost. How can I protect sensitive plants this year?

Q. Last year I lost plants to a frost – how can I protect some of my sensitive plants like my lemon tree from frost damage this year?

A. It is wise to think of protection before hand since the potential for frost is right around the corner. In central and east Contra Costa County the first frost can be as early as mid-November while the west part of the county, which is more temperate, has until mid-December to worry about protection. Frost injures plants by causing ice crystals to form in plant cells, making water unavailable to plant tissues and disrupting the movement of fluids.

During the day the soil, plant tissues, buildings, etc., act as reservoirs storing heat, but once the sun sets and temperatures start to drop, they begin losing that heat. If the night is clear, all the heat is lost to the atmosphere. It's on clear nights when damaging frosts occur.

Even though citrus varieties vary in their sensitivity to frost, in general you should take precautions with any citrus and other subtropical fruits like avocado or loquat. Also don't forget frost tender ornamentals like bougainvillea, brugmansia, fuchsias, hibiscus, or succulents just to name a few. Container plants require special attention as do newly planted young trees.

Frost Protection Measures:

A freeze is coming so what do you do?

- **Irrigate** - Moist soil captures and holds heat better than dry soil so irrigate if necessary. Frost protection for many plants could be as simple as watering the garden thoroughly before nightfall. The soil will release moisture into the air around your plants during the night, keeping the air somewhat warmer. Bare soil radiates heat better, so keep the ground around trees and shrubs



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clean and free of mulch or ground cover.

▪ **Don’t water succulent plants**

Do not irrigate cactus and other water retaining succulents. If the cells of your succulents are full of water, they will burst when the water freezes and the plant will turn to mush.

- **Cover plants** - One of the easiest means of frost protection is to try to capture the heat being lost and that’s why covering plants can be an effective measure. The cover captures the heat and raises the ambient temperature around the plant. You can build a simple frame around the plant, or row of plants, and then drape a cover of newspaper, cardboard, bed sheeting or any other lightweight material over the frame to create a tent. If the cover is lightweight enough you can even lay it directly on the plants. Remove the covers in the morning, once the frost has thawed, to let the light and fresh air back in, and to

prevent overheating by the sun. If you use frost protection fabrics or row covers they can be left on the plant for a longer period of time. Plastic sheeting can be used but it must be supported and not allowed to touch foliage.

- **Provide a heat source** - You can place a 100 watt bulb in the interior of a tree or shrub or string holiday lights (the large old-fashioned kind) on the exterior. Always use lights and cords listed as safe for outdoor use.
- **Move container plants** - Potted plants lose heat faster than those in ground and they don’t have the benefits of heat radiating from soil. If possible move them to a protected spot underneath a cover or against a south or west facing wall that will radiate heat.
- **Spray with anti-transpirants** - Anti-transpirants may provide some additional protection. Follow the label’s instructions.