



# St. Augustine Orchid Society

[www.staugorchidsociety.org](http://www.staugorchidsociety.org)

## Cold Damage to Orchids

January 2011

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[Orchid Growing Tips](#)

This has been a year of extremes; hot and cold. Questions addressed to me these past months reflect that fact. Most questions this month related to cold. Even hobbyists who thought that they were ready for winter were caught off guard. My greenhouse heating system is based on the historic coldest night. I also build in redundancy. If one system fails all will not be lost. This past month, the value of that planning has paid off, but that does not mean that there was no damage. Record low temperature coincided with a failure in the automatic vent that allows fresh air in when ventilation fans turn on. The vent was open all night when I was away and temperatures fell below freezing.



No plants were lost as a result because a backup heater kept the greenhouse warm enough to avoid catastrophe. However, my orchids were below the minimum lowest temperature orchids should experience and were damaged by the cold.

The most likely result from excessive cold (above freezing) is future bacterial rots. If this happens to all of your orchids it is a good idea to be proactive and treat all of your orchids and growing area. I sprayed everything with Kocide at half strength as a preventative. There are other copper based sprays that are equally effective. When using copper sprays make sure that the water you use is above pH 7 to prevent copper toxicity to your orchids. This treatment usually limits damage to only the newest growth or to tender orchids. If there are a few plants that show damage after the preventative treatment, remove the damaged tissue and treat the wound with hydrogen peroxide. Be sure to let any damaged plants dry more than usual before watering.

Unfortunately, not every grower will be aware that their orchids were damaged. This seems to happen more to windowsill growers who do not realize that their orchids adjacent to the window had leaves touching the glass and became so cold the plant was damaged. If rot develops on leaves it can spread to the entire plant. Phalaenopsis are especially vulnerable.



Some of the questions that came last month initially sounded like cold damage. However, the damage to leaves was brown and hard, not black and soft. Brown and hard indicates sunburn. Despite cold weather and dim light levels, the sun is at its lowest level of the year and reaching into windows with more intensity and longer than in summer. Typically, cold weather also brings with it extremely clear skies and low humidity and this combination can increase light intensity and burn tender leaves.



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Usually, an orchid on a windowsill will not experience this type burn damage because they slowly adapt to a change in light intensity if they have not been moved. Just about every time an email arrives with the above damage description, the orchid was recently moved, even if it was just an inch or two. In one case, a cattleya was put back in the exact spot where it had grown for a year. While in flower, it was moved into the kitchen. After flowering it was placed in the exact position, where leaves burned within a few days.

Orchids produce pigment in leaves to prevent sunburn, just as people do. Orchids can also locate chloroplasts closer to the leaf surface when light levels are low. Placing an orchid under low (or no) natural light for a couple of weeks is enough time for an orchid to adapt and be unprepared for its previous light level.