Getting your plants ready for cold weather

Photograph by Trevor Hylton, Protecting plants from freezing.

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Let’s face it - - Florida does get cold! We may not have the prolonged, sub-zero freezes of more northern climates, but we regularly can expect periods of below-freezing weather here in north Florida. According to the US Department of Agriculture, Tallahassee is in climate zone 8b. That means we can expect to experience temperatures between 15 and 20 degrees Fahrenheit at some time during an average winter. However, it’s important to remember that these temperatures are only averages – Tallahassee has experienced much colder weather. Many of us can remember the 6 degree reading on January 21, 1985, but the all-time cold record for Tallahassee occurred over 110 years ago on February 13, 1899 when the temperatures dropped to a bone-chilling 2 degrees below zero.

Our winter temperatures often are low enough to cause injury to the plants in our landscape, especially those plants not adapted to our climatic conditions. Let’s face it, as gardeners we
often want to grow plants not exactly suited to our area. Some of the plants in our landscapes would be more at home in more subtropical areas, and definitely are subject to cold-injury. But even our temperate plants are occasionally damaged if not ready for our rapidly changing, uncertain weather.

One of the most important factors which determines if our plants will be damaged is what kind of freeze we are having – is it a *raditional* or an *advective* freeze. Raditional freezes occur on calm, clear nights when heat radiates from objects - including plants. Freezes of this type can actually result in surfaces becoming colder than the air around them. When there is moisture in the air (high humidity), frost or ice accumulates on the surfaces. Plant damage can be minimized by reducing the radiant heat loss from plant and soil surfaces. Coverings such as mulch or frost cloths, can help prevent radiant heat loss.

Advective freezes occur when cold air masses move from northern climates and cause a drop in temperature. The movement of a front into an area is often accompanied by wind and rain. Some radiant heat loss occurs during an advective freeze, but the conditions of a radiant freeze are quite different from an advective freeze. Plant protection is more difficult as plant covers are not as effective.

Another factor affecting cold injury to plants is the weather conditions prior to a freeze. A gradual decrease in temperatures increases the ability of a plant to withstand cold. The plant acclimates, or becomes accustomed to the cold. A sudden, unexpected freeze often causes more damage than one which occurs after a period of increasingly cold weather.

There are several steps a gardener can do to improve the chances of plants in their garden from getting cold injury. First is proper plant selection. Plants suited to our climate stand the greatest chance of avoiding freeze damage. Second is site selection. Different areas of our gardens are warmer than others, for example on the southern side of our houses. Experience can tell us which areas of our garden are the warmest. Third is keeping our plants in top condition. Healthy plants that have received the proper nutrition and are disease and insect free are more likely to withstand cold temperatures. Last, keep the plants well irrigated. Well watered soil actually absorbs more solar heat and can radiate heat back during cold weather.

A little knowledge about the weather and the requirements of our plants can help prevent cold damage in our north Florida gardens.

Ed Duke is an Associate Professor of Ornamental Horticulture at Florida A&M University. For more information about gardening in our area, visit the UF/ IFAS Leon County Extension website at [http://leon.ifas.ufl.edu](http://leon.ifas.ufl.edu). For gardening questions, email us at Ask-A-Mastergardener@leoncountyfl.gov

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