

Freeze And Frost Protection For Fruit

Avid gardeners start the new year reading catalogues while watching the weather channel. Two weather terms often used by agriculturalists include the phrases, critical temperatures and cold injury. Fruit crops grown locally like peaches and strawberries are especially susceptible to weather-related cold injury.

On strawberries the critical temperatures to prevent severe overwintering cold injury is 0°F to 10°F for the plant and 28°F for open flowers during the late spring. Thankfully, the plant can be protected from low temperature with an insulating layer of straw or snow.

A portion of the local strawberry crop (about 30 percent) is produced on the first (king) blooms of the spring season. These 'king' blooms along with smaller, later blooms are set in the fall and are susceptible to winter injury or a frost in the early spring. These berries are usually the largest and a favorite for berry pickers. The loss of these 'king' berry blooms

can be serious business for pickyour-own farmers and gardeners. Blossoms damaged by frost are easy to detect. The damaged blooms develop a dark center.

Select carefully a cold tolerant, fruit cultivar to decrease your potential for crop loss. Certain fruit crops, like peaches, nectarines, and apricots, lack winter hardiness no matter what variety grown. Apricots are especially unreliable in colder areas of Pennsylvania. Early blooming cultivars are also more at risk than later blooming ones.

Gardeners desiring to prevent cold injury in the spring on strawberries need to choose a good planting site not prone to severe winter winds. Fields lying low are most susceptible to spring frost. Concerned gardeners should also plant mid to lateblooming cultivars like jewel, all-star, seneca, lateglow, latestar, delite, sparkle, and idea.

Many gardeners and farmers cover dormant strawberry plants in the field each winter with straw (1 to 4 inches). Wheat, oat or rye straw free of weed seeds like Canada thistle is preferred. When applying,

avoid clumping the straw over the row. The best time for application is normally December or early January prior to snow cover or prior to the ground freezing. By early May, this mulch layer of straw is raked off into the row middles. Over time, the straw decomposes. In the interim, the straw provides a clean walking path for pickers.

Gardeners with fruit crops can also prevent winter injury by practicing frost protection methods used by commercial growers and orchardists. Overhead watering of the crop with a mist-producing nozzle produces frozen droplets. This protection method provides several additional degrees of freeze protection for most fruit crops. The water film around each blossom or developing fruit must be maintained continuously as long as freezing air temperatures occurs, or until the ice starts to melt rapidly.

Commercial floating row covers similar to a light fabric are gaining in popularity for early spring frost protection especially of strawberries. Although expensive, row covers are used to modify the environment around the plant. This method protects the developing blossoms from cold injury. The method also increases crop earliness (up to one week) and higher overall crop yields. Row covers work by trapping radiant heat during the day



and retarding its loss at night. They also block the wind, which can accelerate cold damage.

Several types of row cover materials are available in the garden or commercial trade. Their effectiveness differs greatly for frost protection. Many universities are doing or have done research on different row cover or plastic row cover materials and their usefulness on strawberries. A rating scale for fruit crops like strawberries, created by the University of Georgia, found that the spunbonded polyester row covers are a good choice despite the relatively high cost.

Other covers like clear polyethylene hoops provided only fair protection in the University of Georgia study. Clear polyethylene, slitted polyethylene, perforated polyethylene and extruded polypropylene rated fair or poor. Some of these materials are also floated or placed like a blanket over the crop.

Look for these and other innovations in the frost protection methods used by orchardists and growers at the Pennsylvania's Farm Show from January 9 to 14 in Harrisburg. For more information on these and other frost protection methods, contact your Extension office.

Farm Show gardeners are encouraged to stop at the Penn State Gardening Display created by Master Gardeners in the West lobby of the Farm Show's main building. Master Gardeners will answer gardening questions and distribute information on attracting and controlling wildlife and the use

of beneficial insects. For more information, contact the York County Extension office at 717-840-7408.

Any questions can be directed Thomas S. Becker, to Horticultural Agent, Penn State Cooperative Extension, York County (717) 840-7408 or Email at Yorkmg@psu.edu.

Turnpike View

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Mamma Shirley's

- **Chocolate Chip Cookies** 2 cups butter
- ¹/₂ cup sugar
- 1¹/₂ cups brown sugar
- 4 cggs
- 2 teaspoons vanilla

2 small packages instant vanilla pudding

2 teaspoons baking soda

4½ cups flour

2 cups chocolate chips

Mix together ingredients in order listed. Let batter set 10 minutes before baking. Drop by teaspoonful on ungreased cookie baking sheets. Bake at 350 degrees until done.

Creamy Three Cheese Dip 8-ounces cream cheese, softened

¹/₂ cup milk

2 cups shredded sharp cheddar cheese

¹/₂ cup grated parmesan cheese Beat together ingredients until smooth and ingredients are well blended. Serve as dip with crackers.



