

# Cornell Cooperative Extension Livingston County GARDENING GAZETTE

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Cornell University  
Cooperative Extension  
Livingston County

**Cornell Cooperative Extension**  
*"Building Strong and Vibrant New York Communities"*

## Growing Holiday Cacti

Many families have heirlooms, including plants, that are passed down from generation to generation. Occasionally we hear about a holiday cactus that has been in a family for years. The reason these plants enjoy such a long life is because they are easy to grow. They thrive on benign neglect, have few insect and disease problems, and don't require frequent repotting.

### TYPES OF HOLIDAY CACTI

The plants we often call Christmas cacti may be one of three types of cacti. Although the three groups are similar in appearance, they have distinct, unique characteristics.

The Thanksgiving cactus is probably the most familiar and widely grown species. Botanically, it is *Schlumbergera truncata* (formerly classified as *Zygocactus truncatus*.) Other common names of this species are crab or yoke cactus. Thanksgiving cacti are available from various businesses in early fall through Christmas. The flower colors range from white through red, lavender, and salmon-orange with many shades of each. The leaf margins of the Thanksgiving cactus bear two to four sawtoothed, upward pointing projections on the sides of the stem. The flowering period is generally from about Thanksgiving through the Christmas season.

The true Christmas cactus, *Schlumbergera*

*bridgesii*, has leaf margins that are rounded with scallops (usually four) along the edges of the stems. The arching branches produce 3-inch-long, rosy-red flowers from late December through March.

The Easter cactus, *Rhipsalidopsis gaertnerii*, sets buds from January to March and blooms from March through May with pink or red flowers. It may bloom again in early fall. The leaf margins of Easter cacti are smoother than the other seasonal cacti, with 4 to 6 slight ripples along their edges, and brownish hair-like bristles at their tips.

The branches of these cacti are best described as flattened stem segments or phylloclades. They are often incorrectly called leaves but these plants don't have true leaves. The stems consist of small cushiony sections called "areoles" which identify them as true cacti. On other cacti, spines and true leaves arise from the areoles.

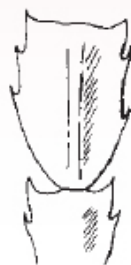
The flowers on holiday cacti are formed on the tips of the segments.

### CULTURE

Holiday cacti are not demanding plants.

All three groups require similar growing conditions. However, the Thanksgiving and Christmas cacti depend on short day lengths and cool temperatures to set flower buds, while Easter cacti will bloom with cool temperatures at the normal seasonal day length.

Thanksgiving and Christmas cacti are short-day plants. To ensure that the plants bloom around Thanks-



*Schlumbergera truncata*  
Thanksgiving



*Schlumbergera bridgesii*  
Christmas



*Rhipsalidopsis gaertnerii*  
Easter

These holiday cacti have their origins in the forests of South America. They are epiphytic plants, which means they live on another plant but are not parasitic. They grow in the crotches of trees and derive their nutrition from the heavy jungle rains, decaying organic matter, and filtered sunlight.

*Continued on page 4...*

### Gardening Information

Visit Cornell University on-line at:  
<http://www.gardening.cornell.edu>

Visit Cornell Cooperative Extension  
of Livingston County on-line at:  
<http://counties.cce.cornell.edu/livingston>

# GARDENING GAZETTE

## Table of Contents

| Article   | Page Number |
|---|-------------|
| Garden Presentations  | 2           |
| 2009 NE Christmas Convention & Show                                 | 2           |
| Empire State Fruit & Veg. Expo                                      | 3           |
| USDA Organic Certification Cost Assistance                          | 3           |
| CCE Marketing School for Growers                                    | 4           |
| Project FeederWatch Benefits Birds & People                         | 6           |
| Species Cards   | 7           |
| Letchworth Interpretive Programs                                    | 9           |
| How Much Greenhouse Gas Does<br>Livestock Produce?                  | 9           |
| October Shorts  | 10          |
| Seven Steps to a Successful Garden                                  | 10          |
| Woody Plants Website Helps Match Trees &<br>Shrubs to Planting Site | 11          |
| Late Season Lawn Fertilization                                      | 11          |
| Timely Lawn Care Tips   | 12          |
| Radon   | 12          |
| Wrap Your Tree for Winter   | 13          |
| Plant of the Month: Witch-Hazel                                     | 13          |
| Oak Wilt  | 14          |
| Burning Wood & Coal   | 16          |
| Firewood: Durability Against Rot & Fungus                           | 16          |
| Know Your Gnats!  | 17          |
| Junior Master Gardeners' Page                                       | 18          |
| Water & Mulch All Evergreens Before<br>the Ground Freezes           | 19          |
| Check Stored Fruits & Vegetables                                    | 19          |
| Storing Onions  | 19          |
| Turn Off Outside Faucets  | 19          |
| Garden Gazette Subscription Form                                    | 19          |

## GARDEN PRESENTATIONS

### WADSWORTH LIBRARY

Julie Brocklehurst-Woods, Master Gardener Volunteer  
woods@frontiernet.net, 243-0904

**Feb. 9, 2009** - Starting Plants from Seed

**Mar. 9, 2009** - Home Landscape Pruning

**Apr. 13, 2009** - Tools & Tips: Strategies to Re-  
duce Garden Labor

**May 11, 2009** - Gardening in the Shade

Wadsworth Library, Center Street, Geneseo, NY

## 2009 North East Christmas Convention & Trade Show

Sponsored by Christmas Tree Farmers Association of New York  
(CTFANY), in cooperation with Northeast State/Province As-  
sociations

**Where:** Saratoga Springs, NY- Saratoga Hilton Hotel  
and Saratoga City Center

**When:** Friday and Saturday, January 23-24, 2009

**What:** Speakers, Workshops and More!

Special Seminar for New Tree Growers!

Expanded Trade Show!

NYS & North East Regional Wreath Competition!

For more information on this conference, contact Rob Brown  
c/o CTFANY (Christmas Tree Farmers of New York), 315-384-  
3717 or rwcjbrown@verizon.net

For registration and program details, go to [www.christmas-treesny.org](http://www.christmas-treesny.org).

### *Gardening Gazette*

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subscription form found in this publication.



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Livingston County

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## Bird Feeder Placement

Place your feeder in a quiet area where it is easy to see and convenient to refill. To attract a variety of birds, the feeder should be close to natural cover (shelter) such as trees or shrubs, which offer refuge to birds as they wait their turn to feed. Evergreens are ideal, as they provide thick foliage that hides birds from predators and buffers winter winds. If the seed in the feeder is blowing out or getting wet, your birds are probably getting the same treatment. Try moving the feeder to a calmer, more sheltered spot.

Be careful not to place feeders too close to cover, however, as nearby

branches can provide good jump-off points for squirrels that may be eyeing the seeds and for cats that may be eyeing the birds. A distance of about

10 feet seems to be a good compromise, but try experimenting. You can provide resting and escape cover for ground-dwelling birds, such as Song Sparrows, by placing loosely stacked brush piles near your feeders.

Source: *Project Feeder Watch*, <http://birds.cornell.edu/pfw/>;  
Photo: <http://en.wikipedia.org/wiki/Image:Melanerpes-erythrocephalus-003.jpg>



## Energy-Efficient Holiday Lighting

Did you know that holiday lighting can add more than \$100 dollars to your electric bill in less than 30 days? You can be festive and energy efficient by replacing standard holiday lighting with LED (light emitting diodes), compact fluorescent light (CFL) bulbs, and mini-lights. They will provide the same level of holiday cheer, at a significantly lower cost.

LEDs provide high quality, durable, and safe lighting with low energy consumption. They come in a wide variety of colors, can be strung in long lengths and when one bulb burns out, the entire strand keeps working, making replacement easy.

Mini-lights are very popular and consume 0.4 watts, come in long lengths for in and outdoor use, with many colors to suit any festive need. You will also find CFLs, with a mini-base, to fit into candelabras and small holiday displays providing bright, warm light.

Information about holiday lighting, and other energy-saving tips for your home and business can be found by visiting the New York Energy SmartSM website, <http://www.GetEnergySmart.org> or by calling 1-877-NY-SMART.



## LETCHWORTH STATE PARK INTERPRETIVE PROGRAMS DECEMBER 2008

- |    |     |         |   |
|----|-----|---------|---|
| 6  | Sat | 10 am   | <b>Old Growth Forest Visit - Bishop Woods &amp; Dark Woods</b> (Visitor Center area). Meet at Visitor Center. Bring a lunch. Will car pool. (3 hours, 1-2 miles)  |
| 7  | Sun | 2 pm    | <b>Indoor Ed-Venture - Evergreens.</b> Meet in the Conference Room of the Visitor Center. (2 hours)   |
| 12 | Fri | 3:30 pm | <b>Crepuscular Series - Last Full Moon of Autumn.</b> Meet at River Road junction on Route 408 out of Mt. Morris toward Nunda. Bring a flashlight and a picnic supper. Will car pool (3 hours, 2 miles) |
| 13 | Sat | 10 am   | <b>Old Growth Forest Visit - Cabin Bank Woods</b> (Cabin A & B areas). Meet at Visitor Center. Brush and steep terrain. Bring a lunch. Will car pool. (3 hours, 1-2 miles)                              |
| 20 | Sat | All Day | <b>34<sup>th</sup> Annual Letchworth-Silver Lake Christmas Bird Count.</b> Interested persons should contact Douglas Bassett at (585) 493-2625 prior to December 20 for territory assignment.           |

## Growing Holiday Cacti

*Continued from cover page.*



giving or Christmas, place them in a spare bedroom or basement where no artificial lights are used at night. The plants should receive bright light during the day and the temperature should be kept cool, under 65°F. Some Christmas and Thanksgiving cacti will bloom if kept at 55°F. during the fall, regardless of day length.

Keep the plants a bit on the dry side until you see pinpoint buds forming, then resume normal watering. Once buds have formed, you do not need to continue the short-day treatment. However, you do need to keep the soil moderately moist, give them bright light, and maintain a cool temperature (60° to 70°F) to avoid bud drop.

Epiphytic cacti require a well-drained potting soil. A commercial potting soil can be used if it drains well. The branches of holiday cacti may become limp and shriveled if grown in a compacted, poorly drained soil.

Although a member of the cactus family, a holiday cactus should not be kept dry like its relatives. Keep the soil moderately moist. Fertilize them monthly during the summer months with a soluble fertilizer.

During the summer, you can move them outdoors to a partially shady location.

Holiday cacti grow and flower best when the roots are a little cramped. They do not need to be repotted annually. Repotting is only necessary when the soil becomes compacted or the plants have completely outgrown their containers. The best time to repot holiday cacti is spring or early summer (when the plants are no longer

*Continued on page 6...*

## NOFA-NY's 27<sup>th</sup> Organic Farming & Gardening Conference:

The Northeast Organic Farming Association of New York will host their 27<sup>th</sup> annual winter education conference from January 23-25, 2009, at the Rochester Riverside Convention Center in downtown Rochester, NY. The conference will feature over 75 exhibitors in our exciting Trade Show and Organic Marketplace and over 80 workshops of interest to vegetable, fruit, grain, and livestock farmers, small-scale food processors, gardeners, green businesses, conscientious eaters, consumers, and children! This year's theme is Meals Without Wheels: Revitalizing our Local Organic Foodshed.

This year's conference features an exciting keynote lineup including Fred Kirschenmann, Leopold Center for Sustainable Agriculture, Ames, IA and Stone Barns Center for Food and Agriculture, Tarrytown, NY; Brett Melone and Florentino Collazo, Agriculture and Land Based Training Association, Salinas, CA; and Shirley Sherrod, Federation of Southern Cooperatives/Land Assistance Fund, Albany, GA. Saturday's organic dairy program will feature Organic Dairy Guest Speaker, Ed Sheaffer, VMD, Clark Veterinary Clinic, Palmyra, PA and author of Homeopathy for the Herd.

The Friday, January 23, program offers 18 intensive full and half-day workshops to explore select topics comprehensively. Friday workshops will address topics such as organic

greenhouse management, food policy councils, grazing, crop rotation, local wheat production and marketing, Community Supported Agriculture (CSAs), nutrient management, potatoes, small-scale food processing, organic wine making, permaculture, organic gardening, healthy eating, and organic certification.

The Saturday and Sunday (Jan. 24-25) program features over 70 workshops on organic grains, vegetables and fruits, organic livestock and dairy, beginning farmer topics, small-scale food processing, organic gardening, homesteads and cooking, people and policy, a full children's conference and more! The children's conference and childcare are available Friday to Sunday. Special Saturday programs include the Auction for Agriculture—a silent auction benefiting NOFA-NY, Inc., evening social hour with organic wines and beers, and live entertainment with the driving, dance grooving, old-time music of the MacGillicuddies! Do not miss this opportunity to expand your knowledge of sustainable agriculture and alternative living. This is the premier event to network among the leaders in the Northeast organic community.

The full conference program and online registration are available at the NOFA-NY website, visit: [www.nofa-ny.org](http://www.nofa-ny.org). The pre-registration deadline is January 9, 2009. Walk-in registrations are welcome.



The 27th Annual NOFA-NY  
ORGANIC FARMING & GARDENING CONFERENCE



MEALS WITHOUT WHEELS  
Revitalizing Our Local, Organic Foodshed

January 23 -- 25, 2009

Rochester Riverside Convention Center

## Plan on Attending the 2009 NYS Maple Producers Winter Conference

*A grower-focused 2009 NYS Maple Conference will provide practical and hands-on information for maple producers to build into existing and expanding operations. ~ January 9th and 10th, 2009*

Mark your calendar now to attend the 2009 New York State Maple Producers Winter Conference. Schedule these dates in your planner or in your computer or maybe even in your head but be sure you set aside January 9th and 10th to get together with lots of other maple producers. The 2009 Maple Conference will be held in the same great location, the Vernon-Verona-Sherrill High School in Verona, New York on Friday evening, January 9th and all day Saturday, January 10th. This central location provides plenty of meeting space as well as room for a large trade show with over 25 exhibitors displaying plenty of specialized equipment for meeting maple producer needs. With our new slightly more relaxed session schedule you will have access to the latest in research and grower experiences regarding maple production, promotion, forest management and the making and marketing of a variety of maple products. This day-and-a-half event has something for every level of maple producer. A maple conference you will not want to miss.

The conference kicks off Friday evening with a featured speaker at 7:00 PM and industry trade show highlight-

ing maple equipment, manufacturers, and vendors scheduled from 6:00 PM until 9:00 PM. Saturday's program features 30 of the industry's leading maple experts from throughout North America and Canada presenting in a variety of concurrent workshops. These workshops focus on several major areas of emphasis: beginning sugarmakers, new and advanced technologies, marketing, promotion, value-added products, maple tapping, tubing, vacuum, and forest management.

The conference is open to the general public, as well as maple producers, and is geared to all levels of sugar makers. Saturday's trade show opens at 8:00 AM with workshops starting at 9:00 AM. Held at the Vernon-Verona-Sherrill (V.V.S.) High School, Verona, New York, the conference is sponsored by the V.V.S. FFA, New York State Maple Producers Association and the Cornell Maple Program and Cornell Cooperative Extension. The V.V.S. High School is located between Utica and Syracuse, New York on State Route 31 just two minutes from NYS Thruway Exit 33. For additional information contact V.V.S. FFA advisor Keith Schiebel at [kschiebel@vvschools.org](mailto:kschiebel@vvschools.org). Registration forms will also be available at the New York State Maple Producers Website: [www.nysmaple.com](http://www.nysmaple.com) or the Cornell Maple Program website: [cornellmaple.com](http://cornellmaple.com) in November and December.

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide usage in New York State should be directed to the appropriate Cornell Cooperative Extension specialist or your regional DEC office.

### READ THE LABEL BEFORE APPLYING ANY PESTICIDE.

Cornell Cooperative Extension and its employees assume no liability for the effectiveness or results of any chemicals for pesticide usage. No endorsement of products is made or implied.

The information given herein is supplied with the understanding that no discrimination is intended.

Start thinking about what **spring bulbs** you would like to force for early spring color indoors. Most bulbs, with the exception of Paperwhites, need at least three months of cold treatment before they will bloom indoors. For more information on how to do this, call the Extension Office at (585) 658-3250.



## Check Stored Vegetables & Fruits

Those of you who have fruit and vegetables stored for the winter, particularly in relatively large quantities, would do well to check this material over occasionally.

One bad apple (or potato, onion, or squash, etc.) may not spoil the whole bunch; but the sooner you get it out, the less damage and mess it will create. Sorting also helps you keep aware of rodent damage so you can take measures to curb it before it becomes severe.



## Growing Holiday Cacti

*Continued from page 4.*

blooming).

### PROPAGATION

Holiday cacti are easy to propagate. Sections of stem root easily and readily. In May or June, remove a section of the plant consisting of 2 to 5 stem segments. Pinch or cut off the section at a joint. Leave it out overnight to dry. This will allow the cut end to form callous tissue. Insert the cut end of the stem about 1 inch deep in moist perlite. Water it well. Place the rooting container in a clear plastic bag, seal it, and set it in a location that receives indirect light. Keep the perlite moist. If excessive moisture collects inside the plastic bag, remove the bag and allow it to dry out before placing it back over the cuttings. Cuttings should root in about 6 to 8 weeks. When the roots are one inch or longer, plant the cuttings in a small pot containing a well-drained potting soil. With luck, your new plant will flower the first year.



*Source: Iowa State University Extension Brochure: "Growing Holiday Cactus"*

## Berry Session at NYS Fruit & Vegetable EXPO

Thursday February 12th, 2009

(OnCenter, Syracuse) 8:15 AM to 4:30 PM

|         |   |      |  |
|---------|---|------|--|
| 8:50 am | <b>Announcements/welcome/ DEC credit sign up</b> - Paul Baker, NYSBGA Executive Secretary                                   | 1:10 | <b>Blueberry varieties</b> - Mike DeGrandchamp, DeGrandchamps Farm, S. Haven, MI   |
| 8:55    | <b>What's new from industry?</b>  | 1:40 | <b>Strawberry herbicide update</b> - Robin Bellinder, Cornell  |
| 9:00    | <b>Soil management for optimal blueberry production</b> - Marvin Pritts, Cornell  | 2:10 | <b>BREAK &amp; TRADE SHOW ICE CREAM SOCIAL</b>   |
| 9:25    | <b>Post harvest handling of small fruit</b> - practical options for smaller producers - Chris Watkins, Cornell              | 2:40 | <b>Practical ecology and management of white pine blister rust in currants</b> - Kerik Cox, Cornell and Steven McKay, Hudson Valley Fruit Program            |
| 9:50    | <b>The berry best of berry internet</b> - Cathy Heidenreich & Laura McDermott, Berry Extension Support Specialists, Cornell | 3:10 | <b>Managing fruitworms and maggots in blueberries</b> - Greg Loeb, Cornell and Molly Shaw, South Central NY Ag Program                                       |
| 10:00   | <b>High tunnel raspberries &amp; blackberries</b> - Marvin Pritts, Cornell  | 3:40 | <b>Virus diseases of small fruit: Tips for avoiding and assessing presence of viruses in blueberries and raspberries</b> - Kerik Cox and Marc Fuchs, Cornell |
| 10:25   | <b>A grower's perspective: Adding blueberries to your fruit farm</b> - Jim Bittner, Singer Farms, Appleton                  | 4:10 | <b>Designing a better sprayer for pesticide application in strawberries</b> - Andrew Landers and Laura McDermott, Cornell                                    |
| 10:45   | <b>NYS berry growers: The next generation</b> - Rebecca Harbut, Cornell   | 4:35 | <b>ADJOURN - distribute DEC credits</b>  |
| 11:05   | <b>NYSBGA Annual Business Meeting</b> - Paul Baker, NYSBGA Exec. Secretary  | 4:40 | <b>Optional Q &amp; A with speaker panel</b>   |
| 11:10   | <b>LUNCH &amp; VISIT TRADE SHOW</b>   |      |  |
| 1:00 pm | <b>Announcements and DEC credit sign up</b> - Paul Baker, NYSBGA Exec. Secretary  |      |  |
| 1:05    | <b>What's new from industry?</b>  |      |  |

**For more information and registration, please visit**

<http://www.nysaes.cornell.edu/hort/expo/index.php>

## MULCHING STRAWBERRIES

It's old news, but here we go again... the correct time to apply mulch is after several freezes, in the high 20's or low 30's, occur in one week. This usually occurs after Thanksgiving, but before December 15. The plants will be fully dormant and the leaves will be changing from green to gray.

As plants start to go dormant, they are still sending carbohydrate reserves down into their root systems. If the

straw is applied too early, this transport of reserves is cut off and the plants' vigor can be seriously affected.

Exposure to increasingly cold temperatures and light are necessary to properly harden

strawberry plants off. Because of this, mulching plants too early can also result in plants that are more susceptible to winter injury. In addition, if temperatures warm up again, you run the risk of rotting plants under heavy mulch.

## White-crowned Sparrow (*Zonotrichia leucophrys*)



Elegantly marked in gray, brown, black, and white, the White-crowned Sparrow is one of the best-studied songbirds in North America. Much of our knowledge of bird song and development is based on studies of this species.

## Winged Euonymus (*Euonymus alata*)



Winged Euonymus, also known as the Burning Bush, is native to central China and Korea, and has occasionally escaped from the ornamental plantings commonly found throughout the Northeast into neglected urban and rural areas, by way of its seed production. This vase-shaped shrub is known primarily for its outstanding red fall foliage, which blazes for about two weeks in early to mid-autumn.

## Amaryllis (*Hippeastrum*)



Amaryllis is a tender bulb easily grown in pots. It can be grown outdoors throughout the year in mild climates, but must be grown indoors in New York, except during the warm summer months.

## American Lady (*Vanessa virginiensis*)



The American Lady, Painted Lady, and the Red Admiral are all very familiar butterflies throughout the United States, but despite their abundance and wide distribution there is still much confusion about their migration and ability to overwinter in the northern states.

## Winged Euonymus (*Euonymus alata*)

### What about it?

Euonymus is a deciduous shrub with opposite leaves and buds. It has corky attachments to its branches that look like wings. The leaves are 1-2 inches long with an elliptical shape and very small teeth. It will grow up to 8 feet tall and has an irregular, upright spreading shape. In the fall the leaves turn bright red. Many people plant it for its fall color alone.

### What is it used for?

Euonymus is often used as a barrier shrub, a hedge, a border shrub, or foundation planting. It will not make a solid barrier so it should not be used in areas in heavy traffic. There are three particular varieties: 'Compacta' is more compact and low growing but not as corky; 'Gracilis' is very dense; and 'Monstrosa', which has very large corky wings.

### Where does it grow? How do we grow it?

Euonymus is tolerant of most soils and will grow anywhere in New York. Plant them 10 feet apart, or 3 feet for hedges.

### What are its primary problems?

The euonymus twigs become brittle in the winter and may break from ice and snow. Euonymus Scale may be a problem. Also, crown gall is a common disease problem but is seldom fatal.

**Source:** <http://www.hort.cornell.edu/4hplants/Ornamentals/euonymus.html>

## White-crowned Sparrow (*Zonotrichia leucophrys*)

**Size:** 15-16 cm (6-6 in)  
**Wingspan:** 21-24 cm (8-9 in)  
**Weight:** 25-28 g (0.88-0.99 ounces)

Large sparrow, small songbird. Top of head with two broad black stripes, separated by a broad white crown stripe. Eyebrow stripe white, bordered in front by black crown stripe. Narrow black line extending from eye to back of nape. Rest of face, sides of neck and breast gray. Paler on throat and belly. Back and wing light gray streaked with brown. Rump pale brown. Wings with two white wingbars. Bill pinkish brown to yellowish. Legs brown to pink. Eyes dark.

**Sex Differences:** Sexes alike in plumage, males slightly larger. Juvenile with crown stripes brown and buff, breast and belly buff streaked with black. First winter like adult except crown stripes brown and buff, not black and white.

**Similar Species:** White-throated Sparrow with bright white throat, yellow lores, more brown than gray.

Golden-crowned Sparrow without white on head, yellow central crown stripe. First winter Golden-crowned very similar to first winter White-crowned, but usually has some yellow on the forehead.

**Sound:** Song a series of clear whistles followed by buzzes or trills on different pitches.

Breeds from Alaska eastward across northern Canada, and southward along Pacific Coast and in the western mountains to southern California and northern New Mexico.

**Winter Range:** Winters from southern British Columbia eastward to southern Michigan and southern New York, southward to the Gulf Coast and central Mexico.

**Habitat:** Breeds in tundra, boreal forest, and alpine meadows over most of range.

**Food:** Seeds, buds, arthropods.

**Behavior:** Foraging, feeds primarily on ground. Scratches in litter with both feet. Some hawking of insects from perch.

**Nest Type:** Nest an open cup of small sticks, bark, grass, pine needles, or dry leaves, lined with fine grass stems, sedge and hair. Nest placed in shrubs or on ground.

**Egg Description:** Greenish blue with reddish brown spots. Clutch Size 3-7 eggs. Condition at hatching; helpless with little down.

**Conservation Status:** May be declining in some areas in United States.

**Source:** [www.birds.cornell.edu](http://www.birds.cornell.edu); **Photos:** Terry Spivey, USDA Forest Service, Bugwood.org



## American Lady (*Vanessa virginiensis*)

**Family:** Brush-footed Butterflies (Nymphalidae)

**Subfamily:** True Brushfoots (Nymphalinae)

**Identification:** Upperside with uneven brown, yellow, and orange pattern. Forewing with a black apical patch, a small white spot in the orange field below the patch, and a white bar at the leading edge of the forewing. Underside of hindwing with two large eyespots. Winter form is smaller and paler, summer form larger with brighter coloring.

**Life history:** During the afternoon, males perch on hilltops or on low vegetation if there are no hills. Females lay eggs singly on the top of host plant leaves. Caterpillars are solitary, living and feeding in a nest of leaves tied with silk. Adults hibernate.

**Flight:** Three to four broods from May-November, all year in the Deep South and South Texas. It is not known if adults can survive very cold winters; the East may have to be recolonized each year by southern migrants.

**Wing span:** 1 3/4 - 2 5/8 inches (4.5 - 6.7 cm).

**Caterpillar hosts:** Plants in the sunflower family everlasting (*Gnaphalium obtusifolium*), pearly everlasting (*Anaphalis margaritacea*), plantain-leaved pussy toes (*Antennaria plantaginifolia*), wormwood (*Artemisia*), ironweed (*Vernonia*), and burdock (*Arctium*).

**Adult food:** Flower nectar almost exclusively, including dogbane, aster, goldenrod, marigold, selfheal, common milkweed, and vetch.

**Habitat:** Open places with low vegetation including dunes, meadows, parks, vacant lots, forest edges.

**Range:** Resident in the southern United States, Mexico, and Central America south to Colombia. Migrates to and temporarily colonizes the northern United States, southern Canada, the West Indies, and Europe. Rare stray to Newfoundland and Labrador

**Source:** [www.butterfliesandmoths.org](http://www.butterfliesandmoths.org); **Photos:** Johnny N. Dell, Bugwood.org

## Amaryllis (*Hippeastrum*)

Amaryllis is a tender bulb easily grown in pots. Amaryllis can be grown outdoors throughout the year in mild climates, but must be grown indoors in New York except during the warm summer months. Amaryllis is prized for its huge showy flowers ranging from scarlet or crimson to white in color, and often striped or mottled. The usual flowering season is from February to April. The foliage grows during spring and summer, ripening early in the fall if temperatures are low and the soil is allowed to dry out. The bulb normally remains dormant until late winter (December or January).

Five- to six-inch pots are suitable, but the best size depends on the size of the bulbs which vary considerably. A space of approximately 2 inches between the bulb and the edge of the pot is desirable. In potting, place the bulb so that only about half of it is below the soil, with the upper part (pointed end) left exposed. Press the soil firmly around the bulb and water thoroughly. Do not water again until the roots are well developed as overwatering can lead to bulb rots. Only when the roots have become well established will the plants need more frequent watering. The foliage is weakened by being forced too rapidly if temperatures are higher than 50 to 60 degrees Fahrenheit during the period before flowering.

After the flower bulb has emerged, an application of a balanced fertilizer at intervals of 10 days is helpful. Be sure to read the label carefully so that you apply the correct amount of that particular fertilizer. Amaryllis will flower 6 to 8 weeks after growth is initiated.

When the flowers have withered, cut the stem off about two inches above the bulb. The growth is most active during the next two or three months and should be encouraged by ample water and fertilizer. When all danger of frost has passed, the plant may be plunged, pot and all, into the open ground in full sunlight, or it may be grown indoors in a bright location during the summer. Restrictions in growth during this period interfere with the proper development of the bulb in preparation for next spring's flowers. Gradually decrease watering late in summer when the leaves begin to turn yellow. Allow the soil to become completely dry when the foliage has died back. While in this dormant state, the bulb should be left in the pot and stored in a cool place, preferably at 40 to 45 degrees Fahrenheit. Turn the pot on its side and do not water during the dormant period.

**Reflowering:** Since it requires 6 to 8 weeks from the beginning of growth to the production of flowers in amaryllis, you can have an extended flowering period by selecting the time for growth initiation. Begin by starting growth in the first bulbs in January and continue through the latter part of March. Before applying water to the soil in the pot to start the growth, check the pot to see whether repotting is needed. Repotting is required if the bulb has increased so much in size that it is crowding the edge of the pot, or if offshoots have developed. After the bulb is removed from its pot, use a pointed stick to pick out as much of the soil as can be removed without damaging the roots. The bulb with some soil still adhering to its roots is set in a well-drained pot slightly larger than the old root bulb. Offsets or small bulbs should be taken off and potted in 3-inch pots. They will flower in two or three years. When the new leaves and flower spikes begin to show, the temperature may be increased to 75 degrees Fahrenheit. During bloom, cooler conditions will prolong the flowering period.






**Source:** Donald Steinegger, UNL, <http://lancaster.unl.edu/hort/nebline/amaryllis.shtml>

# LIVING WITH BEARS






*In New York State people and black bears often find themselves living in the same areas. With frequent encounters nearly inevitable, it's good to know how to keep those encounters safe and enjoyable for you and the bears.*

## HOW TO PREVENT BEAR PROBLEMS

Proper storage of garbage and the removal of bird feeders during periods when bears are active are the two most important steps you can take to drastically reduce nuisance bear problems in your area.

-  Store garbage in cans or dumpsters and keep them in a secure place like a garage.
-  Put garbage out only on the morning of pickup.
-  Burning and composting of garbage may attract bears.
-  Feed birds only from December 1 until April 1. During the rest of the year, you may be attracting more bears than birds.
-  Bird seed and garbage are favorite foods for bears. In many cases, bears will choose them instead of natural food sources.

Bears are attracted by all types of smells. Although bird feeders and unsecured garbage cans may start the problem other more subtle food sources can attract bears.

-  Remove the grease can and run the grill on “high” to burn off excess grease. Barbeque grills should be cleaned after every use.
-  Store your grill in a secure place when not in use.
-  Feed family pets indoors.
-  Keep refrigerators and freezers in a secure place. Coolers left outside may attract bears.
-  If you have livestock or beehives these can be protected with electric fencing. For more information contact your regional DEC office.

Remember—bear problems are community- wide issues that can only be reduced through communication and cooperation with others in your neighborhood.

Once bears learn to associate a location with food they will keep returning and are likely to cause property damage.

Bears that approach one house for food may also approach other houses. Bears that learn to come close to people and houses are more likely to cause problems. Some may even be killed because of behavior patterns learned during these approaches.

Following the suggestions in this brochure can help reduce problems with bears. If you need more assistance with a problem bear please contact your regional New York State Department of Environmental Conservation (DEC) office.

**What should you do if you see a bear?** Don't panic. Bears are more likely to be afraid of you than you are of them. Know that you have the privilege of seeing a magnificent wild creature close-up, but don't lose sight of the fact that bears are powerful animals that may defend themselves if they feel threatened.

Never approach, surround, or attempt to touch a bear. Always leave a clear escape route for the bear.

If you feel threatened by a bear, back away slowly, but do not run.

If the bear keeps coming back or will not leave, make loud noises—yell, clap, blow car horns or air horns, or drum on nearby objects.





## Blight-Resistant American Chestnut Trees Nearing Reality

The demise of the American chestnut is one of the great ecological disasters of our time, according to a chestnut expert in Penn State's College of Agricultural Sciences, who envisions a day in the not-so-distant future when the huge trees will again be growing in American forests.

Through the first-half of the 20th century, the species (*Castanea dentata*) -- which was by far the dominant forest tree species in Pennsylvania and the East -- was virtually eliminated from the landscape by an Asiatic blight fungus (*Cryphonectria parasitica*) carried on exotic plant materials imported by plant explorers in the late 1800s.

A decades-long process of introducing blight resistance by cross-breeding Chinese chestnut trees with American chestnuts, and then back-crossing the hybrids with American chestnuts to select for desirable American chestnut form and traits, seems to be close to bearing fruit. "We have a six-generation breeding program -- we think that will be adequate for both full American character and blight-resistance," said Sara Fitzsimmons, Northern Appalachian Regional Science Coordinator for the American Chestnut Foundation and a research support technologist in Penn State's School of Forest Resources.

"The fifth generation trees are currently planted at the Penn State Arboretum and at our Meadowview facility in southwestern Virginia. We col-

lected seed from those trees last year and we actually have sixth-generation plants growing in pots right now at Penn State."

Those potted plants could be -- indeed should be -- blight-resistant, according to Fitzsimmons. But it will be years until researchers know for sure. "Does this process work? Honestly, we don't know," she said. "But we will be testing it in the next 10 years to be sure the blight resistance is there."

The U.S. Forest Service will get 50 percent of the chestnut foundation's sixth-generation tree seedlings to plant in federal forests where blight resistance can be monitored, Fitzsimmons noted. Because most of the organization's hybrid trees are being grown in the South, blight-resistant candidate trees first will be planted in Jefferson National Forest in Virginia, Cherokee National Forest in North Carolina and Daniel Boone National Forest in Kentucky.

"It may take 100 or 150 years to see these trees restored to Eastern forests on any sort of large scale," Fitzsimmons conceded. "But it might not be much more than 10 or 15 years until folks can go to local garden stores or nurseries and buy blight-resistant chestnut trees. That's exciting."

Even if the sixth-generation trees now being grown don't produce satisfactory blight-resistant seed, Fitzsimmons

*Continued on back cover...*

## Living with Bears

*Continued from page 9.*

### BEAR RELOCATION

Once a bear has become a problem, DEC is often asked to move the bear. Unfortunately, bear relocations rarely solve the problem.

Relocated bears have been known to travel up to 300 miles to return to where they were caught. Animals that don't return may continue their bad behavior at the new location.

Circumstances that led to the original problems must be corrected or the bear/human conflicts will persist.

The simplest way to avoid problems is to remove all food sources.

Source: NYS Department of Environmental Conservation Brochure: "Living with Bears"



## The Bear Facts

- New York has a healthy population of about 8,000 black bears (*Ursus americanus*).
- The average adult male bear weighs about 300 lbs, females weigh about 160 lbs.
- Black bears are New York's second largest land mammal after the moose.
- New York State black bears are generally black in color; rarely cinnamon or blonde colors are found.
- Preferred natural foods include; nuts, roots, fruit, plants and insects. Bears will scavenge dead animals but rarely feed on live prey.

Check the DEC Web Site at [www.dec.state.ny.us](http://www.dec.state.ny.us) for more information about black bears.



# THE CARE OF FLOWERING HOLIDAY PLANTS

High light intensity, frequent watering, and low room temperatures are essential to flowering plants. South or west windows that receive direct sunlight are ideal locations. Correct night temperatures for flowering plants are cooler than those in most homes. Most plants should be moved to a cool room at night.

Plants in flower usually require more water than those without blooms. Keep the soil moist at all times, but do not wet it excessively. Apply water to the surface of the soil until it runs out the bottom drainage hole. Or, to bottom water, set pots with bottom drainage holes in water-filled pans or deep saucers. Excess water should be removed within an hour. Roots will rot if the pots are left in receptacles filled with water. Water plants without bottom drainage very carefully, or roots will rot in excess moisture.

**Christmas Begonia** - Christmas begonias are usually available through the winter months. Plants with a large number of buds will bloom for several weeks indoors. Keep the soil moist at all times: begonias require large amounts of water for flowering and to retain their succulent foliage.

Cool temperatures are essential for all types of begonias. Night temperatures should be between 60° and 65°F. During the day, the temperature can be 10° higher. The best location for Christmas begonias is in full sunlight. Discard the plant after flowering. It is one of the most difficult to

maintain for growth and re-bloom in the home.

**Tuberous Rooted Begonia** - Flowers are white, yellow, orange, or red. Although they do not bloom satisfactorily indoors, tubers can be started in the home for outdoor summer flowering.



*Winter-flowering (Christmas) Begonia*

appears, each tuber should be potted in the soil mixture described.

Tuberous begonias should be maintained at the temperature recommended for Christmas begonias. Grow them in sunlight until May, and then move them into indirect bright light. In late May or June, tuberous begonias can be planted in a shaded garden site. Before moving the plants

outside, water generously with a solution of one tablespoon of 5-10-5 fertilizer per quart of water. Frequent watering and monthly fertilization will produce adequate growth and bloom.

In the fall, withhold water and allow the plants to dry. The tubers can be placed in dry sand, peat moss, or vermiculite, and stored in a dry place at a temperature of about 50°F for the early winter.

**Christmas Cactus** - Christmas cactus is a popular flowering house plant that is available throughout the year. These colorful plants come in many sizes, shapes, and colors. Some varieties and hybrids bloom during winter and spring. Shades and tints of red are the usual flower colors.

These dwarf trailing plants are also grown as standard plants grafted onto upright forms of other cacti.

Although a member of the cactus family, Christmas cactus should not be kept dry like its relatives. Keep the soil moist to promote flowering. Locate plants in full sunlight in the daytime. Night temperature should be 60° to 65°F. This cactus can be grown outdoors during summer in cool, shaded areas. Fertilizer should be applied during periods of active growth.

*Continued on the next page...*



*Christmas Cactus*

## The Care of Flowering Holiday Plants

*Continued from page 11.*

To have a plant in bloom for Christmas, on September 1, begin exposing the plant to short days. Keep it in total darkness for 12 to 14 hours each night until buds form. The temperature should be under 65°F, even with long nights.

At 55°F, flowering occurs regardless of day length. Bud drop results when the temperature is too high or the light intensity too low.

**Christmas Pepper** - Christmas peppers, with bright red fruit and dark green foliage, should be purchased after the fruits are fully formed.

Expose the plants to full sunlight and cool temperatures and keep the soil moist to prolong the life of fruits and leaves. Discard a plant after it loses its fruits; it will not bloom again.

**Azalea** - Single and semi-double flowering potted azaleas are available in winter and spring in shades and tints of red and orange, or in white. Select well-shaped plants with a few open flowers. Room

temperatures 60°F at night and full sunlight during the day are necessary for extended flowering. Regular

watering, and spraying the leaves with water, will help prevent defoliation.

For continued growth and deflowering azaleas require special care. After bloom



*Orange-fruited variety of Ornamental (Christmas) Pepper*

keep the plants in cool, sunny locations. During active growth use a fertilizer with an acid residue to prevent yellowing of the foliage. Dissolve one tablespoon of ammonia sulfate in a gallon of water



*Azalea*

growing medium from around the root ball. Use acid peat moss for repotting in a larger container. During outdoor growth, provide ample water and monthly appli-

cation of fertilizer.

An indoor storage period of four to six weeks at a temperature of 40°F is required to develop newer buds in the fall. Light is necessary during storage to avoid leaf drop. After cold storage, a temperature of 60°F and full sunlight will force the plant into flower. Insufficient water at this time will cause bud drop.

**Jerusalem Cherry** - Plants are grown from seeds for the Christmas season. Keep the plants as cool as possible in full sunlight, with uniformly moist soil.

Leaves and the scarlet or red-orange berries drop as the plants mature. Because subsequent growth is un-gainly, flowering is poor, and fruit set limited, plants should be discarded after berries drop.

### **Kalanchoe**

- Kalanchoe plants are small, compact, and bear red flowers in clusters above the foliage. For extended bloom, they require cool temperatures, full sunlight and constantly moist soil.



*Kalanchoe*

### **Poinsettia**

- The true

flowers of poinsettias are inconspicuous parts in the centers of colorful bract clusters. Depending upon variety, the bracts are red, pink, cream or white. Select plants in full color.

To prevent leaf drop, poinsettias must be kept moist and protected from drafts. They also require direct sunlight and cool night temperatures. Conditions in the home are seldom satisfactory for extended bloom. Poinsettias are among the most difficult plants to rebloom in the house.

# Plant of the Month

## Red Osier Dogwood (*Cornus sericea*)

**Identification:** Red-Osier Dogwood (*Cornus sericea*), a deciduous multi-stemmed shrub, grows 3-to-12 feet tall. Its young twigs are reddish with white lenticels that gray with age. White-petal flowers form terminal clusters in mid-summer, with white-to-bluish fruits maturing in late summer to early fall (Vioreck 1972). The 5-to-7-inch parallel-veined leaves are oval-to-elliptic-shaped and arranged opposite each other along the stem (Pojar 1994).

**Habitat:** Red-Osier Dogwood flourishes in clearings, river floodplains and the open forest understory of Southeast and Central Interior Alaska. It also grows throughout North America into Labrador, Newfoundland and south into northern Mexico (Vioreck 1972).

**Propagation Methods:** Tip and softwood cuttings taken from year-old wood yielded the most successful propagation. The best media in the absence of mist propagation is two parts peat moss to one part sand while maintained in a hotbed with a clear plastic film cover. Tip cut-



**Historic Use:** Interior Natives ate the shrub's berries and mixed its dried bark with other ingredients for smoking. Coastal Natives prepared a tea from the bark and made salmon spreaders and basket rims from the stems (Pojar 1994).

**Cultivation and Uses:** Red-Osier Dogwood is cold tolerant and can be established in wet areas along streams, pond margins, wetlands or woodlands. Landscape attributes include red fall foliage, red stems and white berry clusters (Kruckeberg 1996). The shrub also forms thickets by self-layering and produces root and stem-based sprouts. And don't forget that Red-Osier Dogwood is important browse for moose, deer and elk (Pojar 1994).

tings were harvested locally in June 2005 while stems were flexible. Cuttings were re-cut to 6-inch lengths with the basal cut below a node and the basal end treated with Hormodin 2 IBA (0.3% indole-3-butyric acid) powder. Cuttings were then stuck in a media of two parts peat moss to one part sand, placed in a shaded hotbed and covered with clear plastic film. Once rooted, cuttings were potted in a media of six parts peat to one part each of perlite and vermiculite.

Plants were over-wintered in raised beds or planted in raised beds of peat moss, volcanic ash and compost. Softwood cuttings from 1-year-old stems were taken in June 2004. Lower leaves were removed and remaining leaves cut in half. Cuttings were soaked in a 10 percent bleach solution for five minutes and rinsed. (HGA-00232 J)

Next, the basal stem was re-cut just below a node to a length of 8-to-12 inches. Cuttings were then treated with Hormodin 2 IBA (0.3% indole-3-butyric acid) powder, stuck in a media of one part sand to one part perlite and placed in a hotbed for eight weeks while

shaded. Rooted cuttings were potted in 6-inch square containers with a media of two parts potting mix, one part sand and one part perlite/vermiculite and moved to raised beds for over-wintering. Seed collected in late summer to fall can be sown immediately or cleaned and cold stratified for 60 to 90 days to prepare for spring sowing. Seed should be covered with 0.5-1.5 cm of soil and mulched with 1.5 -2.5 cm sawdust (Rose 1998). Seed growth is easy to track on proper sites.

**Seed viability:** cold storage 4-8 years (Crane 1989). Stems can be layered in mid-summer when they are still flexible.

**Original Source:** <http://www.uaf.edu/ces/publications/freepubs/HGA-00232J.pdf>

This publication may contain pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available, and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (NYSDEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional NYSDEC office. Read the label before applying any pesticide.

*Source:* <http://counties.cce.cornell.edu/oneida/home%20garden/TREES%20&%20SHRUBS/'Ruby'%20Red%20Osier%20Dogwood.pdf>; *Photos:* Paul Wray, Iowa State University, [Bugwood.org](http://Bugwood.org)

Minnesota's harsh climate is often responsible for severe damage to landscape plants. Winter sun, wind, and cold temperatures can bleach and desiccate evergreen foliage, damage bark, and injure or kill branches, flowerbuds, and roots. Snow and ice can break branches and topple entire trees. Salt used for deicing streets, sidewalks, and parking lots is harmful to landscape plantings. Winter food shortages force rodents and deer to feed on bark, twigs, flowerbuds, and foliage, injuring and sometimes killing trees and shrubs. All is not bleak, however, as landscape plants can be protected to minimize some of this injury.

#### COLD DAMAGE

Cold temperatures can damage plants in several ways. Plants that are not hardy in Minnesota will be killed or injured during the winter unless protected in a microclimate. Plants that normally grow in hardiness zone 3 (northern Minnesota) and hardiness zone 4 (southern Minnesota) may also be injured if winter conditions are abnormally severe or if plants have been stressed by the environment. Injury is more prevalent and more severe when low temperatures occur in early fall or late spring, when there is little or no snow cover during the winter or when low temperatures are of prolonged duration. Pronounced fluctuations in temperature can be extremely detrimental to plants throughout the fall, winter, or spring.

#### SUN SCALD

Sun scald is characterized by elongated, sunken, dried, or cracked areas of dead bark, usually on

the south or southwest side of a tree. On cold winter days, the sun can heat up bark to the point where cambial activity is stimulated. When the sun is blocked by a cloud, hill, or building, bark temperature drops rapidly, killing the active tissue.

## PROTECTING TREES & SHRUBS AGAINST WINTER DAMAGE

Young trees, newly planted trees, and thin-barked trees (cherry, crabapple, honey locust, linden, maple, mountain ash, plum) are most susceptible to sun scald. Trees that have been pruned to raise the lower branches, or transplanted from a shady to a sunny location are also sensitive because the lower trunk is no longer shaded. Older trees are less subject to sun scald because the thicker bark can insulate dormant tissue from the sun's heat ensuring the tissue will remain dormant and cold hardy.

Sun scald can be prevented by wrapping the trunk with a commercial tree wrap, plastic tree guards, or any other light-colored material. The wrap will reflect the sun and keep the bark at a more constant temperature. Put the wrap on in the fall and remove it in the spring after the last frost. Newly planted trees should be wrapped for at least two winters and thin-barked species up to five winters or more.

To repair sun scald damage, cut the

dead bark back to live tissue with a sharp knife, following the general shape of the wound, rounding off any sharp corners to facilitate healing (Figure 1). Wrap the trunk in subsequent winters to prevent further damage. Do not use a wound dressing. Spraying the

## PROTECTING

## TREES & SHRUBS

## AGAINST WINTER DAMAGE

area with a fungicide may help prevent fungal infection of the wound.

#### WINTER DISCOLORATION OF EVERGREENS

Browning or bleaching of evergreen foliage during winter occurs for four reasons:

1. Winter sun and wind cause excessive transpiration (foliage water loss) while the roots are in frozen soil and unable to replace lost water. This results in desiccation and browning of the plant tissue.
2. Bright sunny days during the winter also cause warming of the tissue above ambient temperature which in turn initiates cellular activity. Then, when the sun is quickly shaded, foliage temperature drops to injurious levels and the foliage is injured or killed.
3. During bright, cold winter days, chlorophyll in the foliage is destroyed (photo-oxidized) and is not resynthesized when temperatures are below 28° F. This results in a bleaching of the foliage.
4. Cold temperatures early in the fall before plants have hardened off completely or late spring after new growth has occurred can result in injury or death of this nonacclimated tissue.

Foliar damage normally occurs on the south, southwest, and windward sides of the plant, but in severe cases the whole plant may be affected. Yew, arborvitae, and hemlock are

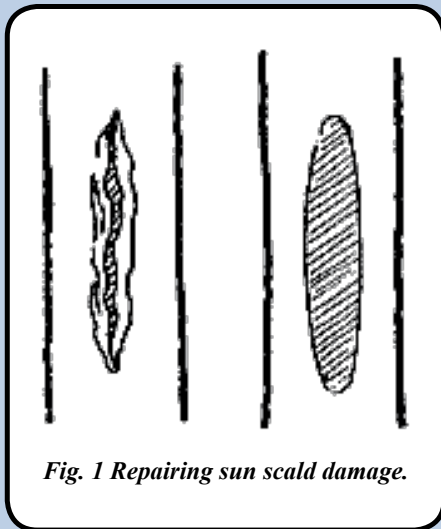


Fig. 1 Repairing sun scald damage.

most susceptible, but winter browning can affect all evergreens. New transplants or plants with succulent, late season growth are particularly sensitive.

There are several ways to minimize winter injury to evergreens. The first is proper placement of evergreens in the landscape.

Yew, hemlock, and arborvitae should not be planted on south or southwest sides of buildings or in highly exposed (windy, sunny) places. A second way to reduce damage is to prop pine boughs or Christmas tree greens against or over evergreens to protect them from wind and sun and to catch more snow for natural protection.

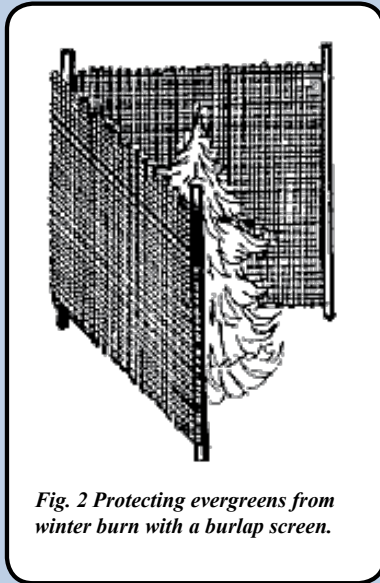


Fig. 2 Protecting evergreens from winter burn with a burlap screen.

foliage is most likely dead and will not green up, but the buds, which are more cold hardy than foliage, will often grow and fill in areas where brown foliage was removed. If the buds have not survived, prune dead branches back to living tissue. Fertilize injured plants in early spring and water them well throughout the season. Provide appropriate protection the following winter.

#### DIEBACK

Deciduous trees and shrubs can incur shoot dieback and bud death during the winter. Flower buds are more susceptible to injury than vegetative buds. A good example of this is forsythia, where plant stems and leaf buds are hardy, but flower buds are very susceptible to cold-temperature injury.

Winter injury can often be prevented by constructing a barrier of burlap or similar material on the south, southwest, and windward sides of evergreens (Figure 2). If a plant has exhibited injury on all sides, surround it with a barrier, but leave the top open to allow for some air and light penetration.

Keeping evergreens properly watered throughout the growing season and into the fall is another way to reduce winter injury. Never stress plants by under- or overwatering. Decrease watering slightly in September to encourage hardening off, then water thoroughly in October until freeze-up. Watering only in late fall does not help reduce injury.

Anti-desiccant and anti-transpirant sprays are often recommended to prevent winter burn. Most studies, however, have shown them to be ineffective.

If an evergreen has suffered winter injury, wait until mid-spring before pruning out injured foliage. Brown

Little can be done to protect trees and shrubs from winter dieback. Plants that are marginally hardy should be planted in sheltered locations (microclimates). Plants in a vigorous growing condition late in the fall are most likely to suffer winter dieback, so avoid late summer pruning, fertilizing, and overwatering. Fertilize in the spring on sandy soil or in the fall on heavy soil after the leaves have dropped.

#### ROOT INJURY

Roots do not become dormant in the winter as quickly as stems, branches and buds, and roots are less hardy than stems. Roots of most trees and shrubs that grow in Minnesota are killed at temperatures at or below 0° to +10°F. These plants survive in Minnesota because soil temperatures normally are much higher than air temperatures and because soil cools down much more slowly than air temperature.

Many factors influence soil temperature. Moist soil holds more heat than

dry soil, so frost penetration will be deeper and soil temperatures colder for sandy or dry (drought) soils. Snow cover and mulch act as insulators and keep soil temperatures higher. With newly planted trees, cracks in the planting hole backfill will allow cold air to penetrate into the root zone, reducing fall root growth or killing newly formed roots.

To encourage fall root growth and to reduce root injury, mulch new trees and shrubs with 6 to 8 inches of wood chips or straw. If the fall has been dry, water heavily before the ground freezes to reduce frost penetration. Check new plantings for cracks in the soil and fill them with soil.

#### FROST HEAVING

Repeated freezing and thawing of soil in fall or spring causes soil to expand and contract, which can damage roots and heave shrubs and new plantings out of the ground. A 4- to 6-inch layer of mulch will prevent heaving by maintaining more constant soil temperatures.

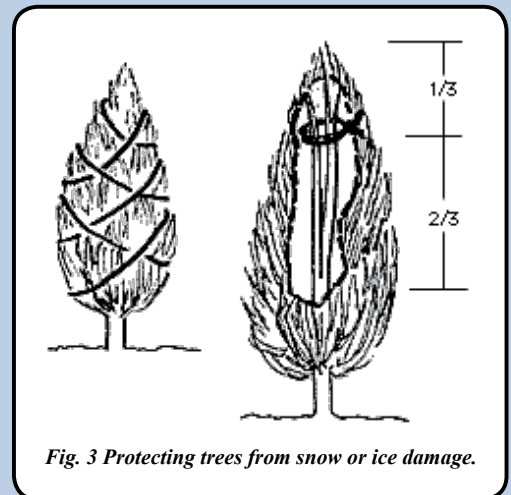


Fig. 3 Protecting trees from snow or ice damage.

#### SNOW AND ICE DAMAGE

Heavy snow and ice storms cause damage by bending and breaking branches. Multiple leader, upright evergreens, such as arborvitae and juniper, and multiple leader or clump trees, such as birch, are most subject to snow and ice dam-

*Continued on the next page...*

## Protect Trees & Shrubs Against Winter Damage

*Continued from page 15.*

age. Relatively small trees can be wrapped together or the leaders tied with strips of carpet, strong cloth or nylon stockings two-thirds of the way above the weak crotches (Figure 3). These wrappings must be removed in spring to prevent girdling, and to allow free movement of the stem. Proper pruning, to eliminate multiple leaders and weak branch attachments, will reduce snow and ice damage. For trees with large wide-spreading leaders or large multi-stemmed trees, the main branches should be cabled together by a professional arborist.

### SALT DAMAGE

Salt used for deicing walks and roads in winter can cause or aggravate winter injury and dieback. Salt runoff can injure roots and be absorbed by the plant, ultimately damaging the foliage. Salt spray from passing autos can also cause severe foliar or stem injury.

To prevent salt damage, do not plant trees and shrubs in highly salted areas. Avoid areas where salty runoff collects or where salt spray is prevalent, or use salt-tolerant species in these areas. Burlap barriers (Figure 2) may provide protection to some plants from salt spray.

### ANIMAL DAMAGE

Mice, rabbits (rodents), and deer can all cause severe damage to plants in the winter. These animals feed on the tender twigs, bark, and foliage of landscape plants during the winter. They can girdle trees and shrubs and eat shrubs to the ground line. Deer can cause significant injury and breakage by rubbing their antlers on trees during the fall.

### RODENTS

Trees can be protected from rodent damage by placing a cylinder of  $\frac{1}{4}$ -inch mesh hardware cloth around the trunk. The cylinder should extend 2 to 3 inches below the

ground line for mice and 18 to 24 inches above the anticipated snow line for rabbit protection (Figure 4). Hardware cloth can be left on year-round, but it must be larger than the trunk to allow for growth. For small trees, plastic tree guards are also effective. You can protect shrub beds from rabbits by fencing the beds with chicken wire; however, check such fenced areas frequently to ensure a rabbit has not gained entrance and is trapped inside.

If you have many trees or shrubs to protect, using screens and wraps may be too expensive and time consuming. In such situations, repellents may be the best solution. Remember that a repellent is not a poison; it simply renders plants undesirable through taste or smell.

The most effective repellents for rodents are those containing thiram, a common fungicide. You can either spray or paint repellents on trees and shrubs. Repeat applications are necessary particularly after heavy precipitation.

If these methods are ineffective, commercial baits containing poisoned grain are available. However, baits may be hazardous to humans, pets, and beneficial wildlife. Injury or death can result for animals that eat the bait directly and for animals that consume bait-killed rodents. Shelter or containerize baits so they stay dry and are accessible only to targeted rodents. Beverage cans laid on their sides work well for this purpose. Trapping and shooting, where legal, will also control rodents.

### DEER

Deer feed on and damage terminal and side branches of small trees and shrubs. Repellents containing thiram provide some control if feeding pressure is not extremely heavy. Plants can be sprayed or painted with the repellent; however, the most effective procedure is to hang heavy rags near the plants to be protected that have been dipped in concentrated repellent. Repeated plant applications or dip-

ping of rags is necessary. Deer can also be successfully excluded with fencing. To be effective, fences must be high and constructed properly. If deer are starving, there is little that will prevent feeding. Providing a more palatable forage may help, but it may also attract more deer.

### CONCLUSION

Although plant cold hardiness and winter injury are common concerns associated with Minnesota winters, appropriate plant selection, selecting the proper site, proper cultural practices, and preventive maintenance will significantly reduce or prevent severe injury or loss of landscape plants.

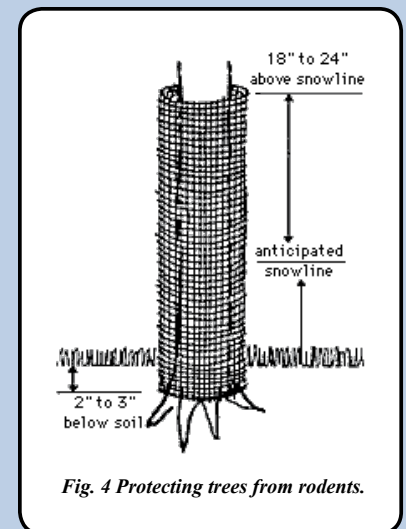


Fig. 4 Protecting trees from rodents.

Even though plants respond differently to winter stress and each winter provides a different set of stressful conditions, plants possess a remarkable ability to withstand extremely severe winter conditions. Minnesota winters should not discourage planting of traditional or new plant species.

Learn to take advantage of microclimates to enable interesting or different plants to be grown. Minnesota's list of landscape plant species needs to be expanded, not reduced.

*Source: Bert T. Swanson, Professor, Department of Horticultural Science, University of Minnesota; Richard Rideout, City Forester, City of Milwaukee, WI; Reviewed by Jeffrey H. Gillman, Nursery Management Specialist, Department of Horticultural Science; <http://www.extension.umn.edu/distribution/horticulture/DG1411.html>*

# MOLES!

*Moles are small, insect-eating mammals that are highly specialized for living underground. Unlike voles, moles have very small eyes, no external ears, a hairless pointed snout, and forefeet that are enlarged and turned outward for digging in the soil.*

*Star-nosed Mole*

The two commonly encountered species of mole in New York State are the star-nosed mole (*Candylura cristata*) and the hairy-tailed mole (*Parascalops breweri*). The eastern mole (*Scalopus aquaticus*) may occur in the lower Hudson River Valley and Long Island. All three species have short, thick, dark velvety fur that lies flat in either direction as the mole makes its way through a burrow system. The hairy-tailed mole, found throughout New York, grows up to 5 ½ inches long and has a short, hairy tail. The star-nosed mole, which can also be found throughout the state, reaches 5 inches in length. Its nose is surrounded by 22 small, fingerlike projections, which readily distinguishes it from other moles. The eastern mole grows up to 6 ½ inches long and has a naked tail.

**General Biology:** Moles spend most of their lives in extensive systems of underground tunnels where a circular nest chamber is excavated and lined with leaves and grass. They produce a single litter of three to seven young each year in April or May after a gestation period of about 42 days. Young moles leave the nest in four to five weeks.

**Habitat and Food Habits:** Moles

are primarily insectivorous, feeding on insect larvae (including grubs), earthworms, or other invertebrates encountered while digging in the soil. They must consume 70 to 100 percent of their body weight each day to supply energy for burrowing through the soil. Therefore, moles can be very beneficial mammals because they remove many damaging insects and grubs from lawns and gardens. Occasionally, moles may feed on seeds, roots, or bulbs.

Moles prefer loose, moist soil in fields and woods shaded by vegetation. Hairy-tailed moles tend to occupy fairly well-drained but moist sandy loam, whereas star-nosed moles tend to occur in low, wet ground especially near open water. Burrow systems are either shallow or deep. Deep systems are fairly permanent,

located 6 to 24 inches below the surface, and are used for cover and raising young. Shallow systems are more temporary, and moles use them as runways while they forage just below the soil surface.

**Description of Damage:** Burrowing moles occasionally damage lawns, gardens, and golf greens, uprooting plants as they tunnel through the soil in search of food. Star-nosed moles dig deep tunnels and can leave volcano-shaped hills of soil as large as 6 by 12 inches wide. Hairy-tailed moles and eastern moles burrow close to the surface, and ridges in the soil surface are indicative of their activity.

**Laws and Regulations:** Moles are classified as unprotected animals in New York State.

## PREVENTING DAMAGE

**Population Control:** Because moles are not prolific breeders and do not occur in high population densities, removing just one or two individuals will often solve damage problems. The best time to conduct mole control is in the spring and fall when soil moisture levels are higher but the ground is not frozen. The most effective control is special body-gripping traps designed to trap moles as they move through their tunnels. Harpoon-shaped or



*Star-nosed mole damage in a lawn*

# Learning Your "ABP's"

**Objective:** To understand plant classifications of annuals, biennials and perennials.

**Time:** 20 minutes

**Materials:** Pencil or pen, paper, clipboard (optional)

Ask the group if they know their ABP's. Explain that ABP represents the three main kinds of plants that people can put in their gardens: annuals, biennials and perennials. Write the three words on a poster or chalkboard. Ask the gardeners if they have any ideas about what the words mean. Give them a hint – underline the word "annual" and tell the group that it means "once a year." Tell them that when you are talking about plants, an annual plant is one that grows and dies all in one year. Some plants that are native to other areas may be grown as an annual in your area, but are perennial in their native environment.



Underline the prefix "bi" in biennial. Tell them the word bicycle also starts off with the prefix "bi" because it has two wheels, and explain that when we are talking about plants, a biennial is a plant that grows for two seasons instead of just one (like an annual).

Ask them how long they think a perennial lives. Tell the group that perennial plants are special because they live for many years. Explain that sometimes the top part of a perennial dies back if it gets too cold. When it does this, the bottom part of the plant continues to live and will grow a new set of stems and leaves when the weather warms again.

If possible, take the group to a nursery or other place that sells different types of plants, or arrange for a visit from someone from a nursery or your county Extension office. Ask that person to explain the differences among annuals, biennials and perennials. Have the group read plant tags to find out the common name, scientific name and classification. List the different annuals, perennials and biennials found in the nursery. Have the group look for similarities in the same types of plants.



**Next month:** Plant a Seed: the importance of communicating clearly when speaking.

## Moles!

*Continued from page 17.*

scissor-jawed traps of several types are available in garden stores.

Before setting a trap, locate a surface tunnel that appears to be active. Depress part of the tunnel with your foot and return the following day. If the tunnel has been repaired, then it is an active tunnel and a suitable place to set a trap. If the tunnel has not been repaired it is probably inactive. Once you have found a suitable location, depress a portion of the tunnel with your foot again and set the trap over the depressed area. As the mole moves through the tunnel it will push upward on the depressed tunnel roof and trip the trigger of the trap. Covering traps with an inverted bucket can conceal them and prevent tampering.

**Toxicants and Repellents:** Several different toxic products, including Agway Mole Stop, Mole and Gopher bait, and Revenge Mole and Gopher bait, are available commercially and legally registered for use against moles in New York State. The active ingredient in all of these products is zinc phosphide, a restricted-use pesticide that may be sold to and applied only by certified pesticide applicators. Zinc phosphide baits often are ineffective because moles prefer to feed on invertebrates rather than baits. Always check the label on any pesticide to make sure it is registered for use on lawns, golf

courses, or other areas of interest.

Several repellents are also legally registered for use against moles in New York State. These products, which include Mole Med, Shotgun Mole repellent, and



*Hairy-tailed Mole*

Scoot Mole Evacuator, all contain castor oil as the active ingredient and are not toxic. Mole-Med effectively repelled moles from 25 of 26 lawns during a study at Michigan State University. These repellents act as an irritant to moles and must be watered into the lawn.

Thiram bulb dip may protect plants from moles for a couple weeks or until heavy rains. Bulbs must be dipped in 20 percent thiram before planting.

Use of insecticides on lawns to reduce the food supply of moles is not recommended. Although insecticide may reduce availability of food in light, sandy soils, they may have little effect in heavy, clay soils. In addition, treatment of a

single lawn or small area will be ineffective because moles may still burrow through the treated area in search of food. Moles may also move into the area from adjacent untreated areas. Routine use of insecticides on lawns for "prevention" purposes may kill predatory insects that keep lawn pests under control naturally and should thus be avoided. Use appropriately labeled pesticides to manage insect problems, not for controlling mole damage.

**Exclusion:** For small areas, such as seed or ornamental beds, a 24-inch-high sheet of metal or hardware cloth fence can be installed. Bury the fence at least 12 inches underground and bend the bottom out at a 90-degree angle.

**Cultural Practices:** Moles are often found in low, moist areas in a lawn. Improving soil drainage may reduce invertebrate numbers and, subsequently, mole abundance.

**Reference:** Henderson, F. R. 1994. "Moles". In *Prevention and Control of Wildlife Damage*. S. Hygnstrom, R. Timm, and G. Larson, eds. Lincoln: University of Nebraska Cooperative Extension. 822 pp.

*Source: Wildlife Damage Management Fact Sheet Series: Moles, by Kristi L. Sullivan, Paul D. Curtis, and Lynn Brabrand, Cornell Cooperative Extension, Wildlife Damage Management Program*

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## Blight-Resistant American Chestnut Trees Nearing Reality

*Continued from page 10.*

is confident that blight-resistant American chestnut trees will be developed soon. "Even if this plant material doesn't pan out, we have so much material coming through the pipeline that it will do the trick," she said.

Fitzsimmons and four other scientists -- including Kim Steiner, professor of forest biology and director of the Arboretum at Penn State -- journeyed to China in September to research getting even more blight-resistant plant material to breed with American chestnut trees. Researchers believe a broad diversity of resistance genes will provide a lasting defense against the deadly blight.

"The chestnut blight is common in China -- it just doesn't kill the trees," said Fitzsimmons. "What better place to get disease-resistant material than the place where resistance comes from?"

While in China, the American contingent conferred with a Chinese forest pathologist who has studied the blight. "The blight fungus is remarkably diverse in China, much more so than here, but that's because it evolved there over millions of years and is fairly new to North America," Fitzsimmons explained. "I look at disease resistance as a puzzle, and hopefully the material from China will be just another piece."

It would be hard to exaggerate the importance of the American chestnut in eastern United

States forests. The tree was very densely populated with a range from Maine to Georgia. In Pennsylvania, more than 25 percent of the hardwoods were American chestnut trees. In virgin forests throughout their range, mature chestnuts are said to have averaged up to 5 feet in diameter and up to 100 feet tall. Many specimens of 8 to 10 feet in diameter were recorded, and there were rumors of trees bigger still.

"Due to their abundance and enormous size, the American chestnut once ranked as the most important wildlife plant in the eastern United States," said Fitzsimmons. "A large American chestnut tree could produce 10 bushels or more of nuts annually. Chestnut mast supported many species indigenous to Pennsylvania, including squirrels, wild turkeys, white-tailed deer, black bears, raccoons and grouse, which once depended on chestnuts as a major food source."

Because of the species' capacity to regenerate from the root collar, the American chestnut continues to survive. Once the "king of the forest," the American chestnut typically is found now only as a small stump sprout, rarely reaching more than 20 feet in height. Although the tree has escaped the threatened and endangered species list because of its fairly numerous population size, the blight fungus typically kills those stems before they can reach sexual maturity, reproduce and/or

expand within its native range.

"Though hundreds of thousands of sprouts are thought to exist throughout the original range, recent Forest Inventory Analysis data suggest a reduction in overall number of



*Photo: Courtesy of PA DCNR, taken in 1800*

chestnut stems throughout the eastern United States' forests," said Fitzsimmons. "Different management strategies, the importation of other exotic and invasive species, and the influence of Pennsylvania's ravenous deer herd all have had an effect on the species' capacity to continue surviving simply through resprouting."

*Source: <http://live.psu.edu/story/36047/mw69>;  
Photo: Penn State Department of Public Education, 2008*



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