



# The Extension Service staff wishes your family a Merry Christmas!



## Vegetables: Garden Planning

Selecting vegetables and herbs for the home garden is commonly achieved by what appeals to the senses of taste and smell. An individual crop's requirement for spacing, sun preference, watering, fertility, and upkeep may place limitations on the home gardener's ability to grow or care for that crop. Fortunately, different varieties of vegetables enable gardeners to grow more types of crops in more types of spaces and situations.

Gone are the days of needing large plots to grow cucumbers to pickle or long growing seasons to grow tasty tomatoes. Breeders are bringing more varieties to the home garden than ever before. Whether a gardener's limitations are dictated by a lack of space, disease resistance, or the length of growing season, the right plant to fit a particular niche has never been so accessible.




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### INSIDE THIS ISSUE:

Watering Plants During the Winter	2
Garden Calendar	3
Plants as Holiday Gifts	4
How Do Insects Survive Winter?	5
Caring for Houseplants	6
Diseases Affecting Citrus	7
Poinsettia Open House	8
Private Applicator Training	

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## Watering Plants During the Winter

Watering plants and near freezing temperatures create a false sense of security with many homeowners, worrying that wet soil will freeze and injure plant roots. However, supplemental watering is vital. If you do not receive a lot of rain over several weeks, your plants may need to be watered. Although your plants are dormant during the winter months, they're not dead, so during dormancy they still have some basic metabolic functions that must be driven with water collected from the soil.

Cold dry winds tend to dry out plants and since we don't see plants actively growing in the winter we may forget they need water. In addition, roots are prone to drying in the winter, causing permanent damage to perennials. By keeping plants watered and healthy, they will be better able to weather future cold snaps and will grow better once spring finally arrives.

As long as you water early in the day before the temperature drops below 40° F, the water you give your plants can actually be protective against nighttime freezes. The water in the soil acts as a trap for heat and helps the area around your plant stay a little bit warmer than the air as the night approaches. This extra heat can protect your plants from damage.

As a general rule of thumb, soak the soil to at least a depth of 6 to 8 inches. This holds true for the lawn, flowers and some trees and shrubs. This depth provides moisture to the crowns and a vast majority of the feeder roots. Trees should be soaked more deeply. Hold off fertilizing landscape plants until spring arrives. Fertilizing now will encourage new growth which is more susceptible to cold damage.

If you have an underground irrigation system, keep in mind a day or two of freezing temperatures should not harm an underground system, as the soil below is still warm and insulates the pipes. However, extended cold, winter weather will damage an underground system if not properly prepared for winter.



**Watering your landscape plants during dry periods in the winter months can help keep plants alive and healthy.**



**Lawns, especially newly established lawns, should receive periodic watering during dry periods in the winter.**



# Garden Calendar: December

Now is the time of year that Cabin Fever and garden catalogs in our mailboxes get us dreaming about getting out into the garden.

## Planning

- Start plans on paper for changes or improvements in the garden.
- Order seed for early planting.

## Equipment

- Repair and sharpen mowers and tools. Order new pots and markers.
- Check condition of sprayers.

## Planting

- Set out trees and shrubs.
- Plant Sweet Peas, Poppies, and Larkspur.

## Fertilizing

- January - March is the proper time to fertilize trees and shrubs.
- Apply lime to lawns if needed.

## Pest Control

- Scale on broad-leaf evergreens should be sprayed with dormant oil for control.

## Pruning

- Trim Nandinas.

## Mulch

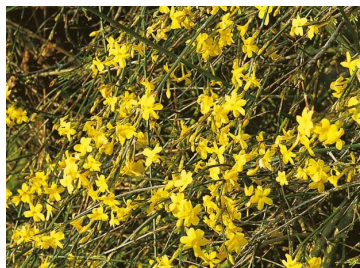
- Mulch Lilies with compost.
- Protect tender plants during periods of extreme cold.

## Miscellaneous

- Keep bird feeders stocked. Provide water for birds.
- After freeze, check to make sure plants have not heaved out of the ground.

## In Bloom

- Camellia, Winter Honeysuckle, Winter Jasmine, and in mild winters Flowering Quince





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## Plants as Holiday Gifts

Plants make good planned or last-minute gifts for the hard-to-buy-for person on anyone's list during the holiday season. Unlike many other gifts, plants are easy to shop for, come in colors and sizes to please almost anyone, and can last for years with proper care.

Blooming holiday plants, such as the poinsettia, are very popular as gifts, and it is possible to enjoy a poinsettia many weeks. To prolong the bracts' color, keep daytime temperatures between 68 and 72 degrees and nighttime temperatures about 60 degrees. Place the plant in a bright location. Poinsettias do not like drastic temperature changes, so keep them away from vents, radiators, and space heaters.

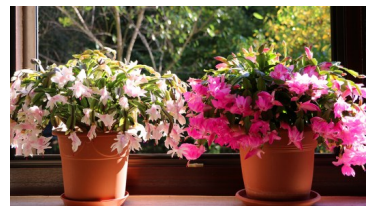
Norfolk Island pines are popular live Christmas gifts. Although many people think the Norfolk Island pine is a cold-weather plant, it is actually a tropical plant native to the southern hemisphere in Australia and the Norfolk Islands. Norfolk Island pines prefer high to medium light (an east- or west-facing window) and cool day temperatures (50 to 70 degrees) and night temperatures (45 to 65 degrees). Temperatures below 45 degrees can damage the growing tips of the branches. These trees can be decorated like Christmas trees and will live for years if given proper care.

A blooming Thanksgiving cactus (*Schlumbergera truncata*), Christmas cactus (*Schlumbergera x buckleyi*), or Easter cactus (*Hatiora gaertneri*) makes a colorful gift that will last for years. Most Christmas cacti bloom between the Thanksgiving holidays and Christmas. They are easy to get to re-bloom each year. The Easter cactus generally blooms from March to May. It may bloom again in the fall. The flowers are usually pink or red.

Caring for holiday cacti is not difficult. For repeat flowering, place cacti in a room with cool temperatures (60 to 65 degrees), stop fertilizing, allow the soil to become dry between waterings, and provide 12 hours of uninterrupted darkness every night for 5 to 6 weeks. Once flower buds appear, move the plants to a bright-light location and resume normal watering and fertilizing. Be careful not to overwater, because they are susceptible to root rot. Maintain cool temperatures (60 to 70 degrees) to avoid bud drop.

One plant that is really starting to find its niche in the holiday market is the upright rosemary that has been pruned to resemble a miniature Christmas tree. The rosemary is fragrant, pretty and offers use for culinary purposes. Rosemary prefers a sunny location in the home. It performs well in warm temperatures and well-drained soil. Rosemary does not like to have wet feet (roots), so make sure the plant is in well-drained soil. Water rosemary thoroughly but not often, based on the soil moisture level.

For maximum holiday enjoyment, keep plants away from drafts, in bright light, but not direct sun, and in moist, but not wet soil.







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## How Do Insects Survive Winter?

At this point, I'm not sure we've had much of a fall season. It seems we went from summer to winter fairly quickly. But what happens to insects during the winter? Winter is a period of dormancy for most insects. Insects and mites have a variety of ways they survive the winter. They seek protected places where they are not exposed to predators or repeated freezing and thawing. Most insects have a single generation life cycle, but there are some that require two or more years to fully develop.

As a garden enthusiast, I'm sure you've heard the term 'overwinter' before. It's during this time insects go through an abrupt change in lifestyle. Their activity and development largely cease, but they have strategies to survive the winter. Insect overwintering is frequently used to refer to a sort of hibernation undertaken by insects to survive the cold temperatures. Insects can overwinter in any stage of their development unless they migrate. Those insects, such as Monarch butterflies, normally survive by migrating south and returning north for an upcoming growing season.

Many insects overwinter as adults, such as leaf beetles, some aphids, most leafhoppers, and many other beetles. Overwintering sites include those under the loose bark of trees, fallen leaves, and other debris on the ground. Lady beetles and box elder bugs survive as adults in a process very similar to that of a bear hibernating in a cave. Elm leaf beetle, boxelder bugs, and others may actually seek shelter indoors in homes or other protected structures.

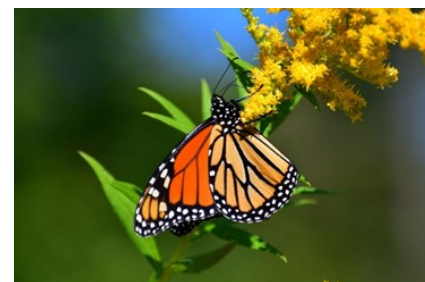
An equally common life stage for overwintering is the larval and/or pupal stage. Many of the leaf-eating caterpillars overwinter as pupae in a silken cocoon or other protective structure. Turf-feeding grubs, such as the June beetle, overwinter in the soil, where they are generally protected from the extremes of winter temperatures. The overwintering pupae of most butterflies are attached to an above-ground object. Geranium budworm and other hornworm pupae survive in packed earthen cells three inches underground. Bark beetles, such as mountain pine beetle and wood borers, live on as partially grown larvae under the bark of infested trees.

A vast number of insects overwinter as eggs, either singly or in masses. The egg mass of the eastern tent caterpillar may be seen attached to a twig and exposed. Aphid and plant bug eggs many times are situated in leaf and bud scales on woody plants, where they are protected. The notorious female gypsy moth lays her eggs near the base of trees and covers them with hairs from her body. Bagworms spend the winter as eggs in the old bags from the previous year. Mosquitoes, grasshoppers, and scales spend the winter as eggs.

Some insects survive by adding an "antifreeze," called glycerol, to their cells. An increase in glycerol has been noted mostly during winter diapause, a state in which insects stop growing and developing. Diapause is a physiological state that's much deeper than hibernation. The insect's metabolism slows way down, regardless of temperature, and does not return to normal until the insect experiences certain environmental cues, such as increased day length, that cause it to come out of diapause. An insect's worst enemies are the alternating extremes of very cold and very warm weather that can come during late winter. This is the same type of weather that also endangers plant survival.



Overwintering egg mass of the Forest Tent Caterpillar.



Monarch butterflies migrate to and from Mexico to overwinter each year.



White grubs spend the winter in the soil before emerging as beetles.



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## Caring for Houseplants

Houseplants add color to our homes and can improve air quality. Usually plants in the home have fewer problems than those in the landscape, but infestations of insects or pathogens as well as environmental conditions may cause the plants to be unhealthy or less attractive.

One of the major causes of problems in houseplants is the level of watering. Underwatering is frequently first seen as yellowing of the leaves and browning around the leaf edges. The air inside our homes tends to be much lower in humidity than it is outside. This may cause plants to lose water by transpiration much quicker than expected. Additionally, being placed near an air vent can cause leaves to desiccate. Overwatering is another frequent problem and can cause leaves to wilt. The soil mix for overwatered plants will often have a sour smell and the root system may be dark and off color. To avoid problems with over or underwatering, stick your finger into the soil to a depth of about two inches. If you feel moisture, do not water the plant.

Insect pests of houseplants include aphids, whiteflies, scale, and mealybugs. These insects often hide on the underside of leaves allowing them to escape notice until populations are high. Take care when purchasing new plants or bringing plants in from outdoors as you may be carrying these insects into the house. Infestations of insects can harm the appearance of plants as well as transmit plant diseases.


Occasionally, houseplants will develop sooty mold due to insect infestations. Sooty mold is caused by a fungus and appears as a black coating on leaves, and in severe cases stems of plants. This mold is feeding on the “honeydew” produced by sap feeding insects. Most insect pests of houseplants can be removed by forcefully washing leaves of the plant with water. Insecticidal soap and Neem oil, which are both widely available in garden stores, are also effective in eliminating most pest problems.



Disease problems are less common in houseplants as most bacterial or fungal diseases require periods of high humidity in order to infect the plant. The lower humidity inside houses prevents this from occurring in most cases. However, as with insect pests, care should be taken not to bring infected plants into the house as these can serve as a source of pathogens to infect other plants. Disease in houseplants is usually first observed as yellow, brown, or black spots on the leaves. The shape of these spots varies with the particular organism causing the disease. Grayish-white powdery material on leaves and stems is a sign the plant is infected with powdery mildew. Houseplants may also occasionally develop root-rot diseases which are initially observed as wilting or a lesion near the base of the stem. Houseplant diseases are best managed preventatively. Care should be taken to not overwater the plant, and when watering do not allow the foliage to remain wet for long periods of time as this promotes disease development. Plants should also be spaced to allow for good air circulation. Should disease symptoms appear, the affected foliage can be pruned so that it does not serve as a source for more disease. Additionally, once the disease is diagnosed, fungicides or bactericides can be applied if needed.







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## Diseases Affecting Citrus Trees

Citrus trees are susceptible to several diseases which can affect the appearance and quality of the fruit. The three most common fungal diseases to affect citrus are Scab, Melanose and Sooty Mold.

Citrus Scab is caused by the fungal pathogen *Elsinoe fawcetti*, and affects the leaves, fruit and stems of plants. Satsuma, grapefruit and lemons are susceptible to Citrus Scab, but oranges are not usually affected.

Symptoms of Citrus Scab may appear as early as three days after infection and appear as small, pale orange, circular raised spots on leaves. As leaves develop, these areas become well defined warts on one side of the leaf with a conical depression on the opposite side. These areas may run together to affect large areas of the leaf. Symptoms on fruit form irregular scabby masses that are cream-colored to pale yellow in young fruit but darken to olive gray with age. When severely affected, fruit may become misshapen with warty projections.

Citrus Scab can be treated by the application of copper fungicides such as Kocide. To achieve effective control, plants must be treated after bloom when fruit are pea-sized. Plant tissues are susceptible to Citrus Scab only when young. Water is very important in determining severity of infection by Scab. Spores affecting young fruit develop in old lesions and numbers of spores can build very quickly with frequent wetting by rain or overhead irrigation. Spores are spread by splashing water. As with other fungal diseases care should be taken to reduce the time leaves are wetted.

Melanose is caused by the fungus *Diaporthe citri*. This disease affects the appearance of fruit but generally does not cause harm to the pulp. Melanose infections first appear on leaves that are not fully expanded. Lesions on both leaves and fruit appear as darkly colored raised pustules. On leaves these pustules may have a yellow halo, and lesions on fruit may coalesce producing a cracked appearance. Lesions on fruit may also be spread by flowing water to produce a tear-stained symptom. Treatment for Melanose is similar to that for Citrus Scab.

Sooty mold is a common fungal disease affecting a wide range of plants. There are several fungi that are responsible for sooty mold. These fungi do not feed on the plant itself, but rather on “honeydew” excreted by pest insects living on the plant. Insects that can be responsible for sooty mold include aphids, scale, mealybugs, and whiteflies. Sooty mold can be treated by applying insecticides to control these insect pests. After the insects are eliminated sooty mold will weather away from the plant. Sprays of insecticidal soap or horticultural oil used to control insects may also help loosen and remove sooty mold.



# Events

## Poinsettia Open House!!

Sponsored by:  
BallSeed.

Thursday, December 1st  
2:00PM - 6:00PM

Come enjoy light refreshments while learning about our many different varieties of Poinsettias, from the classic to the unique! Take our survey and tell us what you think!

Holiday backdrops will be available for photos!

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## Online Private Applicator Certification Program

**A private applicator is a certified applicator who uses or supervises the use of restricted-use pesticides to produce an agricultural commodity on his or her own land, leased land, or rented land or on the lands of his or her employer. Private applicators must be at least 18 years old.**

In response to limited face-to-face training during the COVID-19 situation, the Mississippi Department of Agriculture–Bureau of Plant Industry has approved an online private applicator certification program developed by the MSU Extension Service. Persons needing to obtain or renew their private applicator certification can complete the online training (two video training modules and a competency exam) by using the following link: <http://extension.msstate.edu/content/online-private-applicator-certification-program>. The fee for training and testing is \$20, payable online by credit card, debit card, or eCheck.

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# Private Applicator

## TRAINING AND TESTING ONLINE

Watch the training modules, pass the exam, and receive your private applicator certification from MDAC Bureau of Plant Industry.

# \$20 COST

Visit <http://msuext.ms/agmes>  
or contact your local MSU Extension office for info on how to register.