



Ottawa County Master Gardener Program

MSU Extension Ottawa County 616-846-8250

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The Compost Caper by Shane VanOosterhout

This past August I was paid a visit from a very dedicated gardener who was excited about compost. I'll call him Tom. Tom exclaimed to me that the compost he was using was exceptional because, he exclaimed, "It is MUSHROOM compost!" Turns out that he has been purchasing this particular mushroom compost from a supplier in a neighboring county for the last three years. He went on to say that the first year he applied this compost to his garden he had sunflowers the size of the Chrysler building. "Everything was just enormous...huge...and grew very very fast!" he said. But then, as no story is good without conflict, it seemed that...well...the second year wasn't "as great" and this year? "Things just don't seem to be growing at all," Tom moped.

I inquired further about the compost; where it came from, how much he was applying, etc. He seemed a bit baffled by my questions, responding over and over, "But this is MUSHROOM compost!" For a moment I began to wonder if I was possibly dealing with an individual who had lost a few marbles along the way, but then I reminded myself, "Oh that's right, I'm at the MSU Extension office."



When I began to realize that rational inquiry was not to be fruitful I simply paused, looked straight into his eyes and said, "This compost is not supernatural." He blinked several times and went mute. I wasn't sure if I had finally stunned him with the logic of science or if he thought I had suddenly spoken Hindu. It did seem to have a calming effect on him at any rate. We chatted more about his garden (mostly



flowers) and his cultural practices, but it was nearly impossible, no matter how hard I tried, to get him to give me the information I was seeking. "How much of this stuff are you putting down? How many inches? On how many square feet? How often? Are you tilling it in to your existing soil? How deep?" Alas, my specificity failed every time. He answered every question with more stories about the compost, and how it was "finished" and the otherworldly *uber* flowers he had grown three seasons ago. And the composted mushrooms...again with the almighty mushrooms!

I told Tom about soil science and suggested that he test his compost so we could look at the pH level.

Tom immediately rushed off to gather his samples, but before he was gone I explained carefully what the soil test will reveal and what it will not tell us and how the fertilizer recommendations are made for soil not mushroom compost. I felt like an attorney bracing my client for the worst, knowing his denial was obfuscating everything I was telling him. I knew he'd be back within the hour, and he was, little Ziploc bags in hand, brimming with dark, silty compost, a distinct gleam in his eye.

I instructed Tom through the paperwork and reminded him a second time of the problems of using soil testing for compost and that was that.

When the lab results came back, it was just as I had expected. Slightly high pH but nothing off the charts. Neither did the nutrient profile indicate any striking imbalances. There was no red skull and crossbones stamped on the soil report. Now I had to brace myself for the client. Would he be able to handle the truth? Honestly, I was afraid he wouldn't.

When we discussed the lab results I once again noticed the odd strategies that seemed to be unfolding. Tom had questions, many questions, about the meaning of the results.

Most of them were redundant and he had clearly ignored everything I had told him three weeks prior about the purpose of the lab test.

Then I had a theory, which I immediately put to the test by asking him this question: "I'm curious. What do you do for a living?" "I'm a prosecuting attorney," he replied. Boy, things were finally starting to add up....at last it became clear to me what was beneath all of this obsessive fixation. This man was actually *prosecuting* his compost! A former pile of mushrooms was being put on trial like some kind of alleged criminal!



Prosecution: "YOU, Sir Pile of Mushroom, are charged with the dubious intention of improper soil amendment! How do you plead?!"

Sir Pile of Mushroom: Silence

Prosecution: "Why, during the summer of 2003, did you simply SIT atop the flower garden and contribute NOTHING to the growth and vigor of the plants?"

Sir Pile of Mushroom: Silence

Prosecution: "WHY, then, in the summer of 2001, did you render your services so readily and thereby cause the flowers to nearly EXPLODE with growth and beauty?! Are you not, indeed, MUSHROOM COMPOST?????"

Sir Pile of Mushroom: Silence. ETC.

The next chapter of this drama began when I received a call in mid-November from a landscaper who had done business with Tom, our protagonist. We'll call this guy Jim. Jim began by delicately inquiring about Tom's lab results. I was a bit surprised, as nearly three months had passed since those lab results were mailed to our office and the client, Tom. My intuition led me to believe that Jim's questions were somewhat veiled and it turns out I was right. What Jim really wanted was a little moral support, as Tom had been putting

the pressure on Jim to explain the lackluster results of the now-famous mushroom compost. Then I discovered that Jim, through his landscape business, had only *delivered* the compost to Tom. But since Tom had paid his bill to Jim, he was now after Jim for a refund on the "faulty" compost.

I felt empathy for Jim. After listening to him I told him that Tom was a bit of a tough customer and that I understood his dilemma. I also told him that professionally, I couldn't say that there was really anything "wrong" with the accused mushroom compost. Jim confided to me, "I've been in business for myself for many years. I've never met a guy quite like Tom before." By now I was imagining myself being called as a principal witness for the defense and realizing that I don't have a good winter suit to wear in court.



A couple of weeks later two soil test results showed up on my desk to be marked up and sent to the client. The name of the client was Tom the mushroom compost guy, and the two reports appeared to be the exact same ones from August. I checked the files and sure enough, they were new copies of tests done months ago! After examining them more carefully I discovered the difference: a handwritten note about soluble salt percentages had been scribbled at the bottom. "5.88 mmhos." (mmhos = millimhos a unit of measure). I showed this to an extension agent, who informed me that greenhouse growers keep their soluble salts around 1.0 or less, which meant that Tom's compost, at almost 6.0, was extremely salty. Salty enough, for absolute certainty, to stunt plant growth considerably. At that level of salinity, flowers will fail to thrive. Interestingly, the second lab test reported only 0.94 mmhos from that sample. Both were composted mushrooms, from the same farm, yet they had extremely different soluble salt levels. The pH on both tests was exactly the same, however: 7.5 pH, which is a bit high for most flower gardens. Ideally, pH for growing flowers is typically between 6.0 and 7.0.

These lab tests listed the "target pH" at 6.0.

Our extension agent suggested that I advise Tom to retest, now that several months had passed. The goal would be to compare a second pH test with the first ones, as well as requesting a nitrate test and another soluble salts test. It was pointed out to me that if the compost has been "finished" the salts should be low. Would that indicate that the high salts in the one sample were from "unfinished" compost? It's possible. The question is, why is this compost so VERY salty? Rainfall, especially since we had copious downpours in November, could have done a good job of leaching the salts out of the compost since late August, so a second test would also show any changes there as well.

I composed a letter to Tom on MSUE stationary, explaining the latest developments and what I suggested for him. Obviously, he had known about the soluble salts test and had called the lab on his own to request them. This was most intriguing, since I had not spoken with Tom in three months. In fact, I didn't even know about the test for millimhos of soluble salts until Tom's second round of lab tests turned up on my desk.

The next (final?) chapter in this exciting tale remains to be written. Has Tom privately hired a detective? Are there detectives who specialize in horticulture? Soil sleuths? Will I be subpoenaed and called to the witness stand? Will I have to hire an attorney of my own? Will MSU pay my legal fees? Will the trial upstage Michael Jackson? We shall see...



The Garden Corner - ANR Communications

Q. Where does vanilla come from?

A. Natural vanilla comes from the seed pod of the vanilla orchid, *Vanilla planifolia*, a vining orchid from the tropics. Most vanilla production takes place in Mexico and Madagascar.

Q. What causes the leaves and flowers to fall off my Poinsettia plants?

A. Drafts, hot or cold, can cause leaf drop. So can over or under watering or

exposure to cold temperatures. The brightly colored parts of the Poinsettia that we tend to think of as flowers are actually bracts, colored leaves that surround the true flowers, the small, yellowish green, button like structures. To keep your poinsettia looking good as long as possible, make sure it's well wrapped before you take it from the florist's to your car and from the car to the house, place it where it will receive plenty of bright light but be free from hot or cold drafts, and water when the top inch of soil feels dry. Make sure excess water can drain away so roots aren't sitting in water for long periods.

Q. What kind of potting medium is used for orchids?

A. For best results, pot or repot orchids in a commercially prepared mix consisting largely of chunks of fir bark.

Q. I've never had much luck growing ferns indoors, and now someone has given me yet another one. What can I do with this one to keep it from turning brown and losing its fronds?

A. Most ferns are native to tropical areas where they live in the rain forest under story. This means they're adapted to high humidity, filtered light, high soil moisture and temperatures somewhat cooler than the average home. To keep a fern thriving, place it in a cool area with indirect light and find a way to increase the relative humidity in the air around it. A room humidifier is one way. Double potting the fern and filling the space between the two pots with moistened pea gravel or sphagnum moss is another. Placing the fern and other moisture-loving plants together on a tray of moistened gravel or aquarium stone is another. Water your fern when the top surface of the soil is just beginning to feel dry.

Q. I know there's nothing I can do about spring bulbs that begin to come up during a midwinter thaw, but I'm wondering if they'll bloom this year.

A. Bulbs that start to push up leaves during a winter warm spell may have their leaves nipped back by freezing temperatures but should be OK unless the warm weather lasts long enough to bring the flower buds above the soil surface. Then the flowers are likely to freeze when the cold weather returns, but the bulbs themselves will probably survive and come back next year.

Q. What causes the flower buds of gloxinias to dry up and drop off the plants before they have a chance to open?

A. Temperatures that are too warm (above 65 to 75 degrees), poor drainage or under watering can cause buds to dry, turn brown and drop, as can botrytis blight, which can be spread by cyclamen mites.

Q. What is that white crusty stuff in my houseplant pots?

A. That crusty stuff is soluble salts from fertilizer. If it forms on pot rims, it can burn plant foliage that rests on it. You can scrape it off of pot rims and soil, then add new soil mix as needed. Avoid fertilizing plants in winter, when they're not actively growing. During the growing season, if you fertilize regularly, leach the pot occasionally to wash excess fertilizer salts through the soil and out the drainage holes in the bottom. To do this, hold the pot over a sink or bucket and pour water through the soil as fast as the soil can take it. Use several times as much water as the pot would hold if it were empty. At regular watering times, add water until some drains out of the bottom, then empty the excess from the saucer.



Proper Care Keeps Holiday Plants Blooming

EAST LANSING, Mich. -- Flowering plants add splashes of living color to the holiday season. Proper care keeps them flowering and attractive.

"The exact care requirements of flowering plants vary slightly from one to another," observes Mary McLellan, Extension Master Gardener program coordinator at Michigan State University. "Following the care labels that come with them is the best idea, but some general recommendations apply to all of them."

Most flowering plants -- from amaryllis to azalea, Christmas pepper, holiday cacti and poinsettia -- do best when they receive plenty of light. Because of short, often cloudy days, natural light may be in short supply around the holidays, so supplementing natural light with bright light from fluorescent tubes is often recommended.

"Applying just the right amount of water usually translates into watering whenever the soil surface begins to feel dry," McLellan says. "If containers have drainage holes in the bottom, add water until some drains out, and don't allow pots to stand in water for longer than a half-hour. Plants without drainage holes are easy to over water," she cautions. "Roots need air as well as water -- if they stand too long in waterlogged soil, they rot and die."

The air inside most homes is extremely dry in winter, and that's quite a contrast to the atmosphere in the greenhouses where plants were grown. Leaves may dry around the edges, and flower buds may fail to open and dry up or drop off. Using a humidifier will make the environment more comfortable for people, as well as plants, and keep furniture from drying out. Short of that, placing plants together on trays of moist gravel or in areas of the house that are naturally more humid, such as the kitchen or bathroom, will help prolong flowering. "Keeping plants out of warm drafts and away from appliances that give off heat will help, too," McLellan adds.

Some plants, particularly poinsettias, don't tolerate cold drafts, either, so they need to be placed where drafts from open doors and cold windows won't swirl around them.

High temperatures often combine with low humidity to shorten the flowering period, so she recommends placing plants in cool areas. Temperatures of 65 to 75 degrees F during the daytime and 50 to 55 degrees at night are adequate for most plants except cyclamen and paper white narcissus, which do better if daytime temperatures don't exceed 60 to 65 degrees.

Fertilizing usually isn't necessary unless plants are going to be kept and re-bloomed. This is practical with amaryllis and holiday cacti, but other flowering plants generally require temperature and/or light conditions that are difficult to achieve in the home.

"With proper care, they'll stay looking good for some time," McLellan says. "Then you can discard them feeling that you got your money's worth from them."



Winter Mulch Has Pros & Cons

For retaining soil moisture and discouraging weeds during the growing season, mulch is hard to beat. During the winter, mulches protect rose plants and strawberries from freezing, and newly planted ornamentals and bulbs from frost heaving -- being pushed right up out of the ground by the alternate freezing and thawing of soil.

Winter mulches also provide mice with hiding places. And if those hiding places are conveniently located next to the trunks or main stems of trees and shrubs, the result can be mouse gnawing that girdles and kills valuable landscape plants.

Mary McLellan, Extension Master Gardener program coordinator at Michigan State University, points out that a properly mulched tree or woody shrub has a thick layer of mulch over its root zone but not lapped up against the trunk or main stems.

Another good place for an insulating layer of mulch is perennial and bulb beds. A potential drawback is that it makes the area attractive to squirrels looking for places to bury acorns and other nuts. The problem occurs when the squirrels return to dig them up -- they may dig up shallow-planted bulbs or, in the spring, even newly planted annuals. Cleaning up and mulching flower beds as early as possible in the fall and covering mulched beds with chicken wire so the squirrels can't dig in them so easily is one tactic for foiling the squirrels. Another is to sort the nuts from the mulch when you remove it to plant in the spring, then placing the nuts nearby where the squirrels can find them without digging up your flowers, she suggests.



In Their Own Words

This past summer I asked a few active Master Gardeners for some feedback. The following are the questions and their replies. Thanks, Lesa and Betty!

1. Why did you decide to become a Master Gardener?

"I became a Master Gardener to complete a personal challenge I made to myself to learn more about the environment in general, and my personal space of earth, in particular."

2. What was the thing that surprised you most during the class?

"I was surprised by both how much I already knew about gardening and likewise by how much I didn't know. The number and the diversity of the people in class...all with a common interest in gardening...also caught me by surprise."

3. What did you find to be the most difficult part of becoming a Master Gardener?

"The most difficult part of becoming a Master Gardener was having to put the time aside each week to look over the material for the [upcoming] class. Not a very difficult task when it was in regard to gardening, something I love!"

4. Have your gardening practices changed since you became a Master Gardener?

"I do find I have changed my gardening practices since I have become a Master Gardener. We do not use as many pesticides in the garden now. I am more likely to let a weed grow to find out what the plant will become. I did get into trouble with that last year. I let this pretty plant grow, it was Chinese Lantern, now it has taken over my entire plant bed!"

5. What would you say to other individuals who are thinking of signing up for the Master Gardener Volunteer Training Program?

"If you have even a small interest in learning more about gardening, just sign up for the program and stick with it. You'll get the knowledge you want plus a

few "extras"...including the camaraderie of other Master Gardeners."

Horrible Holiday Horticulture?**Poinsettia:**

Every Christmas season, extension offices and poison control centers alike are flooded with anxious calls about Poinsettia-munchers. Pets, babies, even adults, who end up, through some kind of holiday mischief, eating Poinsettia leaves. People are stunned to learn that in fact, poinsettia really isn't a dangerous plant. Poinsettia, or Christmas Flower, is in the Spurge Family. Its botanical name is *Euphorbia pulcherrima*. Native to Mexico and Central America, northerners use it as a potted Christmas-time ornamental. In warmer southern climates of the U.S. it's commonly seen as a hedge plant or shrub. (I've seen enormous ones growing in the Hawaiian Islands).

The milky juice of Poinsettia, like that of other Euphorbia species, is an irritant, but it appears to be less potent than in other members of the genus. Much attention has centered on Poinsettia and its possible toxicity. Despite the many warnings against it, however, the only reported fatality from the plant was a single case in Hawaii in 1919. In recent years there have been hundreds of reported cases of children ingesting parts of Poinsettia. In most of these no symptoms or only minor ones were experienced, the most severe being vomiting, abdominal pain, and diarrhea. Chemical studies have shown the plant to be lacking the irritant diterpenes found in other *Euphorbias*. Handling Poinsettia, however, can be irritating to the skin.

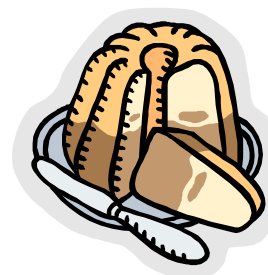
If you do experience any irritation after handling Poinsettia, simply wash your hands using warm, soapy water.

Mistletoe:

Mistletoe is a partially parasitic plant found growing on dense clusters of evergreen trees across the U.S. The botanical name for this plant and its related genera is *Phoradendron*. *P. serotinum* is one of the "Christmas mistletoes." The entire mistletoe plant is toxic, especially the leaves and stems. Eating only a few berries may cause some abdominal pain and diarrhea, but ingesting large quantities of berries, or drinking tea made from the leaves, can produce severe irritation of the digestive tract, including vomiting, diarrhea, and

acute cramping. Lowered heart rate, similar to but less severe than that produced by digitalis, may also occur. Mistletoe on rare occasions has been fatal.

If ingestion of any part of the mistletoe plant occurs, induce vomiting. Get to an emergency center immediately for treatment

**Nutmeg:**

What? The spice we bake into our delicious holiday treats? Indeed, *Myristacaceae fragrans*, can actually cause acute poisoning and even death. Nutmeg is the brown seed of a tropical evergreen tree, which yields two spices commonly found in North American homes: nutmeg; and mace, the thin, net-like, reddish or yellowish covering of the seed. Occasionally, nutmeg trees are grown in conservatories and botanical gardens in North America, however, nutmeg is native to India, Australia, and the South Pacific. There are about 80 different species in the genus.

Nutmeg contains volatile oils which give it its spicy scent and flavor, but are irritating to all tissues; if excessive amounts are inhaled or ingested, it can cause acute poisoning. The primary constituents of the aromatic ether fraction of nutmeg are myristicin, elemicin, and safrole; these are apparently the toxic principals. In large quantities (over 10 g. or 0.4 oz), powdered nutmeg or mace affects the central nervous system, and produces hallucinations and unpleasant side effects, including headache, dizziness, drowsiness, nausea, stomach pain, excessive thirst, rapid pulse, delirium, anxiety, double vision, and sometimes acute panic and coma. Most cases of nutmeg poisoning occur when people try to use it as a readily obtainable hallucinogenic drug. People who have taken it agree that it causes an agonizing hangover.





Holly

English holly, *Ilex aquifolium*, is widely grown ornamental also used for its decorative berries and foliage at Christmastime. Dense and evergreen, *Ilex aquifolium* can grow up to 50 feet tall. Many other *Ilex* species, both evergreen and deciduous, are found in North America. Some are native and some are cultivated as ornamentals. The showy scarlet berries and leaves contain glycosides and theobromine, a caffeine-like alkaloid. Eating the berries is the usual cause of poisoning, especially in children. Symptoms, which in young children may occur from eating only a few berries, include nausea, vomiting, diarrhea, and drowsiness. However, fatalities from Holly are unknown, and their poisonous properties are frequently overstated. Mild doses of the leaves or berries cause stimulation of the central nervous system, whereas higher doses cause depression of the central nervous system.

If large quantities of the berries have been ingested, induce vomiting. Seek medical attention immediately.

To locate a poison control center near you, call the national toll-free number at 1-800-222-1222

(Excerpted from Common Poisonous Plants and Mushrooms of North America by N. Turner and A. Szczawinski, Timber Press, 1991)

The Chronological History of the Christmas Tree

Why do we have a decorated Christmas Tree? The tradition of decorating trees during the winter solstice can be traced back through various religious faiths. The Romans honored Saturn, the god of agriculture, whereas the druids adorned the mighty oaks. In the middle ages the Paradise Tree, an evergreen, was adorned on the 24th of December as a symbol of the feast of Adam and Eve.

The best record we have is that of a visitor to Strasbourg in 1601. He records a tree decorated with "wafers and golden sugar-twists (Barley sugar) and paper flowers of all colors. The many food items were symbols of Plenty; the flowers, originally only red (for Knowledge); White (for Innocence).



Christmas Markets

In the mid 16th century, Christmas markets were set up in German towns, to provide everything from gifts, food and more practical things such as a knife grinder. At these fairs, bakers made shaped gingerbreads and wax ornaments for people to buy and hang on their Christmas Trees. In the Ammerschweier in Alsace there was an ordinance that stated no person "shall have for Christmas more than one bush of more than eight shoe lengths."

Tinsel

Tinsel was invented in Germany around 1610. Machines were invented which pulled the silver out into the wafer thin strips for tinsel. Silver was durable, but tarnished quickly, especially with candlelight. Attempts were made to use a mixture of lead and tin, but this was heavy and tended to break under its own weight. Silver was used for tinsel right up to the mid-20th century.

The First English Trees

The Christmas Tree first came to England with the German Georgian Kings. German Merchants living in England decorated their homes with a Christmas Tree. The British public, who were not fond of the German Monarchy, therefore did not copy the fashions at Court. A few families did have Christmas trees, although more from the influence of their German neighbors than from the Royal British Court.

Those who displayed trees decorated with tinsel, silver wire ornaments, candles and small beads, all manufactured in Germany and East Europe since the 17th century.

The custom was to have several small trees on tables, one for each member of the family, with that person's gifts stacked on the table under the tree.

The Victorian and Albert Tree

In 1846, Queen Victoria and her German Prince, Albert, were shown in the Illustrated London News, standing with their children around a Christmas Tree. Unlike the previous Royal family, Victoria was very popular with her subjects, and what was done at Court immediately became fashionable - not only in Britain, but with fashion-conscious East Coast American Society, as well. The English Christmas Tree had arrived!



Mid-Victorian Tree

In the 1850's Lauscha began to produce fancy shaped glass bead garlands for the trees, and short garlands made from necklace 'bugles' and beads. These were readily available in Germany but not produced in sufficient quantities to export to Britain. The Rauschgoldengel was a common sight. Literally, 'Tinsled-angel', bought from the Thuringian Christmas markets, and dressed in pure gilded tin.

The 1860's English Tree became more innovative than the delicate trees of earlier decades. Small toys were popularly hung on the branches, but still most gifts were placed on the table under the tree.



In Germany, evergreen trees were beginning to suffer from mass destruction. It had become the fashion to lop off the tip off a large tree to use as a Christmas

Tree, which damaged them considerably or even killed them. Rulings were made to prevent people from having more than one tree.

By the 1870's, Glass ornaments were being imported into Britain from Lauscha, in Thuringia. It became a status symbol to have glass ornaments on the tree, but many home-made things were still seen. The British Empire was growing, and it became the rage to decorate trees with the nation's flag and flags of the allied countries. Christmas Trees became very patriotic.



High Victorian Trees

In the 1880's, British Christmas Trees became a glorious hotchpotch of everything one could cram on, or by complete contrast they were delicately balanced trees, with delicate colors, shapes and style. With decorations and crafts more popular than ever, there was no excuse not to have a showy tree. The larger the tree the more affluent the family which sported it.

The High Victorian of the 1890's was as tall as the ceiling and crammed with glitter and tinsel and toys galore. Everything that could possibly go on a tree, did.



The British tree in the 20th century

With the death of Queen Victoria in 1901, Christmas trees declined somewhat in popularity until Dickensian nostalgia of the 1930's brought them back. World War II however quickly put a stop to displaying Christmas Trees in England.

It was forbidden to cut trees down for decoration, and with raids many people preferred to keep their most precious heirloom Christmas Tree decorations carefully stored away in metal boxes. Trees were kept small so that they could be taken down into the shelters for a little cheer during the air-raids. Trees their popularity after the war ended, and there was to be a second resurgence of Victorian nostalgia that caught on around 1980.



The American Tree

In America, Christmas Trees were introduced into several pockets around the country. The German Hessian Soldiers brought their tree customs with them in the 18th century. In Texas, Cattle Barons from Britain brought their customs over during the 19th century, and the East Coast Society copied the English Court.

Charles Minnegrode introduced the custom of decorating trees in Williamsburg, Virginia in 1842.

By 1850, the Christmas Tree had become fashionable in the eastern states. Until this time, it had been considered a quaint foreign custom. The Paper 'Putz' or Christmas Crib was a popular feature under the tree, especially in the Moravian Dutch communities which settled in Pennsylvania.

More Tree Facts

A man named Mark Carr brought trees from the Catskills to the streets of New York in 1851, and opened the first retail Christmas tree lot in the United States.

Franklin Pierce was the first president to introduce the Christmas Tree to the White House in 1856 for a group of Washington Sunday School children.

Americans patented electric tree lights in 1882 and metal hooks for hanging ornaments in 1892.

German market domination of Christmas décor was greatly diminished after the first World War as a result of sanctions against German imports. American and Japanese manufacturers immediately stepped in to fill the void.

The first National Christmas Tree was lighted in the year 1923 on the White House lawn by President Calvin Coolidge.

Thirty-four to thirty-six million Christmas Trees are produced each year and 95 percent are shipped or sold directly from Christmas Tree farms.

California, Oregon, Michigan, Washington, Wisconsin, Pennsylvania and North Carolina are the top Christmas Tree producing states. Oregon is the leading producer of Christmas Trees - 8.6 million in 1998.

More than 2,000 trees are usually planted per acre. On an average 1,000-1,500 of these trees will survive. In the North, maybe, 750 trees will remain. Almost all trees require shearing to attain the Christmas Tree shape. At six to seven feet, trees are ready for harvest. It takes six to ten years of fighting heavy rain, wind, hail and drought to get a mature tree.

Every year since 1947, the people of Oslo, Norway have given a Christmas Tree to the city of Westminster, England. The gift is an expression of good will and gratitude for Britain's help to Norway during World War II.



compiled from:
www.urbanext.uiuc.edu/trees/traditions.html
www.christmasarchives.com/trees.html
www.pearidgeforest.com/folklore.html

Master Gardener Shoreline Association News for 2004

Beginning Tuesday, January 13, the Shoreline Association will be holding meetings the second Tuesday of every month, open to everyone! Many of you have been emailing and calling about the Master Gardener Association.

With our boring by laws out of the way, we are ready to have some fun. Thoughts about projects you'd like to set in motion? Educational ideas? Fun activities for Master Gardeners? We're excited to see what 2004 brings. Please come to a meeting and share your ideas...maybe you'll want to become a member, too! Remember: you get volunteer hours by being involved!



Save the date:

**Master Gardener Shoreline Association
Tuesday, January 13, at the Ottawa
County Administration Building, from
7:00 to 9:00 p.m.**

**For more information call Shane
VanOosterhout at the MSU Extension
Office at 616-846-8250 or email at
vanoosts@msue.msu.edu**

More About Poinsettias

Pests

As poinsettias are grown as indoor container plants, the most common pests affecting them are the common pests of houseplants. Whiteflies, fungus gnats, spider mites and mealy bugs can all attack poinsettias while inside the home. Washing the leaves can help rid the plant of the pests. If this does not help, mild insecticides can be used. Consult a garden center.

Propagation Techniques

Seed propagation is used mostly for breeding purposes only. Cuttings taken in July and August from stock plants is the preferred method of mass production. The Poinsettia season lasts from before

Thanksgiving to the end of December, so growers are always adjusting their schedules and finding plants that will come into bloom earlier and last longer.

Growth Form

Poinsettias have come a long way from their shrubby, leggy outdoor relatives growing in the wild. One characteristic of all poinsettias and all *Euphorbias* is the milky sap flowing through the veins of the plants. Wild poinsettias are deciduous, meaning they drop their leaves in the winter.

The "flowers" of Poinsettias are actually colorful bracts, or modified leaves. In their native environment, the bracts begin to change color in mid-November and remain colorful through January. The actual flowers are the yellow structures, called cyathia, that the red bracts surround.

The Commercial Industry of Poinsettia

Every poinsettia that reaches one of many destinations during the holiday season, has gone through a long process of cultivar development and testing, and then a complicated propagation route ending in one of the many available forms of poinsettias on the market today. Poinsettias range from huge shrubs in brass containers to hanging baskets, to standards—or trees, to mini poinsettias watered through a tiny wick through the bottom of their pots. One of the most spectacular holiday uses of these potted plants is to form giant poinsettia trees out of hundreds of poinsettias.

Breeding and Cultivar Testing

All Poinsettias are descended from 8-12 ft. shrubs growing wild in Mexico. Years of breeding and selection have given rise to the hundreds of Poinsettia cultivars, or types, that have been and are on the market today.

The first new cultivars of Poinsettias came from sports off of plants. The sports are genetically mutated versions of the original plant that have different characteristics. These sports could be different colors, have differently shaped leaves or be smaller than the original plants. These sports were then vegetatively propagated from cuttings to exactly reproduce the unique characteristics.

Today most new cultivars are formed by cross-pollination of two plants and collection and germination of seed from the new plant.

Poinsettia Trials

Every year at three universities, two private commercial growers and five private breeders, hundreds of Poinsettia cultivars go "on trial." These institutions located all over the country grow the selected new cultivars in a variety of growing conditions and evaluate their performance. Data is taken and recommendations are made for the future of these cultivars in the poinsettia industry.

What's in a Name?

Many of the modern cultivars have interesting names. Cortez Red, Cranberry Punch, Flirt, Galaxy Red, Marblestar, Nutcracker Pink, Monet, Plum Pudding, Silverstar White, Sonora Fire, Victory Red, White Christmas, Spotlight Apricot, and Pearl are among some of the cultivar names.

Researched and written by Katie Elzer, 2000

**Happy Holidays,
Master Gardeners!**



The world IS a better place because of Master Gardeners!

"Bringing Knowledge to Life"

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