WHAT’S WRONG WITH MY PINE TREES?

You may have noticed some dying pine trees as you drive around. Most of these are Scotch Pines, but some are white pines. In fact, so many Scotch Pines have died in the Midwest that we no longer recommend planting them in landscapes. The problem is Pine Wilt Disease. Pine Wilt typically kills, within a few weeks to a few months, a Scotch Pine that is usually over 12 years old. It is spread by the pinewood nematode and beetles. Why is pine wilt so severe in parts of the Midwest, yet rare elsewhere in the United States? The Midwest is prone to periods of drought that place pines under stress. High summer temperatures allow explosive reproduction by the pinewood nematode and add to tree stress. Because native pines were scarce in prairie-dominated areas of the Midwest, landscaping has relied heavily on nematode-susceptible, exotic species such as Scots pine. Although no one knew it at the time, planting a susceptible species such as Scots pine into a hot, stress-prone environment turned out to be a recipe for trouble. Despite intensive research, there are no effective management practices to control pine wilt. Dead pines can become beetle reservoirs, so they should be cut promptly and burned, buried, or chipped. Christmas tree farms are usually not affected because trees are harvested before they reach a susceptible age. Source: http://www.extension.iastate.edu/publications/SUL9.pdf

What about the white pines that are dying? The Eastern White Pine, is a fast growing, easily transplanted tree. It can become quite large, requiring sufficient room to develop properly. Used as a windbreak, the limbs are brittle and may suffer wind damage which can help lead to decline of the tree. Symptoms of decline include some pattern of needle yellowing or browning, shriveled bark on trunk and branches, oozing sap, and in some cases, death of the tree. Affected trees can range from 2 feet to 20 feet or more. The main factor is root decline and the problem is environmental. There can be many contributing factors, one of which is air pollutants. Other factors can be soil pH, water-logged soil, drought, flooding, heat, and sudden extremes in temperature and moisture. Heat is a main consideration. Even though the white pine grows from USDA Zone 3 to 8, it does not appear to thrive in hot humid areas. Possible use as an understory tree in these areas may help it survive.

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**POINSETTIA CARE**

The poinsettia is my favorite holiday plant. I purchase one each Christmas, keep it throughout the year, throw it out around the holidays and get a new one. They are inexpensive, and found in many stores in town, so for me, it’s worth throwing the old one out and getting a fresh, brightly colored one to decorate my kitchen table.

When selecting a poinsettia, choose a plant with small, tightly clustered yellow buds in the center. Look for crisp, brightly colored, undamaged bracts (leaves). Avoid plants that are displayed in drafty areas. Protect the plant from the elements on its trip from the store to your home. Wrap the plant in layers of newspapers or a double brown paper bag. Place the plant in a room with plenty of bright, natural light. Keep it out of drafts and away from appliances and refrigerators, and never place it on the television set. Water it only when dry and discard excess water that runs through the pot’s drainage holes. If wrapped in foil, make sure the pot doesn't sit in water inside the decorative wrap.

Some people believe that poinsettias are poisonous, but extensive laboratory testing and university research have concluded that poinsettias are not poisonous. However, this does not imply that they are edible. Some people develop a dermal reaction (skin rash) if exposed to the white, milky sap of poinsettias. This substance is called latex and is made by the plant in special cells called laticifers.

After a few months, don’t be disappointed if your poinsettia does not look as nice as when you got it originally. Commercial growers have ideal conditions that enable them to grow compact, high quality, colorful poinsettias. Enjoy your poinsettia this holiday or give one as a gift to someone special in your life.

**DECK THE HALLS WITH BOUGHS OF HOLLY**

There are many references to holly around the holidays. “Deck the Halls with Boughs of Holly” is a line in a famous Christmas carol, and “The Holly and the Ivy” is an English carol also sung this time of year. You can cut sprigs of holly to make arrangements, wreaths and garlands to decorate your home. Hollies include a large number of deciduous and evergreen shrubs and trees that are grown for their attractive foliage and brightly colored berries. Other common names include inkberry, winterberry, and yau-pon. Most hollies have glossy, prickly foliage.

The plants are dioecious, meaning there are both male and female plants. For female plants to produce their brightly colored berries, a compatible male plant must be planted nearby. Size ranges from 6 to 40 feet tall and wide, depending on whether they are evergreen or deciduous. Holly prefers a site with full sun to light shade and moist, well-drained soil and can be planted in the spring or fall. Plants should be spaced 5 to 25 feet apart, depending on the expected mature size of the plants. Dig a hole only as deep as the root ball and 2 to 3 times as wide. If your soil is in very poor condition, amend the soil you've removed from the hole with a small amount of compost. Otherwise don't amend it at all. Apply a layer of compost under the plant each spring, spreading it out to the dripline (the area under the outermost branches). Add a 2-inch layer of mulch to retain moisture and control weeds, keeping mulch a few inches away from the tree trunk. Water plants during the summer if rainfall is less than 1 inch per week.

**Source:** National Gardening Association, [http://www.garden.org/plantguide/?q=show&id=2095](http://www.garden.org/plantguide/?q=show&id=2095)

**Integrated pest management strategies include:**

1. **Maintain plant vigor.** When planting the tree, insure that the soil is moist, rich, well-drained, and on the acid side. The white pine can tolerate full sun though it will perform better in partial shade. Avoid hot, west-facing sites.

2. **Select the planting area carefully.** Do not use white pines as a windbreak. Since the branches are brittle, they can be damaged, causing stress in the tree. The brittleness can also lead to damage from snow and ice. Do not plant along roadways as salt spray is injurious to the tree. The tree is also subjected to ozone stress which causes needle tips to brown.

3. **Planting time.** White pines are best planted in spring. If planting in fall, care should be taken to amend the soil, fertilize, water thoroughly, mulch adequately, and consider application of an antidesiccant during early winter. Avoid using winter salt on roadways and paths especially where traffic is high.

4. **On-going care.** Make sure the soil is adequately drained and that the tree is watered in periods of drought. Fertilize with an acid-type fertilizer like ammonium sulfate.

5. **Removal.** Prompt removal of white pines suffering from decline is not required as they will not infect surrounding pines.

**Source:** Kemper Center For Home Gardening, [http://www.mobot.org/gardeninghelp/plantfinder/IPM.asp?code=131](http://www.mobot.org/gardeninghelp/plantfinder/IPM.asp?code=131)
WHAT’S WRONG WITH MY SPRUCE TREES?

I've received several calls about spruce trees dying or not doing well in landscapes. The weather has definitely played a role in the health of many plants in Missouri. The following are diseases or disorders that have been identified on spruce trees in our state.

**Sudden Needle Drop of Spruce in Missouri (SNEED)**

Several diseased Norway and Colorado blue spruce samples have been determined as having SNEED or Sudden Needle Drop. Symptoms appear most severe on second year needles beginning with a chlorotic appearance gradually turning purple brown. Most branches then drop needles leaving the branch with sparse foliage just behind current needle emergence. On older trees, the distribution of the symptoms is non-uniform, occurring randomly on branches scattered within the crown. Signs include small dark pseudotheia or pycnidia, sometimes occurring together on straw colored branches. Recommendations include pruning out diseased branches under dry conditions to prevent further spread of the disease. In addition, sanitation by burning or disposal of diseased material is suggested, as this will prevent buildup of the disease in the next growing season. On high value plantings, a spring treatment with a chlorothalonil based fungicide may provide protection. Timing of the treatment should coincide with needle emergence and be repeated as necessary until full needle emergence has occurred.

It is suggested that environmental stress can trigger the growth of the pathogen, and we have seen twisting of SNEED-affected branches similar to that associated with herbicide damage or root strangulation. It is important to note the diagnostic distinction between infections on branches caused by SNEED typically scattered when compared to just lower branches of trees infected with *Rhizosphaera* needlecenast. Further differences would be the lack of fruiting structures produced through the stomates on the needles as with *Rhizosphaera*, whereas SNEED only occurs on twigs and trunks of infected tree branches. Sporulation was observed from early May through July. It is likely that areas that remain moist and poorly aerated are at greater risk to infection. Damage distribution is very patchy and apparently much worse in moist areas where tall grass surrounds trees and in areas where there is poor air circulation. **Source:** Bruce D. Moltzan, Missouri Department of Conservation

**Rhizosphaera Needlecenast on Spruce**

Spruce, in particular, Colorado blue spruce, can be infected with a needlecast disease caused by the fungus *Rhizosphaera kalkhoffii*. Trees planted in nurseries, Christmas tree plantations, and landscapes can be infected. Trees are not usually killed by this disease; however, premature needlecenast results in trees that are not marketable, or which are not acceptable in the landscape. Although needles on new growth become infected in May and June, symptoms are not visible until late fall or the following spring, when infected needles turn purple to brown and begin to drop. Although detailed studies are lacking, it has been observed that trees suffering from environmental stresses are often more seriously attacked by Rhizosphaera. Spruce are particularly sensitive to heavy, compacted soils which become quite dry in late summer. If the decision is made to use chemical treatment, applications should be made in the spring because Rhizosphaera infects newly emerging spruce needles. Begin treatment with chlorothalonil fungicides such as Bravo or Daconil, when needles are half elongated. **Source:** [http://ohioline.osu.edu/hyg-fact/3000/3059.html](http://ohioline.osu.edu/hyg-fact/3000/3059.html)

**Cytospora canker** is another problem we've seen on some spruce trees. It’s common on trees stressed by drought, winter injury or other factors. This disease is most common on Colorado blue spruce trees although all spruces commonly grown in Missouri can be infected under the right conditions. Trees are more commonly infected once they are 10 years or older. Needles on one or more branches turn completely brown or purplish brown then fall off. Scattered dead branches occur throughout the tree, often starting on the lower branches and then spreading upward. Clear to white to bluish-white resin encrusts cankers on infected branches.

The fungus that causes Cytospora canker can often be found in healthy branches. Disease begins in response to a wound or stress from insect feeding, snow or ice damage, drought stress or other factors. A sunken canker forms on infected branches and is often coated in a thick layer of resin. It may take several years for the canker to girdle the branch. Once girdled, the branch dies and the needles turn brown and fall off. The fungus quickly colonizes the dead branch, but rarely grows into the tree trunk. The tree trunk can be infected through wounds. Dark raised pimple like spore producing structures form on infected branches and release yellow tendrils of spores in wet weather. These spores are carried on wind or splashed by rain to new branches. Plant Norway or white spruce instead of Colorado blue spruce. Reduce stress on spruce trees by watering during periods of drought and mulching the soil beneath the
GARDENING TIPS FOR DECEMBER

HOUSEPLANTS
- On cold nights, move houseplants back from icy windows to prevent chilling injury. Water houseplants with tepid water. Cold tap water may shock plants.
- Over-wintering geraniums like bright light and cool temperatures. Keep soils on the dry side.
- Be sure newly purchased indoor plants are well protected for the trip home. Exposure to icy temperatures for even a few moments may cause injury.
- Holiday Poinsettia basics: - sun for at least half the day. - keep away from drafts, registers and radiators. - night temperatures in 50's or low 60's, days at 70 degrees. - the soil should dry only slightly between thorough waterings. Discard the drainage. - be sure to punch holes in decorative foil wraps to prevent soggy soil conditions.

ORNAMENTALS
- Be sure the root zones of azaleas and rhododendrons are thoroughly mulched. Any organic material will do, but mulches made from oak leaves, shredded oak bark, or pine needles are preferred.
- Living Christmas tree basics: - dig the planting hole before the ground freezes. - mulch and cover the backfill soil and the planting hole to keep them dry and unfrozen. - don't allow the tree's roots to become dry. - spray with an anti-transpirant to reduce needle moisture loss. - store the tree outdoors in a cool, shady, windless area until the last minute. Mulch the roots to prevent cold injury. - set the tree up in your coolest room. - don't keep the tree indoors for more than one week. Plant outdoors promptly.
- Hairspray works well to keep seed heads and dried flowers intact on wreaths and arrangements.
- Hollies may be trimmed now and the prunings used in holiday decorations. Only female holly trees bear the colorful berries. There must be a male tree growing nearby for pollination, if fruits are desired.
- Christmas trees hold needles longer if you make a clean, fresh cut at the base and always keep the trunk standing in water.

MISCELLANEOUS
- If you feed rabbits corn or alfalfa, they may leave fruit tree bark unharmed.
- Clean and oil all garden hand tools before storing for winter.
- All power equipment should be winterized before storage. Change the oil and lubricate moving parts. Either drain fuel systems or mix a gas stabilizing additive into the tank.
- Apply mulches to bulbs, perennials and other small plants once the ground freezes.

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Garden Talk!

UPCOMING EVENTS


December 5: Fabius Master Gardener club meeting, 6:30 pm, potluck dinner.


December 13: Sullivan County Master Gardener meeting, 6 pm, potluck dinner, REC Building, Milan.

March 2012: Master Gardener training will be held in Macon for residents of Macon, Shelby, Randolph, and Linn counties. More information will be available in the January issue of Garden Talk.

September 14-16, 2012: State Master Gardener Conference, Sedalia, MO.

Source: http://www.extension.umn.edu/distribution/horticulture/1265.html/#cytosporacanker