

Determining Houseplant Problems

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Living plants are a popular addition to the decor of many homes, restaurants and other business places. Green and flowering plants serve as accents and help soften hard architectural lines and wall surfaces. They improve quality of living.

Although less harsh in many respects, the average indoor environment presents some unique problems for normal plant growth. The light intensity in homes tend to be low, especially during fall and winter. Low-light results in small leaves, pale color, long spindly stems and flower failure. Lower humidity from the heating of homes causes rapid loss of moisture from plant surfaces, the soil surface and the outside surface of porous clay pots.

There are a number of other stress-inducing factors that may cause problems. Most people over water their houseplants keeping the soil constantly wet. This can cause root rot impairing the ability to replace moisture loss. A plant may outgrow the pot so its top is out of balance with the amount of soil in which the plant is growing. Such plants quickly exhaust the supply of water present in the soil and must be watered more frequently. Constant watering sometimes compacts the soil and reduces air space, which deprives the roots of adequate oxygen. This can reduce root development and plant growth. The soil may become "chan-

neled" so water drains too rapidly and fails to thoroughly wet all of the soil in the container.

Determining the cause of some houseplant problems may be difficult and require skilled laboratory diagnostic procedures. Other problems are relatively simple to diagnose. Described below are some of the more common disorders and diseases, their possible causes and suggested corrective measures.

Leaf spots are quite variable in appearance, depending upon the cause. Spots caused by injury from direct sunlight on shade requiring plants usually are large with regular margins. Each spot may involve the entire portion of the exposed leaf. The injured area appears bleached, gradually turning tan to brown, and eventually collapsing.

Leaf spots resulting from chemical injury or exposure to temperature change due to droplets of cold water usually are smaller. They generally are yellowish at first with regular margins conforming with the shape and size of the drops of chemical solution or water that caused the injury. A number of leaf spot diseases are caused by fungi and bacteria. Symptoms usually are small, water soaked spots, gradually enlarging and turning brown. There also may be considerable yellowing around the margins of the spots. These



Leaf spot caused by cold water.



Scales are sap-sucking insects which can be found on stems and/or leaves.

diseases rarely develop under the dry atmospheric conditions prevalent in most houses. They are most common on plants recently brought into the state from southern propagating areas.

Occasionally, leaf spots develop in the vicinity of feeding injury caused by **sap-sucking insects**, such as aphids, scale and mealybug. Plant surfaces in the vicinity of these insects often are covered by a glistening, sticky honeydew.

To control leaf spot you can remove and destroy affected leaves, avoid sprinkling water on the foliage and provide adequate air circulation. If insects are involved, correctly identify the pest causing the problem. Control sap-sucking insects by washing leaves, petioles and stems with a damp cloth or treating with a commercially-prepared pyrethrin

spray for houseplants. Rubbing alcohol also may be applied to insects such as mealybugs with cotton swabs. Systemic insecticides also will control sucking insects.

Yellowing leaves are often caused by nutrient deficiency, especially nitrogen, but also may occur as a result of a sudden reduction of light intensity. Dieffenbachia, dracaena and rubber plant are especially susceptible, as are larger pot-bound specimens of other plants. Applications of nitrogen fertilizer may reverse the development of this condition when yellowing has just started. Be cautious about fertilizing

plants during the winter months. Plants growing under low-light intensities are easily injured by over-fertilization. Older leaves are slower to respond, as are leaves in which yellowing is advanced.

Leaves and succulent shoots become **limp or wilted**, usually recovering when water is supplied. This may be evidence of water shortage or overabundance of water followed by the development of root rot. Over-fertilization also can cause wilting. To control wilting, check drainage, check for root rot, check for conditions promoting unusually rapid loss of water or alter watering schedule.

Proper care of your houseplants will insure you will be able to enjoy your plants for years to come.

Garden Guide THINGS TO DO THIS MONTH By Mary Jane Frogge, UNL Extension Associate

Brush snow from evergreens as soon as possible after a storm. Use a broom in an upward, sweeping motion. Serious damage may be caused by heavy snow or ice accumulating on the branches.

Avoid heavy traffic on the frozen, dormant lawn. The crown of the plant may be severely damaged or killed.

Add garden record keeping to the list of New Year's resolutions. Make a note of which varieties of flowers and vegetables do best and which do poorly in your garden.

Feed the birds regularly and see they have water. Birds like suet, fruit, nuts and bread crumbs as well as birdseed.

Do not wait until late winter to order seeds. Many varieties sell out early.

Check young trees and shrubs for rodent or rabbit damage. Prevent injury with fencing or protective collars.

Use sand instead of salt for icy spots on the sidewalk.

Review your vegetable garden plans. Perhaps a smaller garden with fewer weeds and insects will give you more produce.

When reviewing your garden catalogs for new vegetable varieties to try, an important consideration is improved insect and/or disease resistance. Watch for drought-tolerant types.

Analyze last year's planting, fertilizing and spraying records. Make notes to reorder successful varieties as well as those you wish to try again.

Check stored fruits and vegetables such as potatoes and apples for bad spots which may lead to decay. Remove and use those which show signs of spoiling. Separate others into slotted trays or bins to increase air circulation and reduce decay possibilities.

To prolong bloom, protect poinsettias from drafts and keep them moderately moist.

Turn and prune houseplants regularly to keep them shapely. Pinch back new growth to promote bushy plants.

Check all houseplants closely for insect infestations. Quarantine gift plants until you determine that they are not harboring any pests.

Houseplants and holiday gift plants should not be placed on top of the television. This location is too warm and in most homes too far from windows to provide adequate light.

During the winter most houses are too dry for houseplants. Humidity may be increased by placing plants on trays lined with pebbles and filled with water to within one half inch of the base of the pot.

Houseplants with large leaves and smooth foliage, such as philodendrons, dracaena and rubber plant benefit if their leaves are washed at intervals to remove dust and grime, helping keep the leaf pores open.

Girdling Roots on Trees

Trees can slowly weaken and die over a period of years or decades because of root girdling. Roots begin to grow around the main stem of the tree and cut off or restrict the movement

of water, plant nutrients and stored food reserves.

Over time, growth of the branches on the side of the plant affected will be slowed by the girdling. As injury progresses, leaves will become smaller and lighter green, fewer leaves will be produced and eventually the branches will begin to die back. Death of the entire plant can occur in five to 20 years; watering, fertilizing and pruning will do little to correct the problem.

Certain trees are more prone to this problem than others. Lindens, magnolias, pines and maples, other than the silver maple, are susceptible to root girdling. On the other hand, oaks, silver maple, ash and elm are well known for their ability to form functional root grafts and are rarely adversely affected by girdling roots.

Normal trees have a gentle trunk flair or buttress at their base (Fig. 1). Trunks that grow straight up from the ground, as though they were a telephone pole, can be suspected of having girdling roots (Fig. 2). Trunks with a straight side or a concave depression on one side may also have a girdling root (Fig. 3).

Development of girdling

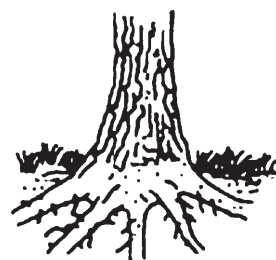


Figure 1



Figure 2

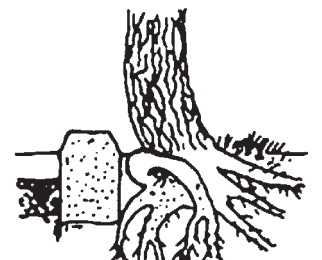


Figure 3

roots is not well understood but is normally thought to be the result of unfavorable conditions which prevent roots from growing out in a normal spreading manner. A good example is a container-grown plant, where the roots are often forced to grow in a circular fashion. If these trees are not pruned at the time of transplanting, this growth pattern can cause girdling roots.

Root pruning is an absolute must for any container-grown tree or shrub at the time of transplanting. Three to five slashes are made vertically down the root ball and about an inch into the root ball. One or two slashes into the bottom of the root ball are made at a depth of three to four inches. Some people go further by fraying out the pruned roots.

Restricted root space, such as tree pits in urban areas, also may result in girdling roots. There is some suggestion, too, constant mulching, a desirable practice in many respects, may cause the formation of girdling roots.

For plants susceptible to root girdling, an inspection should be made when the tree is approximately six inches in diameter. A positive diagnosis

can only be made by exposing the roots. Soil is carefully removed to a depth of at least 12 inches, with care taken to prevent serious mechanical injury to the roots. If girdling roots are found on a plant with known susceptibility, the girdling root must be removed, a process normally carried out with a chisel.

Removing a girdling root is a wound in its own right. Yet, while the correction of the problem can kill the desirable plant, the likelihood of the plant dying is greater if no action is taken. Conducting a preventative inspection when the tree is about six inches in diameter will assist in correcting the problem before it becomes serious.

If the inspection reveals girdling and a considerable amount of damage, the most prudent move may be to replace the tree. Spending money on a weakened tree which subsequently dies can be an extremely frustrating experience; because correction of this problem is so labor intensive, the costs and benefits should be weighed carefully prior to making any decisions.

Source T. Davis Sydnor, Ohio State Extension