COMMON CAUSES OF PLANT DAMAGE AND SUGGESTIONS FOR PLANT CARE

About two-thirds of all plant problems in western Washington result from nonparasitic causes, such as unfavorable weather and poor growing conditions. Less than one-third of all of the problems are caused by a parasitic disease (diseases caused by fungi, bacteria, viruses, or nematodes).

Insect damage can also be a problem, but the insects are usually noticeable so that the cause of the damage is evident. Therefore, insects are not considered in this publication.

The nature of nonparasitic plant problems varies, but most involve weather damage, poor planting location or procedures, other aspects of plant care, and suspected hormone-type herbicide (weed killer) damage.

Weather Damage

Weather extremes account for many of the nonparasitic diseases. Extremes include early freezing weather, especially following mild fall weather; low winter temperatures; abnormally wet or dry springs and summers; late spring frost. It is helpful to consider weather extremes when diagnosing plant damage. Sometimes the damage is immediately apparent, but many times it does not become visible until the warm summer weather. Although a plant may be weakened by certain stress factors, symptoms may not appear until several have accumulated. Giving good care to damaged plants is about all that can be done to help bring them back into good health (see below).

Poor Planting Location or Procedures

Improper preparation of the planting hole or site, and planting too deeply or in the wrong location or at the wrong time of the year all cause plant problems. When purchasing plants, be sure to ask the nurseryman whether they are adapted to your area, and what location (sun, shade, partial shade, protected area, or open area) they should be planted in. Consider conditions where the plant is to be placed, since many plants will not do well in poorly drained soil.

Generally, the best times to transplant are in the fall or late winter. If soils are poorly drained, late winter transplanting will probably not be possible. Try to avoid transplanting in June, July, and August.

Another thing to keep in mind is that, in general, the larger the tree or shrub when transplanted, the more slowly it will become established and the more stressed it will likely be. Container-grown or
balled-and-burlapped plants will suffer less stress when transplanted than bare-root plants. Plants which are more likely to be stressed from transplanting will benefit from having some of the branches pruned to bring the top more in balance with the roots. Seek advice from your nurseryman about the specific plant you purchase.

Watering and Fertilizing Problems and Suggestions

Failing to properly water and fertilize plants results in problems. Remember, it usually takes shrubs and trees several years to become fully established after transplanting; until they are established, they need special care. Weather stress factors are also more apt to damage plants during this time.

During dry summer weather, water plants deeply, so the entire potential root zone is moist, especially those which are unestablished or damaged by weather or other factors. Do not overwater, or the roots may rot. How often this watering is done, and how much water is applied, depends on soil conditions. It may be as often as once every three to five days in sandy soils (where the water drains through rapidly and evaporation is high), or as long as once every 1 1/2 to 2 weeks or longer in heavy soils. Since a given amount of water will soak more deeply in sandy soils than in heavier soils, apply less water per application in sandy soils. Careful experimenting will indicate the schedule for a particular location and plant.

This rule of proper watering applies to established lawns also. During particularly dry springs or summers, even large, healthy, well-established plants may need deep watering to prevent or lessen damage. Frequent light sprinkling is not desirable since it results in shallow rooting and may leave the soil dry below the two-to three-inch depth. Reduce waterings during late summer and early fall, unless weather conditions dictate otherwise. Generally speaking, this will help the plants begin to harden for the cold fall and winter temperatures.

Fertilizing with a general-purpose fertilizer, such as 5-10-10, may be done in spring when the new growth begins, and again in June, but should not generally be done after mid to late July, since it may stimulate late growth which could be killed back over winter. Always be sure to water the fertilizer in well to avoid burning the feeder roots and further stressing the plant. Do not overfertilize. Additional fertilizer applications between first spring growth and June may be made, if needed, but they should be light. Fertilizing after the first year of establishment and/or a year after weather damage may not be necessary unless the plants appear off-color or stunted. Further information on fertilizing can be found in WSU EM 3000, Soil Management for Western Washington, available at your county Cooperative Extension Service office.

Hormone-Type Herbicide Damage

Hormone-type herbicides (weed killers commonly used against broadleaf weeds in lawns) are suspected in a number of instances of causing damage to nonweed plants. Such damage appears primarily as deformity of the leaves. Ornamentals, vegetables, and other kinds of plants, are affected. Grapes are especially sensitive to these herbicides, as are tomatoes and beans. In some cases, the homeowner or grower has applied the herbicide to a lawn area or other area in or near where the affected plants were growing, and so there has been little question as to the source of the herbicide. However, in many of the incidences, the homeowner has used neither an herbicide nor a contaminated spray tank,
and the source of the herbicide has remained a mystery. Remember, when using herbicides, carefully follow all label directions and precautions. Drift of the spray, or vaporization of the applied product and drift of the fumes onto desirable plants, can damage them. Application to lawns or other areas which are over roots of desirable plants can result in plant damage when the chemical is taken up by the roots. Do not use the sprayer apparatus used to apply herbicides for the application of any other pesticide; herbicide residues may remain in the sprayer regardless of how thoroughly the sprayer is rinsed out.

Since these herbicides are systemic (taken into the plant), they will be found to some extent in the fruit, leaves, seeds, and other plant parts. This is important when edible plants or plant parts (tomato fruit, bean pods or seeds, potatoes, etc.) are involved. In such cases, the safest procedure is to not eat the produce of affected plants.

House Plant and Greenhouse Plant Problems

Probably 95% or more of the problems on house plants, whether in homes or in greenhouses, are the result of unsatisfactory growing conditions, and no fungi or other disease organisms are involved. Knowing the indoor or greenhouse environment required by the plants would go a long way toward eliminating many problems. For example, homes are usually low in humidity and light. Plants requiring high humidity may do best in the kitchen or bathroom. Plants requiring much light may do best near the southern or western windows of the house, but may still have problems in the dark winter months. Take care not to sunburn the plants. Some plants will do well in direct sunlight but should be introduced to such light gradually. Other plants will not tolerate direct sunlight. Proper watering and pot drainage are also important. Check bookstores, public libraries, or other sources for books or articles containing specific information on the proper care of the house plant in question.

In Conclusion

Under certain circumstances and with certain plants, parasitic diseases can cause serious problems. However, in the majority of cases, the cause of the plant problem is nonparasitic (caused by bad weather, poor growing conditions, etc.). Careful attention to the proper care of plants would prevent or correct the majority of plant problems for the home gardener and the commercial grower.


*Assistance from Washington State University is available to all persons, without regard to race, color, or national origin.*
House Plant and Container Plant Propagation

In conclusion, effective pest control, proper irrigation, and adequate lighting are essential for the healthy growth of house plants and container plants. Regular monitoring and timely intervention can prevent infestations and disease outbreaks. With proper care, house plants and container plants can thrive and enhance any indoor environment.