

Disease MANAGEMENT

TECHNICAL BULLETIN #8

Of the thousands of disease organisms around, some are bound to be on your property



Diseases often cause lesions on leaves like those pictured above. Control treatments can suppress, but not completely eradicate most diseases.

There are thousands of silent and unseen life forms lurking in your garden. The first hint of their presence might be a mysterious yellowing of your lawn, red or brown spots appearing on plant leaves, or tumorous growths on the stems and trunk of a favorite shrub. There are over 50,000 different types of plant disease looking for a place to call home, and it's almost certain that your lawn and landscape plants are host to some of them.

Plant disease can be very serious and economically damaging. The famine in Ireland in the mid-1800's was caused by late blight which destroyed the potato crop. The American chestnut has been nearly eliminated as a commercial tree in this country by chestnut blight and the American elm is now heading the same way. It's being lost to Dutch elm disease.

Based on their causes, diseases are divided into two groups: nonparasitic or parasitic diseases. Nonparasitic disease is the result of some genetic or environmental factors like nutrient deficiencies, extreme cold or heat, mechanical injury, or lack of water. This type of disease is not transmitted to healthy plants and control depends on correcting the condition which causes the disease. Parasitic disease is caused by living organisms which survive and spread by infecting other plants. The three biggest groups of parasites are fungi, bacteria, and viruses.

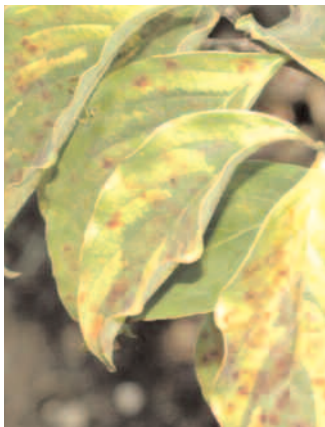
The life cycles of all disease organisms are influenced by conditions in the environment. Temperature and moisture are probably the most important factors affecting plant disease. Although it's not true of all diseases, many become most active when there's plenty of rain, irrigation, or heavy dews and when temperatures are relatively mild.

Points to remember about diseases

- It is important to keep an eye on your turf and plants to catch disease activity before serious damage occurs.
- There are diseases that attack virtually every type of plant.
- Non-parasitic diseases do not spread from plant to plant, while parasitic diseases do.
- Diseases spread by water droplets splashing, foot traffic and even on the breeze.
- Although there are fungicides for many diseases, they often require repeated treatments to obtain good control.



Symptoms will be either overdevelopment of tissue (galls), underdevelopment of tissue (yellowing or dwarfing) or the actual death of the plant tissue.



Identification and control

Many diseases make regular appearances at certain times of year or during particular combinations of temperature and rainfall. Our experience with disease allows us to quickly identify most of the more common varieties. Sometimes, though, a simple visual inspection isn't enough to give us a positive identification. With so many disease possibilities, it's difficult to be familiar with them all.

When the disease type isn't obvious, the most important fact needed is the name of the plant being affected. The plant variety can then be looked up in lists of known plant diseases and the symptoms compared. How the disease developed is also important. Did it appear very quickly? How much of the plant is affected? Parasitic diseases usually do not infect large portions of a plant in the early stages, and they don't normally infect several different plant varieties at the same time. The more information that's available about the plant, its treatment and cultural care history, the easier disease diagnosis will be.

The key to controlling any disease is to interrupt its life cycle in some way. This could mean changing the growing environment or using plants which are resistant to the disease. Keeping your landscape well fed and properly watered helps discourage disease infections, but even the healthiest and best cared-for properties can be badly marred by disease if left untreated. The most practical control when disease activity becomes serious is often to place a protective chemical over the surface of the plant.

Treatment programs can be either preventive or curative. Scheduled preventive programs are desirable because they require less material while keeping your landscape healthier. If you have any questions or concerns about diseases and their control, please don't hesitate to give us a call.

Disease imitators

Besides disease, there are many things that cause abnormal growth in plants. Below are a few things that can mimic disease:

1. Poor soil preparation
2. Drought damage
3. Poor soil drainage
4. Excess soil drainage
5. Planting too deeply
6. Improper soil pH
7. Root rots or insects attacking root system
8. Leakage from underground gas lines
9. Nutritional deficiency
10. Frost or cold damage
11. Heat damage
12. Transplant shock
13. Excess fertilization
14. Mechanical damage