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SUMMER INJURY TO TURF

D ROUTH is not the only cause for grass damage during the summer months. As a matter of truth, excessive rainfall more frequently sets up conditions directly responsible for lawn failures. This is especially true when rainy periods are followed by extreme heat and drouth.

Abundant rainfall in early summer promotes lush topgrowth and shallow root development because the grass roots need not go deep in search of moisture. The topsoil zone on which the turf may then draw for nourishment is severely limited.

As long as the weather continues wet and relatively cool the roots can support luxuriant topgrowth. However, a severe hot spell following will prove most damaging to the roots near the surface of the ground. Under conditions of hot, drying winds or humid, sultry weather, grass weakened by an inadequate root system becomes an easy victim of heat, disease and insects.

Newly seeded lawns are apt to suffer more than mature turf. Fall seedings are likely to come through more successfully than spring plantings because they will have had more time and more favorable weather in which to develop a deeper and stronger root system.

Fungus Diseases

It is sometimes difficult to tell exactly what causes a lawn to turn brown and die during periods of unfavorable weather. Usually it is a combination of factors. Sometimes the work of insects is very obvious but this hardly accounts for the greater portion of hot weather turf injury. The major causes are probably poor soil and cultural conditions and attacks of fungus diseases.

Brown Patch

The fungus disease Brown Patch causes much grass to turn brown during the summer months. This fungus (Rhizoctonia solani) is present in soils and on vegetation everywhere but it is usually inactive. It becomes active during periods of hot, humid weather when grass is in a weakened condition and is more susceptible.

A peculiarity of this disease is that the attack is in definite patches which are roughly circular in outline. Unless the disease is very severe and long lasting, the roots are not injured but only the topgrowth.

Grass in sections where there is not a good movement of air is more susceptible to disease. That is why Brown Patch is more apt to affect lawns that are surrounded by a dense growth of trees or shrubs, or in sunken gardens and similar places. The damage is worse in lawns that are neglected and run down.

Brown Patch can be prevented in many cases by remedying the factors responsible. If this is done and the disease is still troublesome, it can be controlled by applications of mercurial fungicides. There are many of these on the market sold under such brand names as Calo-Clor, Special Semesan, Nu-Green

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and Pfizer's Mixture, which should be used according to the manufacturer's directions. If no commercial preparation is available, any druggist can quickly prepare one by making a mixture of two parts calomel and one part Corrosive Sublimate. This should be applied at the rate of two or three ounces per 1000 square feet as a spray or mixed with soil or sand topdressing.

If attacks are numerous, they may be held off by regular preventive treatments of fungicides to be made at ten day intervals during periods of hot, humid weather. Where turf is attacked only occasionally it is hardly worth while to attempt to control the disease. Ordinarily the disease will soon spend itself, after which the damaged spots can be repaired.

Dollarspot

Another fungus disease closely related to Brown Patch is known as Dollarspot. The most noticeable difference is in the size of the injured spots. In the case of Dollarspot these are usually limited to a diameter of two inches. The affected turf presents a moth-eaten appearance and the leaves are more bleached than after an attack of Brown Patch.

The Dollarspot fungus is active at lower temperatures than Brown Patch and so appears earlier in the spring and later in the fall. It is more likely to attack roots and stems as well as leaves.

Dollarspot can be controlled with the same fungicides that are effective on Brown Patch.

Slime Mold

There are many different species of slime molds, all of which produce different types of spore-forming masses. Certain species appear as small capsulelike spore masses growing upright from the surface of the leaves. They are steel gray in color, later changing to black, giving the affected grass the appearance of having been dusted with soot. Injury is seldom done and control treatments are unnecessary.

Toadstools

Toadstools and mushrooms frequently sprout in lawn areas because of an excess of decaying organic matter. They often sprout from old tree stumps buried in building the lawn.

Sometimes regular mowing will eliminate these pests. If not, the soil around the infested spots should be forked or spiked to permit penetration of a solution of Corrosive Sublimate (3 ounces in 50 gallons of water). This should soak in to a depth of three or four inches. If this fails, another possibility is to remove five or six inches of soil, replace with fresh soil and then reseed.

The latter treatment is about the best method known to destroy the specific fungus growth of toadstools known as Fairy Ring. The toadstools of this fungus develop in bands around the circumference of circles or semi-circles varying from 2 to 4 feet in diameter. They usually occur on gently sloping areas such as golf fairways, park and campus lawns.

A bulletin of the Green Section of the United States Golf Association offers the following remedy for Toadstools:

"Soak the ground thoroughly with Sulfate of Copper or Bordeaux Mixture. This will kill the fungus.

"Another method is to loosen the soil and apply an Iron Sulfate solution, one pound in $1\frac{1}{2}$ gallons of water. Bordeaux Mixture is preferred as it does little or no damage to the grass."

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