

ARE YOU SURE THAT'S THE PROBLEM

Dr. R. E. Partyka
ChemLawn Corporation
Worthington, Ohio

One of the most difficult areas to diagnose a problem is in the home lawn. Not only do you have variable lawn sites, but you have home owners with different objectives. The degree of interest by the home owner often determines the type of lawn found throughout the season.

Turf interest runs high in the spring after a long winter. The turf is responding after a period of dormancy and barring a few winter problems, it will look relatively good in the spring. The home owner often feels that he is at least partly responsible for a good looking turf. As the season progresses, however, homeowner interest may wane due to other interests and the more basic, underlying turf problems become apparent. At this time, customer calls are received by lawn service companies, with the question: "What did you do to my lawn?"

Diagnosing lawn problems in mid to late summer, in fact almost any time, can be trying where there is little history known about the turf area. Many questions must be raised and, hopefully, the homeowner will be able to answer them. Certain questions and clues may lead to the proper answer, but in other situations laboratory work is needed to reach a more logical conclusion.

Numerous factors must be kept in mind when troubleshooting a homelawn turf problem. One area includes general maintenance practices such as mowing height for the turf species and mowing intervals. Proper removal of shoot growth to maintain a good shoot to root ratio on the grass plant is important to maintain vigor. Careful observation of cut stubble will often determine this and in many cases just a glance at the lawn will tell you how it is maintained.

Soils are extremely important and likely create more problems than anything else. Standard practices when building now is to remove all the top soil, grade the lawn area with basement clay and pack it with heavy equipment. On top of this a thin layer of 'top soil' is placed and a lawn established by seeding or sodding. The turf responds and looks good for a while. However, later stress conditions may develop where mineral deficiencies occur, soil moisture becomes inadequate, roots fail to penetrate to adequate depths and oxygen tension becomes too low for good root growth. At this time, the turf becomes susceptible to diseases, insects, or environmental conditions and problems arise. Some remedial practices can be applied to restore the turf. These are costly and must be done routinely. Due to the poor growing medium, only a mediocre turf can be achieved.

The failure to recognize the amount of water needed to maintain turf often results in undue stress to a lawn. The lack of sufficient water, improperly designed irrigation systems, graded and packed lawn areas that encourage run off or a thatch-buildup can result in a shallow root system. Improper watering programs may result in sufficient stress that the turf will fail to recover. This may be especially important if fertility levels are adjusted for a high level of maintenance.

Problems that develop on a home lawn are often inter-related with many factors. Most problems are stress related so case histories and good weather records are important for a proper diagnosis.

When looking at a problem, an overall view is important in determining the cause. Similar situations may exist on other lawns in the area and be a key in diagnosing the problem. Homeowners only see their immediate area and often are not concerned with other lawns. Therefore, one should be aware of what is going

on in the neighborhood.

Once an overview has been given consideration, concentrate on a small or local area to determine if the pattern fits that of a specific type of problem. The symptom patterns of many pests are definitive. The next step should be to look at individual plants. Observing leaves, stems, crowns, and roots can often point to clues that are helpful in determining the problem.

In cases where several factors may be involved, soil testing or other laboratory procedures to help pin point the problem may be necessary. This is time consuming, and often a homeowner expects you to solve the problem on site. This may not be possible due to the degree of advancement of the problem. However, some recommendations can be made to start remedial procedures until an answer is found. Knowing the area and time of year will determine what should be done. In cases when temperature and moisture stresses are involved just watering may be sufficient. Of course, the old answer of, "I water plenty--look at my bill," comes up. Convincing the homeowner to soak one spot for 24 hours will often show a remarkable recovery to the turf and help to prove a point. Knowing the types of problems that can occur and at what time of the year is very important. This is especially true with disease related problems. Therefore, one must be aware of what disease should be expected at any given time of the year.

Early spring problems are often associated with snow mold damage to turf. This may be true if snow accumulation has been excessive in certain areas. Recognizing the dark sclerotia of Typhula sp. imbedded in the tissue or the pink mycelial growth of Fusarium nivale will often determine if this is the problem. However, one should be aware of other factors that may confuse the issue, such as desiccation injury on high spots or around corners of buildings, ice smothering along drives and walkways, or where children's snow forts were constructed, can result in damage to the turf. Additional problems may be salt damage or low areas subjected to freezing and thawing conditions in late winter.

As the season progresses, melting out symptoms may be similar to sod webworm or billbug injury. Careful examination for insects will separate the problem. Dollar spot and red thread look similar to dog urine damage or mower burn from a distance. Close examination will reveal typical leaf symptoms of Dollar spot. Coral pink fungal strands on the ends of the blades will identify red thread. Stripe smut can be identified by the black sooty spores in the infected blades and the unthrifty appearance of the diseased turf. Slime molds and powdery mildews are often present in turf. Although only powdery mildew is serious, particularly in shady areas.

Fusarium blight has become a serious disease in many new improved turfgrass varieties. A common symptom pattern, the frog-eye effect, has become associated with this disease. Unfortunately, many other diseases also form a frog-eye symptom. Considerable confusion in diagnosing turf diseases has resulted in poor control due to the use of improper materials. Brown patch and Pythium blight are two diseases that also form the frog-eye symptom. Fusarium blight kills the crown of the plant. The brown patch fungus injures the roots and leaves but the crown will remain viable for a longer period of time. Frequently the plant will recover if weather conditions change. Pythium blight, a hot weather disease is more common on ryegrass. It is identified by a fungal growth found during humid weather and the overall matted collapsed appearance of the turf.

Rust and fairy rings can be readily identified. Yellowing of turf in definite areas requires close examination. This may be associated with mineral deficiencies, nematodes, yellow tuft, aphids or inadequate root systems on the plant. Soil testing is often needed to diagnose such problems.

Drought stress may appear similar to a disease when it begins. Root competition with trees weakens the turf and may resemble a disease or insect problem.

Brown spots may be fertilizer, oil or gasoline spill, heat reflection from a muffler or foot prints on frozen turf. Irratic patterns in narrow lines is often due to mouse damage. A close look at the crown area and how the turf recovers can determine the cause of such problems.

Diagnosing homelawn problems is a definite challenge. It can be frustrating with an irrate customer but rewarding when you find the answer.