Rust of Merion Bluegrass

Purdue University Cooperative Extension Service
RUST OF MERION BLUEGRASS

Merion bluegrass, an improved selection of Kentucky bluegrass now widely used in lawns, is often subject to attack by the stem rust disease. A severe infection which if not controlled may weaken the plants to such an extent that they can be killed by drought, winter injury or other diseases. Common Kentucky bluegrass is also attacked by stem rust but to a lesser extent.

In Indiana the first evidence of rust occurs in late June or early July with the appearance of one or more yellowish-red areas (hot spots) less than one foot in diameter in the lawn. Close inspection of the grass blades in these areas reveals the presence of small, brick-red, dusty blisters (pustules) on both surfaces of the leaves. On Merion bluegrass the pustules are usually surrounded by a small area of yellowed leaf tissue. If these scattered "hot spots" go unnoticed and uncontrolled, and if weather conditions are appropriate, the rust will spread, causing the entire lawn to become rusted by late July or early August. Once a lawn is infected, it may remain rusted until freezing occurs in the fall, unless control measures are applied. A severely rusted lawn is typically red-brown in color.

Rust is not caused by hot weather. Rather it is caused by a microscopic parasitic plant, Puccinia graminis— a rust fungus. The pustules are made up of a mass of rust spores or seeds, which are blown by winds or carried about on your lawnmower to other bluegrass plants. When moisture from heavy dews, rains or sprinkling keeps the grass leaves wet for several hours, the spores can germinate and infect susceptible plants. A new pustule will develop in 10 to 12 days from each of the infecting spores. This cycle can be repeated many times during the summer and results in severe rust infection of your lawn from August on into the fall if not controlled.

Continuous heavy rust infections will cause many of the grass blades to die. Another objectionable feature of the disease is the noticeable red stains that will collect on white shoes when one walks through infected areas.

How to Control Merion Bluegrass Rust:

1. The first step in preventing severe rust infection is to keep your lawn growing at least an inch per week during June, July and August. By doing this, the infected part of the grass leaf is cut off each time you mow, and the rust fungus doesn't have time to develop new pustules. Therefore, the bluegrass "outgrows" the rust, so to speak, and the spread of the rust is reduced considerably. Growth of bluegrass during this part of the year can be obtained by supplementing the ordinary spring-fall fertilizing program with applications of a nitrogen fertilizer, such as granular urea or Nugreen, using 1/2 to 1 pound per 1000 square feet.
The fertilizer should be applied at a rate of 1 pound per 1000 square feet. Make the first application about June 15, and repeat during July and August. Immediately following application, the fertilizer should be washed into the lawn by proper watering. When watering, the sprinkler should be allowed to remain in one place long enough to moisten the soil to a depth of 14 to 18 inches or more. (Test the depth of wetting 24 hours after sprinkling.) Periods between watering should be long enough to allow the top two or three inches of soil dry out. Do not water late in the evening or at night, since the grass leaves will remain wet, making conditions ideal for infection by the rust fungus and other disease organisms. When Merion bluegrass is mowed weekly, rust is no problem.

2. Stem rust can be controlled with one of the following fungicides applied as a spray:

Maneb (trade names--Manzate, Dthane M-22) 2 to 4 ounces per 1000 square feet.
Zineb (trade names--Dthane Z-78, Parzate) 2 to 4 ounces per 1000 square feet.
Cyclohexamid (trade name--Acti-dione at manufacturers' recommendations)

Apply the fungicide as soon as rust is noticed and according to the manufacturer's directions. Repeat the application at least two more times at seven- to 10-day intervals. Compressed air, knapsack, wheelbarrow-type force pumps, trombone-type force pumps or small power sprayers may be used to deliver as low as 2 1/2 gallons per 1000 square feet or as high as 10 gallons per 1000 square feet. Turf injury from chemical sprays may be avoided by spraying in the early evening, applying one-half of the material in one direction and the remainder in the opposite direction. The use of a multiple nozzle boom is suggested for spraying large areas. Pressures of 100 pounds per square inch or more are necessary to insure thorough wetting of the grass blades.

Control of rust on Merion bluegrass is essential to the maintenance of an attractive Merion bluegrass lawn.