PYTHIUM - A Hot Weather Threat - Rust, smut, and mildew are the true diseases of turfgrasses. They can live only as parasites on grass. Our other diseases are called faculative parasites. This means they don't have to be parasitic; they don't have to be diseases. They manage to get a good living from dead grass clippings, and normally they will work in the thatch until the turf is stressed. When turfgrass is so stressed it is no longer healthy, then the faculative parasites move in and remove the unhealthy grass. In other words, except for rust, smut and mildew, the grass has got to be unhealthy before it becomes diseased

Pythium, when it strikes, is one of the most devastating of turf diseases. Fortunately it doesn't strike very often, but we have seen instances of it in the past two years, and back east some consider it a problem on the increase.

At Davis we have had Pythium attacks on two occasions. In 1956 we were using nitrogen fertilizers at very high rates (24 lbs/M/yr.) to see how much the grass could take. Attacks almost wiped out our grass. In 1971 our test area had different soils. When we had enough water for the sands, our heavier soils were too wet and showed some Pythium during hot spells.

Several things have to be wrong before Pythium becomes parasitic. Our records show the following combination of conditions can lead to an attack of Pythium:

1. High temperatures. The books give 80-85° as optimal for Pythium but we have found severe attacks in California accompanying days of 90-105°.
2. High nitrogen. I have seen severe attacks only when nitrogen levels were high.
3. Excess water. Pythium is a water mold and needs a squishy turf if it is to spread rapidly. Traffic spreads the disease in the wet turf. Mowing, dragging hoses, and walking all spread the disease in recognizable patterns. This provides a diagnostic feature. When you see streaks of brown following mower tracks, suspect Pythium.
4. Low mowing. Since I have seen severe Pythium only on putting green turf I suspect the stress from low mowing contributes to attacks of the disease.

With Pythium spores on a hot, wet, fertile green, the green may be wiped out in as little as 50-75 hours.

The first appearance of Pythium is of several smoky grease spots about the size of a quarter. Within a few hours the spots have grown and the center have turned to a reddish straw color. The reddish straw will bleach to a yellow straw in the sun, but in the beginning the smoky greasy area and the reddish color are characteristic. Next you may see reddish brown footprints appearing or reddish streaks following the mower pattern. Act fast!

I would suggest you cut a temporary green so traffic doesn't spread

the disease over the whole course. Then spray. Mercurials were specific, and when I had trouble last year I dug up an old bottle of Panogen which used to be one of the fungicides of choice. The University's "Guide to Turfgrass Pest Control" lists Dexon and Koban for Pythium. Whatever you use, follow directions and rate recommendations carefully, because when temperatures are hot, dosage gets critical. You might as well lose a green from Pythium as from an overdoes of fungicide on hot grass.

Take steps to dry the green. These can include hole punching, or topdressing with sand. Leave any fertilizer or organic matter out of the topdressing this time. Go as long as you can between irrigations,but when the grass needs water, water it.

If you use the temporary green and limit mowing the regular green, there will be one less stress working against recovery.

Once the hot spell breaks, control is easier. If the disease was checked in its earlier stages, recovery should be fast. If the disease ran too long, grass in the infected areas may be lost.

Pythium often shows up where changes in the irrigation equipment have resulted in wet greens, and where someone has forgotten to cut back fertilizer schedules to accommodate to the hot weather, by giving only light frequent feeds. Revising the management should reduce the Pythium threat in the months that follow an attack. It would be good practice though, to use a couple of follow up preventative sprays to reduce the amount of inoculum growing in the thatch. If you are good at weather forcasting, use your preventative sprays a few days before a heat spell.

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