



PATHOLOGICAL POINTERS

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The past memorial weekend was something to remember. A state-wide turf disease epidemic! For you who missed it, the weather was cloudy, cool and wet with very little sunshine and most soil temperatures had not consistently gotten into the 55°F or high range except for a few hours in the afternoon sun. While *Fusarium* patch is usually late fall - late winter - early spring disease, it can and this year did occur in late spring, i.e., the end of May. Temperature optima are reported to be 32 - 45°F and economic damage can occur up to 65°F. This fungus liked the natural moist conditions present from Bemidji to the Twin Cities and indeed over all of

Minnesota. An application of fertilizer that generated excessive growth could also favor this disease. The leaves are attacked and when favorable conditions exist, crown damage does occur which may completely kill the plant. Some reported disease patches with white aerial mycelium. A plug from Como Golf Course was nearly covered with white mycelium after 12 hours in a bucket on my desk. That sample was about 85% dead and recovery from that kind of damage will be slow.

Those who had applied a systemic such as Benomyl, etc., or 26019 had much less damage. When you saw the problem it seemed as if you could not stop it. The symptom was usually restricted to the *Poa* and little was reported on bents. The bents are susceptible, but *Poa* was clearly damaged much more. Several reports of *Fusarium* patch on fairways and tees were also heard.

FUSARIUM NIVALE spores were easy to see. The spores in younger cultures were usually non-septate or up to 3 septate. The mycelium was nearly white in the lab, while on turf plants the color was pale rose. The plants were very slimey and wet, the blades shrivelled and collapsed, leaving the turf flattened and reddish in color. A few reported "frog-eye" symptoms also. Leaves not completely killed by the fungus became yellow and stopped growing. Crown death resulted in dead spots similar in size to the dollar spots. The dead plants bleached somewhat when exposed to the sun. Recovery is usually good and new blades should quickly fill in when sun and warmer drier weather occurs. Early fungicide treatment provided the best results while applications when the disease was active only seem to slow the progress. Recovery is dependent on regrowth and fungicides don't change that pattern. Next time you may want to check the soil temperature and use that as a guide for your growth expectations.

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