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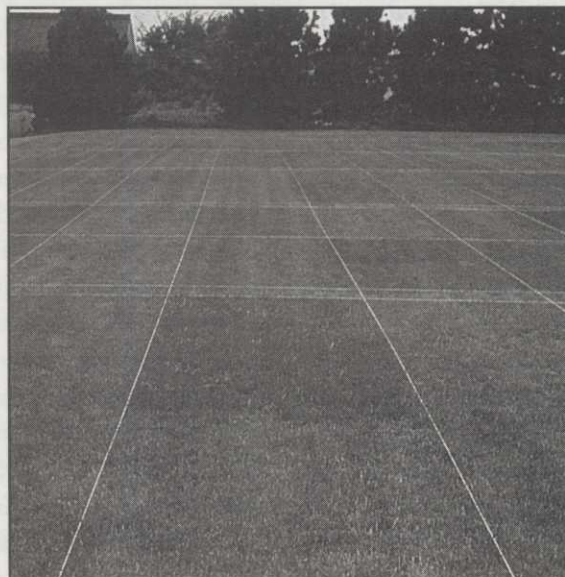
Nitrogen Fertilization's Effect On Turfgrass Disease Injury

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Fungi cause most of the diseases that occur on cool season turfgrasses in America. These fungal pathogens respond to both the environment and to cultural practices. Environment is the overriding factor that determines the seriousness of a disease outbreak. When environmental conditions favor the pathogen to the detriment of the host, disease occurs.

Turf managers must continually respond to changing environmental conditions in their battle against disease. Those who respond too slowly often watch in frustration as their turf dies despite their rescue efforts. However, managers that understand the relationship between the environment, cultural practices and disease development often can react quickly enough to prevent serious turf loss. Part of being able to modify cultural practices to discourage disease is knowing something about which, when, where and why diseases occur. One aspect of turf disease management is nitrogen fertilization.

It is impossible to generalize about the effects of fertilizers on all turfgrass diseases because of the differences in hosts and the variable characteristics of pathogens. Fertilizers do not directly affect the pathogen, but rather alter the host plant's metabolism or morphology to make it more or less susceptible or resistant to attack by pathogens.



Severe brown patch injury of perennial ryegrass plot (foreground) was caused by a low rate of N, 2 lbs./1,000 ft.² Photo: J. Watkins.

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