

Impact of Nitrogen Source and Lime on the Incidence and Severity of Gray Leaf Spot in Perennial Ryegrass. (C05-towers080954-Oral)

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Abstract:

Although cutting height and nitrogen rate can affect the severity of gray leaf spot (GLS), incited by *Magnaporthe grisea*, little is known about the influence of other management practices on this disease. In two concurrent field studies, the effect of nitrogen (N) source alone, and in combination with lime, on the development of GLS in perennial ryegrass was assessed. Ammonium sulfate (AS), calcium nitrate (CN), urea, IBDU and milorganite were applied at weekly (12.2 kg N/ha), bi-weekly (24.4 kg N/ha) or monthly (48.8 kg N/ha) intervals. Additionally, the impact of lime (99, 198 and 396 kg CCE/ha) and elemental sulfur (845 kg CCE/ha) on the disease was evaluated in conjunction with bi-weekly N treatments of the acidifying AS and the alkalinizing CN (24.4 kg N/ha) fertilizers. Weekly applications of AS and urea resulted in greater severity of GLS than either bi-weekly or monthly applications. AS treated plots sustained 7 to 65% more disease than turf fertilized with CN. Compared to AS, AS plus lime (198 and 396 kg CCE/ha) reduced symptom expression 26 to 53%. Conversely, CN plus the same rates of lime resulted in a 25 to 50% increase in disease severity, compared to CN alone.

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