UNIVERSITY OF NEBRASKA

Cultural Practice Interactions of Golf Course Turf

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Vertical Mowing Frequency and Mowing Height Effects on Putting Green Quality and Plant Stress. This project continues to study the effects of vertical mowing frequency and mowing height on putting speed, rooting, and stress resistance. Grooming by vertical mowing at 28 and 14 day intervals did not influence putting speed under the conditions of this study. As expected, mowing height influenced putting speed. Mean ball roll for 1990 was 7% greater for mowing heights at 1/8 inches than at 5/32 inches, and 15% greater at 1/8 inches than at 3/16 inches. Vertical mowing intervals did not influence average monthly visual color and quality ratings. Mowing height did influence visual color and quality with 5/32 inches having up to 49% greater quality than mowing heights at 1/8 inches in July 1990. Color and quality ratings for mowing heights at 3/16 inches were up to 40% greater than at 1/8 inches in July 1990. Vertical mowing frequency did not influence the vegetation index (amount or density of turf) as measured by light reflectance.

Creeping Bentgrass Fairway Management. The fairway management study is being conducted to determine effects of irrigation frequency, clipping removal or return, nitrogen nutrition, and traffic on Penncross creeping bentgrass competition with annual bluegrass. Turfgrass quality and color ratings increased with high nitrogen application in both traffic conditions. Responses to fairway playing conditions for load bearing capacity, divot tolerance recovery, and ball speed in 1990 were similar to those reported in 1989. Leaf nitrogen content increased with frequent irrigation, clipping return, and high nitrogen treatment. A general trend was that soil nitrogen content decreased with frequent irrigation, clipping return, and high nitrogen rate under both traffic conditions. Low nitrogen application produced less thatch than high nitrogen application. Perennial-biotype spread of annual bluegrass decreased with low nitrogen application in traffic and non-traffic conditions. Attempts to infest this research area with annual-biotype annual bluegrass have failed, perhaps indicating a strong competitive advantage toward the bentgrass fairway culture under the management and traffic regimes of this study.

Syringing on a Creeping Bentgrass Green. A syringing study has been initiated to study interactive effects of nitrogen and potassium nutrition. The study was designed so treatment modifications over time would allow investigation of the amount of water applied during syringing, and of application timing effects on syringing treatments. The data collected, thus far, indicates a significant canopy turfgrass cooling influence from mid-day syringing and indicates the value of this technique to reduce heat stress on putting surfaces. Currently, design and implementation aspects of this research project are under evaluation to improve the timing and frequency of syringing applications during summer stress.