Irrigation Frequency Effects on Canopy Temperature and Stress of Turfgrasses in the Cool-Arid West. (C05-johnson165559-Poster)

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Abstract:

Most turfgrass research has shown that irrigating deeply and infrequently is best for overall turfgrass health. However, recent data has indicated that in the arid West, a region of typically warm to hot summers and very low humidity, frequent irrigations result in improved quality and less total water applied. We hypothesized that the frequent irrigation allows more evaporative cooling, which when combined with low humidity, maintains a cooler and more conducive growth environment for the commonly used cool-season grasses. To study the effects of irrigation intervals, our experiment irrigated four turfgrass species (Poa pratensis, Koleria cristata, Festuca arundinaceae, and Buchloe dactyloides) at 70% ETo every 2, 4, or 6 days. We monitored turfgrass quality responses as well as soil moisture, canopy temperature, and thatch/soil temperatures over two to three years. Results have been mixed, but frequent irrigation (2 day intervals) appeared to result in better quality and correlates with cooler plant canopy temperatures. We will present a detailed analysis and discussion of treatment effects on turf growth and their effect on the turfgrass environment.

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