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REDUCTION OF IRRIGATION ON TALL FESCUE AND BERMUDAGRASS TURFS IN A MEDITERRANEAN ENVIRONMENT

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ABSTRACT

Irrigation supplies are considerable and expensive to maintain a good turfgrass quality during summertime in a Mediterranean environment. Consequently, prudent irrigation greatly influences both management cost and environmental impact of turfgrasses. This study was conducted to determine water quantities required for normal growth and an aestheticly pleasing appearance of two turfgrass species in the Central Italy. Five restoration levels of Maximum Evapotranspiration (ME) were applied to bermudagrass, *Cynodon dactylon* (L.) Pers. and tall fescue *Festuca arundinacea* Schreb. The data collected over two years indicated that a periodical irrigation replenishment (two times a week), equal to 60% of water deficit, was the best solution. This maintained a sufficient aesthetic appearance, not significatively different from daily irrigation replacement, even in extremely dry climate conditions. Bermudagrass resulted in a more acceptable appearance than tall fescue when water stress lasted for a long period of time, while tall fescue recuperated a good aesthetic appearance as soon as climatic conditions became less severe. Adopting a 60% ME replacement level, we can save about 120 mm of water (7-year mean) per irrigation season in central Italy.

Keywords: bermudagrass, *Cynodon dactylon*, irrigation reduction, maximum evapotranspiration (ETM), tall fescue, *Festuca arundinacea*, water saving

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