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Managing Turfgrasses during Drought

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INTRODUCTION

Most of California has a Mediterranean climate characterized by long, hot, dry summers, and turfgrasses must be watered to survive under these conditions. Californians must learn how to use water more efficiently as demand and cost rise and drought conditions continue.

Warm-season and cool-season grasses are used as turfgrass in California, based on their climatic adaptability. The warm-season species include common and hybrid bermudagrasses, St. Augustinegrass, seashore paspalum, zoysiagrass, buffalograss, and kikuyugrass. These grasses are used in the San Joaquin Valley, southern California, and parts of the greater San Francisco Bay Area. The cool-season grasses include tall fescue, perennial ryegrass, Kentucky bluegrass, fineleaf fescues in mixes, and specialty grasses such as creeping bentgrass and rough bluegrass. Turfgrasses can be irrigated at different levels. The Optimum irrigation is the amount of water needed for the most efficient growth, maximum quality, and best appearance of the respective turfgrasses. Deficit irrigation provides sufficient water to maintain adequate turfgrass appearance with less growth. In contrast, survival irrigation provides only enough water to allow survival and potential recovery of the desired species when adequate water is again available. Under survival irrigation, growth and quality are drastically reduced.

Figure 1 presents the percentage of reference evapotranspiration (ETo) obtained from the California Irrigation Management Information System, relative to the three irrigation levels for warm- and cool-season turfgrasses. Figure 1 also

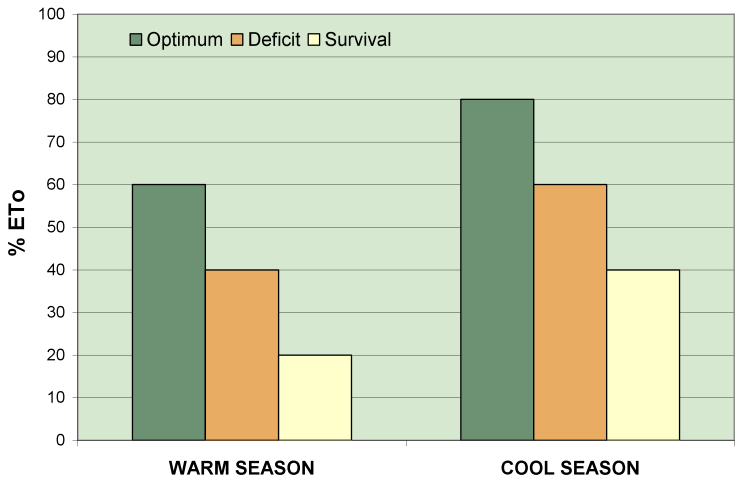

Figure 1. *Turfgrass water requirements (as % of ETo) at optimum, deficit, and survival levels of irrigation.*