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Investigation of Morphological and Physiological Indices in Bermudagrass (*Cynodon dactylon* [L.] Pers.), Tall Fescue (*Festuca arundinacea* Schreb.) and Their Seed Mixtures under Drought Stress

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Water availability is one of the most limiting environmental factors on plant growth. Drought stress is one of the main stresses that inhibit the growth of plants due to mainly disturbance of the balance between production of reactive oxygen species and antioxidant defense morphological and physiological response of bermudagrass, tall fescue turfgrasses and their seed mixture under drought stress condition. This study was conducted in a completely randomized factorial design by different irrigation levels (100, 75, 50 and 25% of field capacity) on bermudagrass, tall fescue and their seed mixture (bermudagrass %20 and tall fescue %80). Each treatment had four replicates. Results showed that decreasing in field capacity reduced visual quality, fresh and dry weights of shoot and root, chlorophyll content in bermudagrass, tall fescue of turfgrasses and their seed mixture. Decreasing in field capacity increased proline content and peroxidase enzyme in turfgrasses. Ascorbate peroxidase, superoxide dismutase and catalase enzymes activities significantly increased with decreasing in field capacity from %100 to %50 then, declined in %25 FC treatment in turfgrasses. The highest activity of antioxidants was observed in bermudagrass. Due to the lack of sufficient available water resources in Iran, using turfgrass seed mixtures comprising different genotypes and rates can be recommended.

Key Words: Antioxidant, Bermuda grass, Field capacity, Tall fescue, Turfgrass.

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