

**Study of morphological, physiological and biochemical responses of *Poa pratensis* L.
cv. 'Barimpala' in drought stress conditions**

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Abstract

Drought stress is one of the important factors that reduce turfgrass growth and quality. For study about responses of *Poa pratensis* L. cv. 'Barimpala' under time periods of drought stress, turfgrass seeds were cultivated at 60cm dept cylindrical pots with 15cm diameters and exposed to outdoors. Plants were irrigated daily until drainage occurred. After establishment of plants withheld irrigation until leaf wilting of most plants reach 80% then rewatered. All traits were measured 5d intervals in this experiment. The results showed that activities of catalase (CAT), ascorbate peroxidase (APX) and peroxidase (POD) were not significant difference with control plants to 5d then increased at 10d. Their activities declined with prolonged stress at 15d. While ascorbate peroxidase (APX) remained unchanged for 10 days and then increased. Glutathione peroxidase (GPX) activity initially increased until 10d and then decreased so that was less than control plants at 15d. Activity of superoxide dismutase (SOD) remained unchanged for 5 days, slightly increased from 5 to 10d and then enzyme activity was less than control plants.

Keywords: Trufgrass, *Poa pratensis*, Kentucky bluegrass, Barimpala, drought, antioxidant