

## **Physiological and morphological response of three potential salt tolerant turfgrass species to salinity stress**

### **ABSTRACT**

In the present research, the growth responses and quality of turfgrass species were studied under salinity stress. Chlorophyll content, relative water content, proline accumulation, and mineral content analysis used in this study were highly related with one another, indicating their mutual effectiveness in predicting relative salinity tolerance. Relative water and chlorophyll content were found high in *Paspalum vaginatum* Sw., *Zoysia matrella* L., and *Cynodon dactylon* (L.) Pers. 'satiri', whereas, proline content was low. These three species were less affected by selectivity of saline ion (Na) uptake. Physiological parameters, indicating that *P. vaginatum*, *Z. matrella* and *C. dactylon* 'satiri' are more salt tolerant than *C. dactylon* 'tifdwarf'. The SEM micrograph showed salt gland excretion presence on *Z. matrella*, *C. dactylon* 'satiri' and *C. dactylon* 'tifdwarf' leaves. Roots cortex cell collapsed on *C. dactylon* 'tifdwarf' was greater compared to other three species.

**Keyword:** Turfgrass; Physiology; Morphology; Salt tolerance; Salinity stress