Abstract:
There is an increasing demand on the development of drought resistant plant varieties due to greater frequency of dry periods resulting from climate change. A large genetic variation exists in drought resistance among native bermudagrass [Cynodon dactylon (L.) Pers.] germplasm originating from Mediterranean region. The aim of this study was to determine drought resistance of triploid hybrid bermudagrasses developed through interspecific hybridization of drought tolerant tetraploid C. dactylon var. dactylon genotypes originating from Turkey with a diploid C. transvaalensis Burtt-Davy (African bermudagrass) from South Africa. Hybrid progenies were vegetatively propagated and transplanted into the field along with commercial bermudagrass cultivars, at Akdeniz University, Antalya in July, 2013. Experimental design was randomized complete block with three replications. One year after establishment, the turfs were subjected to drought stress for 45 days, which was followed by resumption of irrigation for recovery of the turf. Percentage of leaf firing, quality, relative chlorophyll content under drought stress, and post-drought stress shoot recovery were recorded. Significant variations existed for drought resistance among hybrids. Results indicate the presence of transgressive segregants for higher drought resistance, and that new bermudagrass cultivars with qualities comparable to industry standard ‘Tifway’ can be produced.
Key words: C.dactylon, C.transvaalensis, interspecific hybrids, turfgrass