

Screening of potential salt tolerant turfgrass species in Peninsular Malaysia.

Abstract

The need for salinity tolerance of turfgrasses is increasing because of the augmented use of effluent or other low quality water (seawater) for turfgrass irrigation. Diverse populations including 34 entries of 16 turfgrass species were screened for salt tolerance from Peninsular of Malaysia under sand culture system. Irrigation seawater of different salinity levels (0, 24, 48, and 72 dS m⁻¹) were applied to turfgrass species grown in a plastic pots filled with a mixture of sand and peat (9:1). The different species of grasses were ranked for salinity tolerance on the basis of shoot and root growth, leaf firing, turf colour and turf quality. The most salt tolerant turf species was 'P. vaginatum' (UPM), 'P. vaginatum' 'local', 'Z. matrella, Z. japonica, C. dactylon' 'satiri' , 'C. dactylon' (Kuala Muda) which were able to tolerate high levels of salinity 48 dS m⁻¹, while, the least tolerant group (24 dS m⁻¹) consisted of 'E. ophiuroides', (UPM), 'P. notatum' (UPM), 'A. compressus' 'cowgrass' (UPM), 'A. affinis' (UPM), and 'A. compressus' 'pearl blue' (UPM). The results indicate the importance of turfgrass varietal selection for saline environments.

Keyword: Salt tolerant; Turfgrass; Sea water.