Seawater: an alternative grassy weed control method for post emergence herbicides in tropical turfgrass

ABSTRACT

Research was designed to reduce herbicide use by replacing post emergence herbicides with readily available sea water to control tropical turfgrass weeds. In studies evaluating the use of saline solutions for weed control, four salinity levels (0, 24, 48 and 72 dS m-1) were applied once to 30 grassy weed species, along with seashore paspalum (Paspalum vaginatum Swartz) (as a control) during December, 2007 to March, 2008. The results on injury ratings for salt tolerant weeds were categorized as highly susceptible, moderately susceptible and extremely tolerant. C. dactylon, E. indica, E. virescense, E. unioloides and I. globosa were very susceptible and found to be effectively controlled (100%) at 72 dS m-1 salinity treatment. However, two most serious weeds viz. wiry eragrostis (E. atrovirens) and lesser dropseed (S. diander), were found to be extremely tolerant, and were not controlled even at the highest salinity level of 72 dS m-1. P. vaginatum and E. atrovirens did not show significant decrease in shoot and root dry weight at highest salinity levels (72 dS m-1). The results indicate that sea water has excellent potential for sustainable control of several common grassy weeds in tropical turf.

Keyword: Weed control; Turf; Seashore paspalum; Sea water; Dry weight; Landscape