Evaluation of drought resistance of some Kentucky bluegrass (*poa pratensis*) cultivars.

Abstract

Kentucky bluegrass (*poa pratensis* L.) is the primary recreational turfgrass. Growth of KBG is limited by drought stress. Understanding the factors associated with performance under drought is important for identifying resistant cultivars .The objective of this study was to find morphological and physiological responses five Kentucky bluegrass cultivars subjected to drought stress. These cultivars were crusade, Georgeawn, Merion, Barcelona, Nutop.turfed plugs were collected from mahmood abad field in Isfahan.plugs were washed free of soil and subsequently transplanted into plastic pots(23/5cm diameter by 20cm deep).Establishment prolonged six mounth.Then plots puted into the field.A spilit design based on the completely randomixed block in three replications were considered.Field experiment were conducted from October to August in 2009 and 2010.plots were irrigated at 30, 50. 70, 90, 110 ,130 milimeter of evaporation from a class A pan.Relative water content (RWC),electrolitic leakage (EL),leaf fresh weight(FW),dry weigt of leaves (DW), color and shoot growth were determined during the stress period.RWC started to decreas under drought stress for five KBG .A more rapid and greater decrease in it was observed for georgeawn.but Nutop and Barcelona had higher RWC.EL increased during drought and was lower in crusade.FW, DW and color decreased under drougt stress. shoot growth declined gradually during stress.Nutop and merion had higher turf color.Nutop and barcelona had higher shoot growth in this time.leaf wilting percentage to 90% was higher in nutop. after rewatering ,merion had faster recovery from drought stress.at the termination of the experiment ,the last harvest ,plant roots were also harvested ,oven dried at 60°C ,and dry weight determined and recorded.merion had higher root weight.result show that nutop is resistant more than other cultivars in this experiment.