

STRESS

U.S. Department of Agriculture Accomplishments Report AD-421 U.S. Dept. of Agriculture, State Agricultural Experiment Stations and Other Institutions			Date (Month, Day, Year) 01/24/2013
1. Accession 0212405	Agency Identification No. 2. CSREES 3. LAB	5. Work Unit/Project No. LAB93871	6. Status Final Report
7. Title Cultural and Chemical Factors Affecting Bermudagrass (<i>Cynodon dactylon</i> (L.) Pers.) Root Growth and Drought Survival			
12. Investigator Name(s) (Last Name and Initials) Beasley, J. S.			
20. Termination Date 09/30/2012		40. Period Covered (mo/da/year): 10/01/2007 TO 09/30/2012	
Outputs: Data was produced to support the use and care and maintenance of grasses in vegetating High Performance Turf Reinforcement Mats for the U. S. Army Corps of Engineers in the New Orleans District. There were numerous consults for levee vegetation specifically related to coverage and rooting parameters. Several training sessions were developed for vegetation establishment at the East and West Bank USACE offices. Information was disseminated at the Louisiana Turfgrass Conference and Louisiana-Mississippi Golf Course Superintendents Association. The project developed a new hard armor mulch for establishment on levees constructed from highly saline soils.			
Outcomes/Impacts: Root growth was increased through High Performance Turf Reinforcement Mats (HPTRM) which strengthens the mats and provides greater erosion resistance from overtopping of embankments. This data was then used to assess and compare current rooting of vegetation on levee embankments in the New Orleans Levee District. Industry use of HPTRMs was the ultimate goal. Use of ESCS-LWA provides exceptional erosion resistance in a sub-tropical environment during the establishment of vegetation on levees constructed from high saline soils. This new method for vegetation establishment should equate to millions of dollars in savings to both federal and state agencies as well as provide a new, simpler method for grass establishment on highly erodible soils and slopes.			
Publications: 1. Grass Root Architecture for Overtopping Simulation Trays and Levees within The United States Army Corps of Engineer New Orleans Levee District. 2012. Final report for Colorado State University. 2. Use of Expanded Shales, Clays, and Slates - Light Weight Aggregate for Erosion Control and Grass Establishment on Unvegetated Embankments. 2012. Murilo Martin's MS Thesis.			
Participants: J.S. Beasley (PI), Murilo Martins, LSU AgCenter; Chris Thornton, Colorado State University, Fort Collins, CO.			
Target Audiences: Groups and organizations that will be impacted with this research include Federal and State agencies responsible for utility vegetated areas including levees and other soil embankments. Other groups and organizations affected would include construction companies, environmental firms, and vegetation businesses.			
Project Modifications: Nothing significant to report during this reporting period.			
Approved (Signature)	Title		Date



Ray R. L.