

## 2005 Hurricane Season Proves to be Important Test for Plants as a First Defense Against Severe Storms

### National Plant Materials Center Develops Coastal Restoration and Protection Website

After Hurricane Katrina swept through the Mississippi delta region last August, and a few weeks after Hurricane Rita came ashore in September, Gary Fine, manager of the Golden Meadow Plant Materials Center (PMC), which is situated on the delta, did not expect to find much remaining of the work recently completed on several barrier islands off the coast of Mississippi in the Gulf of Mexico.



**Fine's Plantings One Year Before Katrina**

The work on the barrier islands was to be a type of living-outdoor laboratory where scientists from the Natural Resources Conservation Service (NRCS), as well as those from other conservation organizations, could study the impact of severe storms and their tidal surges.

However, Fine had hoped to have a few years of established growth on the barrier islands before a direct hit from a hurricane the size of Katrina. The enormous destruction left in the wake of Katrina (and Hurricane Rita) on the Louisiana and Mississippi delta region is well known. But what isn't known to many is how well Fine's outdoor laboratory held up against the tidal surges.

When Fine and co-worker Plant Materials Specialist Scott Edwards finally were able to visit the Mississippi Gulf coast to look at the devastation left by Katrina, and to see how the PMC's beach planting sites fared, they were astounded at what they found.

"Before the hurricanes we had established three beach-dune-creation and stabilization planting sites and one sea oats evaluation planting," said Fine. "All survived the storms and an estimated 25-30 ft. storm surge. It is amazing but one of the few resilient remaining features along the coast is our plantings."



**Fine's Plantings One Month After Katrina**

This type of success in helping to protect the region with plantings on barrier islands and sand dunes is nothing new. The NRCS Cape May PMC in New Jersey was created as a direct result of the March 1962 severe storm or northeaster that rolled through that region causing over a billion dollars in damage and taking hundreds of lives.

Since 1965, the Cape May PMC has re-vegetated dunes to secure them against tidal surges. However, since the March 1962 northeaster, the region has not been hit with as powerful a storm, so the effectiveness of the plantings has never been tested on a major 4 or 5 category hurricane.

The process of using plants such as sea oats is also being used by the NRCS Brooksville, Florida PMC in beach towns like Destin, FL, where hurricane Ivan made a near direct hit several years ago.



### Destin Dune Plantings

“In the past, coastal erosion has been solved using constructed features such as sea walls. Now, many engineers feel that a plant materials such as sea oats is the answer,” said John Hovanesian, president, Coastal and Native Plant Specialist, who works closely with the Brooksville PMC.

Because many scientists predict another possible 40 to 50 years of severe Atlantic basin storm activities, a coastal restoration and protection database is being developed at the National Plant Materials Center in Beltsville (NPMC), MD. Accessible on the NPMC’s Website, the preliminary database is currently available to the general public and will expand over the following weeks.

“Specifically, the database will allow NPMC Website visitors to download information on using vegetative solutions as a first line of defense to protect their communities against storm activities,” said Robert Escherman, the Plant Materials Program’s program leader.

Back in Louisiana, Fine and Edwards will use their new findings to increase awareness about the benefits of using plants to secure areas against the devastating effects of severe storms.

“Scott and I will be working to get the word out in publications and by whatever means we can,” said Fine. “Conservationist and lawmakers across the country need to know that plants can provide an effective solution to prevent or greatly reduce the effects of storm damage in the Gulf of Mexico region and the eastern seaboard.”



### A Downed Tree Near Plantings That Survived Katrina’s 20-Foot Plus Tidal Surge

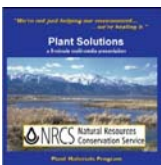
For more information, visit the coastal restoration and protection website:

<http://Plant-Materials.nrcs.usda.gov/coastalareas.html>

Contact: Robert Westover,  
[robert.westover@md.usda.gov](mailto:robert.westover@md.usda.gov)

**Did you know?** Wikipedia.org is an open-source free-online encyclopedia that allows you to create research Webpage articles that are reviewed by your peers and then published on the World Wide Web. It’s a great tool for getting information to the general public and scholars alike. Take a few moments to visit and see if it might help you in your research as well! Look up “Invasive species” and notice a very familiar URL!

Go to: [http://en.wikipedia.org/wiki/Main\\_Page](http://en.wikipedia.org/wiki/Main_Page)



### Plant Solutions DVD

Our new Plant Solutions multimedia presentation includes an excerpt from the Discovery Science Channel’s documentary, ‘Coastal Crisis: Vanishing Lands’ with an overview of the Golden Meadow PMC in Louisiana. If you haven’t viewed our new Plant Solutions DVD...

Download or order copies at: [http:// plant-materials.nrcs.usda.gov/news/video/videoshort.html](http://plant-materials.nrcs.usda.gov/news/video/videoshort.html)

**Our Mission Statement:** *Deliver plant-science technology to meet the nation’s natural resources conservation needs.*

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA’s TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write the USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, D.C., 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Visit us: <http://Plant-Materials.nrcs.usda.gov>