



# Year 2000



# Progress Report of Activities

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Cape May, New Jersey Plant Materials Center

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## Who We Are

The Cape May Plant Materials Center (PMC) is a branch of the United States Department of Agriculture, Natural Resources Conservation Service. It is one of 26 plant materials centers located throughout the United States. The facility was established for the purpose of testing and developing plants for the coastal plain needs of a nine-state area which includes: Massachusetts, Rhode Island, Connecticut, Long Island New York, New Jersey, Maryland, Delaware, Virginia, and North Carolina. The service area is comprised of over 65 million acres, 128 field offices and almost 25% of the U.S. citizenry.

## What We Do

It is our mission to develop plant materials and state-of-the-art plant science technologies to meet the needs of NRCS's "Call to Conservation".

During 2000, 100% of our activity focused on native plants in the following priority areas:

- \*Riparian and Field Buffer Needs.
- \*Native Species for Farm-Bill programs.
- \*Native Woodies for Soil Bio-Engineering.
- \*Tidal and non-Tidal Shoreline Stabilization.
- \*Coastal Dune Ecosystem Management.

A brief summary of some of our activities is in the following report.

## Original Congressional Charter

The Ash Wednesday Storm of 1962 pounded the coastal shoreline of the Mid-Atlantic States destroying public and personal property in coastal municipalities along a multi-state area. As a result of public concern, the 88th U.S. Congress authorized the establishment of the Cape May Plant Materials Center (PMC) to be staffed and operated by the United States Department of Agriculture Soil Conservation Service recently renamed the Natural Resources Conservation Service (NRCS). Since the PMC opened, it has addressed many diverse and highly varied priorities. The PMC staff continues to demonstrate remarkable resilience, and flexibility in responding to the ever-changing challenges.



Coastal Devastation following 1962 storm.

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## Trading in *Fescue* for Warm Season Prairies

In some districts served by the Cape May PMC, questions pertaining to converting fescue areas into warm season grass stands have arisen. In response to such, the Cape May PMC launched an investigation to determine if the allelopathic effects of fescue would inhibit the establishment of such species as Indiangrass, big bluestem, switchgrass and coastal panicgrass.



The trial was seeded in 1999 and seedlings of each species were counted. As is typical for most warm season grass plantings, there was questionable success evident by the end of the first year of establishment.



By the end of summer 2000, the results were encouraging. All species were accounted for with Indiangrass and big bluestem being visually dominant. Results will be published in 2001.

## Can you plant warm season grasses in the WINTER???

Each year, the Cape May PMC receives inquiries from the field pertaining to the feasibility of seeding warm season grasses during winter months. In response to such, the Cape May PMC initiated an investigation to determine the response of switchgrass and coastal panicgrass to dormant winter seedings.

The cultivars 'Carthage' switchgrass and 'Atlantic' coastal panicgrass were seeded on-center with multiple planting dates ranging from the winter of 1999 thru the spring of 2000. Non-stratified seed of the 1999 harvest year was used.

In the summer of 2000, all planting dates were evaluated via seedling counts. The results of this study look to be very promising for supporting technical recommendations pertaining to fall and winter dormant seedings.

Values and data generated from this study will be statistically synthesized and published in the Technical Report later this year.

## Native American..... .....BAMBOO?????????

In the southeastern U.S., canebrake eco-systems were once an extensive network of native bamboo. The disappearance of these once extensive eco-systems is attributed in-part to the disappearance of the Carolina parakeet and the Bachmans Warbler.



In assisting field level's interests in restoring these habitats, the Cape May PMC started investigations designed to determine cost effective propagation techniques for the species.



In the Spring of 2000, Cape May PMC personnel traveled to North Carolina, secured, and transported to the PMC several one-ton mats of bamboo. The materials were processed with several different techniques and replicated. The responses to the different processing techniques were distinctly different, one of which developed the highest frequency of new shoots.



These techniques with the best results will be implemented in Spring of 2001 to a new load of materials. The bamboo will be set out into the field with a couple different field production treatments. Results will be published in Spring of 2002.

## Reclaiming Highly Disturbed Super-Fund Toxic Sites

The NJ Department of Environmental Protection, the NJ Green Acres, U.S. Fish and Wildlife Service and the NJ Fish Game and Wildlife requested assistance from the Cape May PMC. The assistance was to investigate if a highly toxic superfund site located in Cape May County, New Jersey, could be effectively revegetated with dune type species.



Much effort was exhausted in site selection, site preparation and plant materials installation. The results of this effort were not encouraging. Most materials did not perform well. As a result, PMC personnel provided design criteria for capping the site with 18 inches of dredge top soil. A 100' by 100' area has been fenced off for further vegetation studies in 2001.

## Wet Feet in Riparian Areas

Ever see some upland plants like switchgrass growing in standing water? Well, we at the Cape May PMC have. This observation led to us investigating why.



In 1999, we performed a quick screening of some NRCS warm season grass cultivars for something called Aerenchyma cell. Aerenchyma cells are air canals or snorkels that allow some plants to put roots down into saturated soil environments. These plants placed into riparian buffers would potentially intercept nutrients more efficiently at greater depths.



In 2000, we joined into a joint cooperative investigation with USDA ARS to screen all NRCS warm season grass cultivars. We grew out 30 4" x 4" x 14" pots of 26 different cultivars for the final investigation of 2001.

Data will be published in 2001.



2000 field production for 2001 screening.

## New Plants for the Farm-Bill

Working hand-in-hand with NRCS personnel from across the nine-state service area, we began seed increase activity associated with the following species: Virginia wildrye, purpletop, sea oats, seaside goldenrod, wild senna, roundhead lespedeza, flooded eco-type of switchgrass, the historic remnant American Prairie Suther big bluestem, little bluestem, switchgrass, Indiangrass and many more.

To learn more about the Cape May PMC and the NRCS Plant Materials Program visit our website at: [Plant-Materials.nrcs.usda.gov](http://Plant-Materials.nrcs.usda.gov) or E-mail us at: [wskaradek@nj.nrcs.usda.gov](mailto:wskaradek@nj.nrcs.usda.gov)