United States Department of Agriculture

Progress Report of Activities 2014

Cape May Plant Materials Center

USDA-NRCS Plant Materials Program

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Introduction

The mission of the Cape May Plant Materials Center (PMC) is to provide plant materials and conservation technical assistance to the public, government agencies, non-profit organizations, and commercial growers in a nine-state area that includes Connecticut, Delaware, Maryland, Massachusetts, Long Island-New York, New Jersey, North Carolina, Rhode Island, and Virginia. The Cape May PMC was established in 1965 in response to shoreline restoration needs following Hurricane Donna, and has focused on developing plant technologies for specific concerns pertaining to coastal shoreline protection, sand dune establishment, restoration of mined lands and critical areas, and enhancement of Coastal Plain habitat. Because the Cape May PMC is uniquely situated near coastal dune communities, wetlands, and large tidal marsh estuaries, it is able to be a leader in product and technology development for coastal ecosystems and conserving the health and productivity of Coastal Plain soils.

Plant Development and Evaluation

CURRENT PROJECT STATUS

- **SEA OATS**
  Continued development and increase of sea oats (*Uniola paniculata*) for release in 2015. It has been tested for cold tolerance and will be used to complement beachgrass for frontal dune stabilization.

- **NATIVE SHORTBEARD PLUMEGRASS AND SUGARCANE PLUMEGRASS**
  Early evalutations and selection of 68 total accessions of the native, warm season grasses shortbeard plumegrass (*Saccharum brevibarbe*) and sugarcane plumegrass (*Saccharum giganteum*) are still in progress. They are adapted to wet sites predominantly found in the Southern US, but have potential for use in critical area planting or wetland restoration in the Mid-Atlantic.

- **AMBERIQUE-BEAN**
  Continued increase and monitoring of former accessions of the native, herbaceous, reseeding annual vine amberique-bean/trailing wild bean (*Strophostyles helvola*) for use in seeding trials of mixed species/functional group backdune plantings and critical area planting.

Plant Development and Evaluation (continued)

- **VIRGINIA SALTMARSH MALLOW**
  Continued evaluation of Virginia saltmarsh mallow (*Kosteletzkya virginica*) to identify, develop, and improve salt-tolerant crops for use in high-saline agroecosystems.

- **BITTER PANICGRASS 'NORTH-PA'**
  Continued increase of bitter panicgrass cultivar 'North-Pa' to encourage greater use and production among growers in the Mid-Atlantic. It is a hardy plant that may be easily grown from transplants, cuttings, or rhizomes on the backdunes without ammendments.

On-Center Evaluation/Demonstration

- **COVER CROP OBSERVATION STUDY**
  PMC staff teamed up with the State Office resource staff to establish a demonstration planting of a variety of late-seeded cover crop species (seeded Oct. 3). Species were: cereal rye; winter triticale; oats; hairy vetch; annual ryegrass; tillage radish; crimson clover, and phacelia. Three plots included a mix of 1) tillage radish + annual ryegrass + crimson clover; 2) tillage radish + oats; and 3) tillage radish + triticale + crimson clover. The seed was broadcast and lightly disked in 30' x 30' plots.

Summary Table CCS Average HT & SPRD (cm) measured-11/07/14	plant ht (cm)	plant spread (cm)	% Cover	MIXES	plant ht (cm)	plant spread (cm)	% Cover
Cereal Rye	12.1	19.7	39	***Mix 1-TillageMax Indy*** **Radish**	10.1	20.8	68
Winter Triticale	7.4	22.5	61	***Mix 1-TillageMax Indy*** **Ryegrass**	10.7	10.7	68
Oats	16.8	17.2	37	***Mix 1-TillageMax Indy*** **Clover**	2.9	6.0	68
Groff hairy Vetch	7.1	6.7	27	***Mix 2-TillageMax Dover*** **Oats**	22.8	14.8	27
Rootmax Annual Ryegrass	8.1	11.6	66	***Mix 2-TillageMax Dover*** **Radish**	10.8	19.6	27
Tillage Radish	11.5	20.1	29	***Mix 3-TillageMax Charlotte*** **Radish**	11.5	21.9	59
Crimson Clover	2.1	5.2	29	***Mix 3-TillageMax Charlotte*** **Triticale**	10.1	25.7	59
Phacelia	4.8	12	2.0	***Mix 3-TillageMax Charlotte*** **Clover**	3.1	6.3	59

The end of growing season final observation was made on 1/5/2015; the day before nightly low temperatures were going to be consistently 20°F or less. This is the point at which several of the species would winterkill. Up to this date, however, all the plants were still healthy and growing. One could conclude that a successful cover crop planting can be made in Cape May County even as late as the first week of October.

Additional observations of winterkilled residue will be made in early spring.

- **CARBON SEQUESTRATION IN THE CONVERSION FROM C-3 TO C-4 PASTURE PLANTS**
  A study was initiated at the USDA-NRCS Cape May Plant Materials Center in 1999 to quantify soil carbon sequestration changes with the conversion from a cool season grass to native warm season grasses in a sandy, coastal plain soil (Downer sandy loam). Data collection continued in 2014.

PUBLICATIONS & PRESENTATIONS

PUBLICATIONS 2014

Echinochloa esculenta Plant Guide. Cape May, NJ. 2014. 3p.
Canavalia ensiformis Plant Guide. Cape May, NJ. Jan 2014. 4p.
Sesamum orientale Plant Guide. Cape May, 2014. 2014. 3p.
Sesbania herbacea Plant Guide. Cape May, NJ. Feb 2014. 4p.
Setaria italica. Plant Guide. Cape May, NJ. 2014. 4p.
Pennisetum glaucum Plant Guide. Cape May, NJ. 2014. 4p.
Solidago sempervirens Plant Guide. Cape May, NJ. February 2014. 4p.
Urochloa ramosa Plant Guide. Cape May, NJ. August, 2014. 3p.
Coastlines Summer Newsletter. Cape May, NJ. Summer, 2014. 2p.
Coastlines Winter Newsletter. Cape May, NJ. Winter 2014. 3p.
Release Brochure for Atlantic Coastal Panicgrass. Cape May, NJ. February 2014. 2p.
Release Brochure for Carthage Switchgrass. Cape May, NJ. February 2014. 2p.
Release Brochure for Coastal Indiangrass. Cape May, NJ. February 2014. 2p.
Release Brochure for Dune Crest Coastal Little Bluestem. Cape May, NJ. February 2014. 2p.
Release Brochure for High Tide Switchgrass. Cape May, NJ. February 2014. 2p.
Release Brochure for Monarch Seaside Goldenrod. Cape May, NJ. February 2014. 2p.
Release Brochure for Ocean View Beach Plum. Cape May, NJ. February 2014. 2p.
Release Brochure for Suther Big Bluestem. Cape May, NJ. February 2014. 2p.
Release Brochure for Timber Switchgrass. Cape May, NJ. February 2014. 2p.
Release Brochure for Wildwood Bayberry. Cape May, NJ. February 2014. 2p.
2013 Progress Report of Activities. Cape May, NJ. 2014. 6p.

PRESENTATIONS 2014

Jan 10, 2014	Plant and Technology Development of Dune and Shoreline Stabilization	C. Miller	Ocean County College, Toms River, NJ

We're on the Web!
http://plant-materials.nrcs.usda.gov/njpmc/