



NORTHEAST PLANT MATTERS

A REGIONAL NEWSLETTER FROM THE USDA-NRCS
PLANT MATERIALS PROGRAM



Issue 1, 2015

PLANT MATERIALS PROGRAM MISSION

The mission of the Plant Materials Program is to provide plant expertise to NRCS field office staff while developing plant material products to support conservation delivery efforts.

FOCUS AREAS FOR NORTHEAST PLANT MATERIALS CENTERS

The PMCs in the Northeast work together as a team to help find plant solutions to conservation needs specific to the region. Each PMC will specialize on one or two study areas while collaborating with other PMCs in the region to address other identified resource concerns. The specialized focus areas are: soil health, water quality, grazing land health, and critical area stabilization.

PMC Location	Resource Concern	Land Use
Big Flats, NY	soil health, water quality	cropland, grazing land
Cape May, NJ	critical area stabilization	coastal areas – dunes and marshes
Alderson, WV	grazing land health	grazing land
Beltsville, MD	water quality, soil health	grazing land, cropland, small farms

Table identifying the focus areas of each PMC and its associated land use.

“Nature has evolved a plant for every purpose.”

~Dr. Franklin J. Crider

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MAP OF NE REGION AND LOCATIONS OF 4 PLANT MATERIALS CENTERS (PMCs)



PMC locations in Big Flats, NY; Cape May, NJ; Alderson, WV; and Beltsville, MD.

Plant Materials Program and NRCS Field Offices Working Together

The goal of the regional approach is to consolidate plant expertise across the Northeast region to meet conservation needs. Working closely with NRCS state, area, and field offices, Plant Material Program staff and other regional technical specialists will continue to identify and assess resource concerns where the use of plant materials can be beneficial.

Additionally, Plant Materials Centers can further help support NRCS field office conservation delivery efforts by:

- Providing direct technical assistance to field staff regarding the use of plants for conservation programs
- Developing and improving plant guides, technical notes, and standards in eFOTG.
- Providing hands-on technical training, workshops/field days, and webinars
- Assisting in on-farm plant resource inventories
- Performing and evaluating both on and off-farm planting trials

OUTREACH, TRAINING, AND EDUCATIONAL OPPORTUNITIES

BIG FLATS, NY —

Critical Area Treatment Workshop: will be held on June 16, 2015 at the Big Flats PMC. This day long workshop will focus on planning and implementing critical area seedings and conservation plantings.

Pollinator Conservation Short Course: sponsored by the Xerces Society for Invertebrate Conservation will take place on Thursday, August 27, 2015 at the Big Flats Plants Materials Center. This day long course will teach the importance of pollinators and beneficial insects by demonstrating that habitat protection and management are keys to their conservation. We will discuss NRCS programs, bee biology and ecology, pollinator habitat establishment and maintenance, plant and seedling ID, and our work related to pollinators.

Workshop announcements will be sent out as time gets closer, but anyone interested in attending either of these workshops can email their contact information to Big Flats PMC to be put on the mailing list to receive the announcements.

For more information, contact: [Shawanna Clark](#), (607) 562-8404

CAPE MAY, NJ —

Chris Miller, PMC Manager/Plant Materials Specialist will be speaking at a series of public workshops organized by NJ Sea Grant to help inform local mayors, town planners, public works departments, and other concerned citizens on the importance role dune systems play in mitigating the impact of coastal storms; in building resilient plant, animal, and human communities; and providing enhanced ecosystem function and services. The public will be able to comment on and help shape a new dune manual that will be written and published by the New Jersey Sea Grant Consortium. Chris Miller will give technical guidance and advice to the consortium on the manual's development.

For more information, contact, [Chris Miller](#), (609) 465-5901 ext. 102

PLANTING TRIALS AND DEMONSTRATION

SOIL HEALTH AND COVER CROPS — Last year, the **NYPMC** installed 350 evaluation plots with different species of cover crops and several mixes throughout various dates from May to October. Also, 'new' cover crop species and varieties were seeded to assess their possible use in the Northeast and any species showing potential will be evaluated further this year. This spring we will be collecting data on spring green-up date, seedling density, percent cover, heights, flowering time, and aboveground biomass before incorporation or burn-down.

CEREAL RYE SEEDING RATE AND PLANTING DATE COMPARISON STUDY — Seeding winter hardy cover crops after silage corn is difficult in the Northeast US due to the short growing season. This study installed at the **NYPMC** is intended to determine the relationship between rye seeding dates and lowering seeding rates in the fall and spring percent cover and biomass. The main goal is to maximize fall and spring percent cover and biomass production. If seeding rates can be reduced, this will reduce the cost of cover cropping and potentially increase the number of cover crop acreage planted. So far, the fall data suggests that with proper seedbed preparation lower seeding rates (25 and 50 lb/A) can be used at earlier seeding dates in September while achieving adequate percent cover. When planted October 14, at rates between 100-112 lb/A, there was adequate percent cover and should also provide good biomass and nutrient uptake in the spring. Biomass and percent cover will be determined at multiple termination dates in the spring to determine the effectiveness of late fall plantings.

For more information, contact: [Shawanna Clark](#), (607) 562-8404

PLANTING TRIALS AND DEMONSTRATION (cont.)

LATE-SEASON FALL COVER CROP PLANTING AND OBSERVATION — In fall 2014, the NJPMC started a late-season cover crop trial seeded Oct. 3, 2014 in South Jersey loamy-sand soil. 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. Final observation for the growing season 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.

Although we had a cold and wet March, some tillage radish managed to overwinter and started new spring growth. This would be an advantage to planting a late-season tillage radish. **Advantage:** when tillage radish is planted late (Oct. 3) in South Jersey it will remain shorter, or in a basal rosette form, thus it will remain better protected from cold and wind, and will not necessarily winterkill. The plot seeded with oats alone also remained short enough to survive into March, and is beginning to regrow. **Disadvantage:** tillage radish provided a soil cover 30% in the fall, but did not grow large enough or deep enough to provide significant benefits to compaction. One additional point to consider, this observational study was able to survive winter as a result of being located in an “isolation field” that was surrounded on all four sides by tall hedges. This not only protected the field from strong winds and cold weather, but provided an important barrier to Canada geese. A similar cover crop study of 2 cover crop cocktail mixes (10 and 7 species) were seeded earlier on Sept. 16, installed at the PMC on a 2 acre field without border hedges or windbreaks, and was largely winterkilled from exposure to cold, wind, and geese. Cereal rye survived into March, but was almost completely eaten by geese.

For more information, contact: NJPMC, (609) 465-5901

TIPS FOR TERMINATING COVER CROP MIXES WITH A ROLLER-CRIMPER — Planting mixes of cover crops offer many benefits over monoculture plantings, however, compromises often have to be made. Timing of termination with a roller-crimper can be especially challenging, but resorting to chemical burn down need not be the only solution. When using a roller-crimper it is best to time termination for the latest maturing species in the mix. Choosing earlier maturing varieties of the last to mature species in the mix will allow for better timing and earlier commodity crop planting. Choosing commodity crop varieties with a shorter time to maturity will allow more time for cover crops to grow and mature which are then easier to terminate and provide greater biomass to suppress weeds. With the adequate moisture on the east coast it is recommended to terminate cover crops crop at or within 5 days after planting crops, but before crop emergence.

Cereal grains like rye generally need to be well into flowering for consistent termination by roller-crimper. The best time to terminate hairy vetch is at early pod set, when the very first young pods are beginning to be formed. Legumes such as hairy vetch are often more difficult to terminate than cereal grains, but may be easier to terminate and plant into when grown with cereal grains due to the straighter and taller growth induced by competition and support of the cereal grains. Our experience at the MDPMC has shown that hairy vetch is much easier to work with when planted in a mix with rye as opposed to planted as a monoculture. To maximize kill rates be sure to fill the roller-crimper with water. If regrowth occurs, rolling a second time will improve the kill. It is important to avoid cover crop species that cannot be terminated with a roller crimper such as perennial species and annual ryegrass.

Used correctly, roller-crimpers can reduce or eliminate herbicide use for cover crop termination. Cover crops with adequate biomass can leave a uniform mulch layer that can be as effective as herbicides at suppressing weeds. However if chemical burn down is still desired, often a half rate of herbicide is adequate for control after cover crops have already been rolled.

For more information, contact: [R Jay Ugiansky](#), (301) 504-8743



Rolling at planting ensures the cover crop lays in the same direction as the planting operation, making planting more effective. Ideally the roller-crimper is the same width as the entire planting width. This roller crimper is not wide enough to cover the space between the outer rows and requires a follow-up pass with the roller-crimper.

PLANTING TRIALS AND DEMONSTRATION (cont.)

FOREST RIPARIAN BUFFERS

The **NYPMC** is continuing to evaluate low cost method techniques for forest riparian buffer establishment in cooperation with the Stroud Water Research Lab, Penn State University and PA-DCNR-Bureau of Forestry. Methods being evaluated are: natural regeneration, direct seeding using a no-till drill or broadcasting larger seeded species, live stakes, and small container seedlings. Each of these plantings are coupled with establishment and management practices such as deer fencing, herbicides, or tree shelters. The objective is to develop methods that improve success rates in riparian buffer plantings, at the lowest cost possible.

COASTAL/ CRITICAL AREA PLANTING

Currently the **NJPMC** continues its work on developing sea oats (*Uniola paniculata*) for release later this year as a cold-tolerant variety that will help diversify dune plantings; evaluating native shortbeard plumegrass (*Saccharum brevibarbe*) and sugarcane plumegrass (*Saccharum giganteum*) for use in critical area and wetland applications; development of amberique-bean (*Strophostyles helvola*), a native, reseeding, annual legume that could provide nitrogen to diverse dune mixes, especially in back dune areas; evaluation of Virginia saltmarsh mallow (*Kosteletzkya virginica*) to help develop potential salt-tolerant crops for use in high-saline agroecosystems; and lastly, continued increase and promotion of a lower-growing bitter panicgrass variety 'North-Pa' for more wide-spread use in the Mid-Atlantic region. The low-growing habit of 'North-Pa' can be seen as a possible alternative to coastal panicgrass which is sometimes considered too tall by residents who prefer unobstructed ocean views.

WATER QUALITY AND NATIVE WILLOWS

There is interest from the northeast states for utilizing native shrub willow for restoration plantings in riparian areas, wetlands and for use in soil bioengineering techniques on streambanks. Over the past 3 years, the **NYPMC** has evaluated collections of Bebb's willow (*Salix bebbiana*), pussy willow (*Salix discolor*), silky willow (*Salix sericea*), shining willow (*Salix lucida*), and heart-leaved willow (*Salix eriocephala*). This spring, cuttings will be made of the best performing accessions and moved for advanced evaluation.



Fencing and tree tubes put up around live willow stakes and seedlings.

FUTURE TRIALS AND RESEARCH FOCI

After receiving responses to a needs assessment survey circulated to state, area, and field office staff the **NJPMC** has identified needs for field trials and demonstrations on: salinity tolerance of various *Spartina* spp. adjacent to marsh habitat; increasing plant species diversity in coastal habitats; erosion prevention on banks adjacent to crop production areas; critical area planting techniques on different land types; and exploration of late season, fast-growing, temporary seeding cover for critical areas in construction sites. This is just a glimpse of potential projects states have expressed interest in. If you have additional projects the **NJPMC** should consider, please contact their Cape May office.

NEW RECOMMENDATIONS

STANDARDS/REGULATIONS UPDATE

NEW REGULATIONS FOR INVASIVE PLANTS IN NEW YORK STATE — On March 12, 2015, new state-wide regulations went into effect prohibiting and regulating the possession, transport, importation, sale, purchase and introduction of selected invasive species. The purpose of these regulations are to help control invasive species by reducing the introduction of new species and the spread of existing populations. The list of newly banned species includes purple loosestrife, garlic mustard, kudzu, Japanese knotweed, giant hogweed, mile-a-minute vine, oriental bittersweet, porcelain berry, and Japanese stiltgrass. Most of the species listed are already widespread in the environment and the regulations may help to keep some invasives from getting worse. A list (with photos) of prohibited/regulated species with more information can be found on the New York State Department of Environmental Conservation website at:

<http://www.dec.ny.gov/animals/99141.html>.

Wildflower Recommendations For NY Conservation Stewardship Program (CSP) — Plt15

NY 2015 CSP Lowland Pollinator Habitat Recommendations

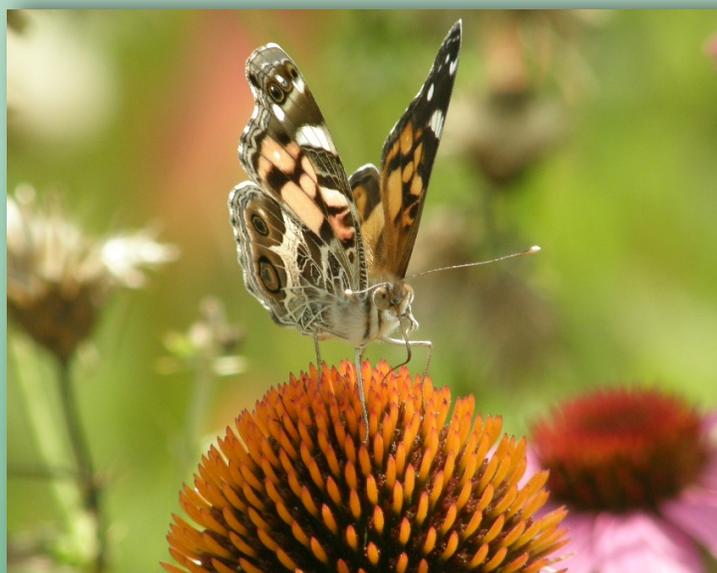
Scientific Name	Common Name	lbs/ac (PLS)	Seeds/sq ft	Bloom Period
<i>Verbena hastata</i>	blue vervain	0.10	3.5	June - July
<i>Eupatorium perfoliatum</i>	boneset	0.10	6.6	mid July-throughout Aug
<i>Pycnanthemum tenuifolium</i>	narrow-leaved mountain mint	0.15	10.3	mid July-throughout Aug
<i>Echinacea purpurea</i>	purple coneflower	1.0	2.6	late June-mid Aug
<i>Asclepias incarnata</i>	swamp milkweed	0.15	0.3	July-mid Aug
<i>Vernonia noveboracensis</i>	NY ironweed	0.10	0.7	late July- throughout Aug
<i>Symphotrichum novae-angliae</i>	New England aster	0.15	3.9	early Sept-early Oct
<i>Eupatoriadelphus maculatus</i>	spotted joe pye weed	0.10	3.4	late July- throughout Aug
<i>Helenium autumnale</i>	common sneezeweed	0.15	6.9	Aug-early Sept
<i>Verbesina alternifolia</i>	wingstem	0.15	0.6	throughout July
<i>Monarda media</i>	purple bergamot	0.20	5.1	early July-mid August
<i>Tradescantia ohiensis</i>	Ohio spiderwort	0.10	0.3	early June- late July
<i>Penstemon digitalis</i>	tall white beard tongue	0.10	4.6	late May-early July
<i>Lobelia cardinalis</i> *	cardinal flower*	0.05	8.4	July-mid Aug
Total Forbs (PLS)		2.6	57.3	
GRASSES				
<i>Elymus virginicus</i>	Virginia Wildrye	2	4.6	

NEW RECOMMENDATIONS (continued)

NY 2015 CSP Upland Pollinator Habitat Recommendations

Scientific Name	Common Name	lbs/ac (PLS)	Seeds/ sq ft	Bloom Period
<i>Monarda media</i>	purple bergamot	0.06	1.6	early July-mid august
<i>Baptisia australis</i>	blue wild indigo	0.15	0.1	late May-June
<i>Chamaecrista fasciculata</i>	partridge pea	0.50	0.7	mid June-Aug
<i>Coreopsis lanceolata</i>	lanced-leaved coreopsis	0.75	3.6	early June-mid July
<i>Ratibida pinnata</i>	gray headed coneflower	0.50	6.3	mid July-throughout Aug
<i>Solidago juncea</i>	early goldenrod	0.10	4.6	mid July-throughout Sept
<i>Echinacea purpurea</i>	purple coneflower	1.15	3.0	late June-mid Aug
<i>Penstemon digitalis</i>	tall white beard tongue	0.15	6.9	late May-early July
<i>Rudbeckia hirta</i>	black-eyed Susan	0.03	0.9	June-early Sept
<i>Symphotrichum novae-angliae</i>	New England aster	0.10	2.6	early sept-early Oct
<i>Monarda fistulosa</i>	wild bergamot	0.13	3.6	late June-throughout July
<i>Pycnanthemum tenuifolium</i>	narrow-leaved mountain mint	0.10	6.9	mid July-throughout Aug
<i>Heliopsis helianthoides</i>	oxeye sunflower	0.50	1.2	early July-mid Aug
<i>Asclepias syriaca</i>	common milkweed	0.10	0.2	late June-mid July
Total forbs (PLS)		4.32	42.2	
GRASSES				
<i>Elymus virginicus</i> *	Virginia and/or Canada wild rye*	2.00	4.6	

*Can substitute little bluestem on droughty sites at 1.0 pounds PLS.



American Lady butterfly atop purple coneflower.

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<http://www.nrcs.usda.gov/wps/portal/nrcs/site/plantmaterials/home/>

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