



Sustaining Farming on the Urban Fringe

Monthly Briefing from Rutgers New Jersey Agricultural Experiment Station

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High Tunnel Cover Crops Trials and Tribulations 2012

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High tunnel use in NJ is on the rise as they are a great way to extend market seasons, reduce weather-related damage, and offer profitable returns with a low capital investment. NJ growers have taken good advantage of the NRCS USDA seasonal high tunnel national cost-share program.

Cover crops offer one strategy to maintain soil quality in high tunnels. This strategy is sometimes overlooked due to reduced soil erosion risk in high tunnels, the shorter time window between cash crops, and the concern for potential overwintering pests. However there are good reasons to grow cover crops in high tunnels when you plan to leave them in place for a period of time:

- Reduce soil compaction from intensive cropping, tillage, and foot traffic
- Reduce off-season weed pressure
- Capture excess fertilizer nutrients from soils in the fall to release for spring crops
- Build soil health by increasing organic matter which helps combat soil-borne diseases

Ag agent Meredith Melendez evaluated four cover crops for use in New Jersey high tunnels: Oilseed radish, Lacy Phacelia (*Phacelia tanacetifolia*), spring oats, and hairy vetch.

Oilseed radish, *Phacelia tanacetifolia*, spring oats (Rodeo), and hairy vetch were planted on September 2, 12, 22 and October 3 of 2011 in four high tunnels with compacted soils. Though forage radish is preferred for its 'biodrilling' taproot for decreasing soil compaction and increasing water infiltration, only oilseed seed was available. Oilseed and forage radish are varieties of the same mustard species, with similar growth.

Each high tunnel planting was repeated in a neighboring unprotected field of the same size, to compare growth and winterkill termination. Tunnels were watered with overhead irrigation; fields were not irrigated. In early spring, pest harboring and residual plant residue were assessed. Hurricane Irene affected soil conditions one week before seeding. Just after, Tropical Storm Lee struck, with historic precipitation and flooding. Much of the first seeding blocks co-mingled due to 17 inches of rain.

Unusually warm temperatures prevented winter kill typically resulting in nearly clean spring seedbeds that require little tillage for residue incorporation. In this trial, tunnel sides were not lowered until January 6, 2012 with minimal frost damage occurring.

Of the four cover crops, two showed the greatest potential for use in NJ high tunnels: Phacelia and radish. These two cover crops offer late season planting success, fall uptake of leachable excess nutrients, weed suppression, quick plant residue decomposition, and spring nitrogen release.

These are some of the reasons for renewed interest in cover crops

To learn more,
attend the October 18

Cover Crops for Soil Health on the Coastal Plain Workshop and Field Tour

8:30 am to 3:30 pm
Cape May Plant Materials Center

Cover Crops for Soil Health on the Coastal Plain

A workshop with classroom presentations and field tours

Thursday, October 18, 2012

8:30 a.m. to 3:30 p.m.

Cape May Plant Materials Center

***GPS Location: 1536 Route 9 North
Cape May Court House, NJ
in the Swainton section of Middle Township***

***Mailing Address: 1536 Route 9 North
Cape May Court House, NJ***

Cover crops provide many different benefits for intensive production systems, including improved soil fertility, water holding capacity, and erosion control. This workshop is designed to educate growers and ag professionals from the Coastal Plain about a variety of cover crop species and mixtures, with an emphasis on improving soil health. Soil improvement with leaf mulching will also be discussed.

Who should attend?

Growers and agricultural professionals, particularly those from the coastal plain region

Register by October 5, 2012!

Send \$10 registration fee (payable "Cape Atlantic Conservation District") and completed registration form to:

**Earn 6 Nutrient Management
CEUs from Maryland
Department of Agriculture.**

[Cape Atlantic Conservation District](#)

6260 Old Harding Highway
Mays Landing, New Jersey 08330
Phone: (609) 625-3144
Fax: (609) 625-7360

Workshop includes continental breakfast and a box lunch. Reasonable accommodation for persons with disabilities is available. Registration will be limited to 75 participants.

Please include request for reasonable accommodation and any dietary requirements with your registration.



Workshop information can be found on the [Cape May Plant Materials Center Activities](http://www.nj.nrcs.usda.gov/PMC_Activity.html) webpage.
http://www.nj.nrcs.usda.gov/PMC_Activity.html