

Sweet Corn

European corn borer (ECB) adult activity has declined somewhat, with northern parts of the state still having the most activity (see ECB map). Overall activity is low. Whorl stage feeding is interspersed with more dominant fall armyworm (FAW) feeding. As always, consider treating if 12% or more plants exhibit ECB feeding alone, or in combination with **FAW** (see below) injury. **Remember to make a full-tassel application to control ECB larvae as they leave the tassel and travel down the stalk to re-enter the plant near the ear shank.** This last application is often critical to controlling ear infestations from ECB.

The highest nightly ECB catches for the previous week are as follows:

Allamuchy	1	Dayton	1	Oldwick	1
Belvidere	1	Folsom	1	Pedricktown	1
Califon	1	Little York	1	Sergeantsville	1
Centerton	1	Milltown	1	South Branch	1

Blacklight: The number of traps recording **Corn earworm moth (CEW)** catches has increased, especially in central NJ (see CEW blacklight map), but numbers in individual traps have declined slightly. Overall activity is low for this time of year. The highest activity remains in southwestern NJ. Catches in Virginia and North Carolina appear to have peaked within the past two weeks, so it is not clear whether a large migratory influx will occur this season. Delaware catches are similar to our southern NJ catches. Even at these low levels, CEW can cause significant injury to sweet corn ears.

The highest nightly CEW catches for the previous week are as follows:

Allamuchy	1	Folsom	1	Milltown	1
Centerton	1	Georgetown	1	Pedricktown	1
Cinnaminson	1	Green Creek	1	Tabernacle	1
East Vineland	1	Medford	1	Woodstown	1

Pheromone Trap: CEW pheromone trap catches have decreased, although not enough to change spray schedules. Highest activity is from the Atlantic – Camden County border south through Cape May (see CEW pheromone trap map). The green area on the map roughly corresponds to a 4-day silk spray schedule. Low spots within the broader green area should be considered outliers, and grower near those areas should defer to the more conservative schedule. Sweet corn plantings now in silk in southern NJ are at risk for ear infestation if CEW is not properly controlled. The highest nightly CEW *pheromone trap* catches are as follows:

Elm	5	Pedricktown	3
Eldora	4	Woodstown	3
Green Creek	4	Indian Mills	1

Silking Spray Schedules*:

South –3 - 4 days

Central – 5 days

North - 5 -6 days

* Note: These are general recommendations. Local trap catches may indicate some variation in the frequency of insecticide applications to silking corn.

Fall armyworm (FAW) infestations remain common, and are occurring in very young plantings. It is important that all plantings be scouted regularly for this pest. FAW caterpillars consume corn foliage, and produce large quantities of feces that pile up within the whorl. FAW larvae typically have light and dark brown bands, and the head capsule has a distinctive upside-down “Y” pattern on it. Unlike ECB, FAW will feed on corn plantings in the seedling stage, although whorl stage is usually the first to be affected. Consider treating if the number of plants infested with FAW either alone, or in combination with ECB exceeds 12%. **FAW may be difficult to control with pyrethroid insecticides.** Newer materials, including spinosad-based insecticides, as well as those including active ingredients chlorantraniliprole and flubendiamide are effective against BAW.

Corn leaf aphid has become a significant nuisance in some plantings lately. This pest is not adequately controlled with the synthetic pyrethroid insecticides typically used for CEW management during the silking period. Lannate generally works better on corn leaf aphid, and many growers rotate materials so that Lannate is used periodically in the silk spray schedule. This year's CEW population has been low enough to permit 5 – 6 day spray schedules in many areas. With this many days between applications, particularly if pyrethroid materials are used two times to every one Lannate application, there is enough time for aphid populations to build up and result in infestations on the ears. If corn leaf aphids (see photo at right) are discovered in individual plantings, it may be necessary to use Lannate more frequently as a silk spray material.



Corn leaf aphids. Photo by Ohio St. Univ.

Foliar Diseases of Sweet Corn are increasingly common now. These include corn leaf rust (CR) and northern corn leaf blight (NCLB). As nights become longer and cooler through late summer, dew deposition will increase. These factors favor foliar disease. Both CR and NCLB can negatively impact ear development if they become heavy on foliage. CR causes ruptures in the leaf surface, resulting in moisture loss that stresses the plant. NCLB reduces the amount of photosynthetic surface available to the plant. Both are more serious the earlier they develop on corn plants. Generally, if the first signs of disease occur after the pre-tassel stage, damage will likely be confined to cosmetic blemishes on the husk. If infections first appear in the whorl stage, the possibility exists for ear size to be reduced as the plants struggle to compensate for water loss and reduced leaf surface. Consult the *2014 Commercial Vegetable Production Recommendations* for specific fungicide recommendations, but be aware that the strobilurin class (FRAC Grp. 11) has provided poor results on NCLB in the northern parts of the state.

Peppers

With ECB moths active in some areas, treatments may become necessary to prevent infestations. As ECB warrants control (local blacklight catches at 1/night), consider an insecticide that is not destructive to predators and parasites of aphids and TSSM. These include Coragen and Belt (or Synapse).

Beet armyworm moths (**BAW**) have been captured in southern counties. Most traps are catching just a few moths, but traps in the Woodstown area have averaged nearly 16/night for the past week. BAW larvae will feed on leaves near the growing terminals of the plants, resulting in shredded foliage at the top. As the larvae molt and grow larger, they will begin feeding on fruit. BAW, like FAW is difficult to manage with pyrethroid insecticides. Materials that are recommended for FAW control (see the FAW paragraph above), will also be effective against BAW.

Pepper Weevil Report

Pepper weevil counts continue to remain low at traps near produce handling facilities (see pepper weevil map). This means that we have a very low amount of infestations this summer. No additional fields have been found beyond the two discovered two weeks ago. As we progress into the late growing season the potential risk of yield loss decreases from any new infestation.

Tomatoes

Native **brown stinkbugs** are still causing damage in tomatoes (see photo at left). Typically, injury increases with drier weather. Be sure to monitor fruit for this damage. If adults are found in more than one sample, or if nymph groups are found, or injury is increasing in harvested fruit, consider an insecticide application to limit further damage. Consult the *2014 Commercial Vegetable Production Recommendations* for specific insecticide recommendations.

Two-spotted spider mite (TSSM) populations have become more common in tomatoes as drier weather dominated in the northern counties these past several weeks. Initially, this pest may go unnoticed. As numbers increase, foliage will become yellow, and ultimately turn brown and dry. At this point, TSSM webbing will be obvious, connecting leaves so that mites can move about the plant to less populated areas. TSSM is best managed while still at low levels. Look for the mite “stipple” (whitish pin-spots), indicating a low level population under the affected leaf. If this sign of infestation is present in multiple sites within the field, consider applying one of the newer miticides. There are a number of effective materials that have very short pre-harvest intervals. Consult the *2014 Commercial Vegetable Production Recommendations* for specific insecticide recommendations.



Brown stink bug injury. Photo by Univ. of Delaware

Brown Marmorated Stinkbug (BMSB)

BMSB activity is extremely low. At present, no traps are catching more than one per night, and many have recorded no catch for some time. Adult activity continues to be well behind previous years. If adult captures increase to 5/night for a full week, maps will be produced to show where activity is highest. Information on scouting, crop injury and control will also be included.

Pumpkins and Winter Squash

Cucurbit downy mildew (CDM) is active on cucumbers in New Jersey. As of Tuesday, IPM personnel have detected no other cucurbit crops with DM infections. However, given the virulence of CDM, it is advisable that pumpkin growers begin to add fungicides that specifically target CDM to their regular protectant program for **powdery mildew (PM)**.

The CDM website (<http://cdm.ipmpipe.org/>) indicates little chance of spread in the mid-Atlantic region from sources to our south and west at this time. Heavy dew periods will cause existing field infections to worsen unless excellent coverage with proper fungicides is achieved. This website should be a “favorite” on every grower’s web browser. It is advisable that all growers scout crops at least twice a week. Any further occurrence will be reported in this newsletter and will also generate an alert to all subscribers.

Powdery mildew (PM) thresholds have been reached in all areas. Check upper and lower surfaces of 2 mature leaves per plant on 5 consecutive plants each, in 10 locations throughout the field. When PM lesions are found on 2 or more leaves, begin a weekly protectant fungicide program. See the *2014 Commercial Vegetable Production Recommendations* for materials useful in managing CDM and PM. It is critical that recommended fungicides be rotated to reduce the possibility of the organism developing resistance to effective materials.

Cole Crops

Many of the fall plantings have been or are becoming established now. **Cabbage looper (CL)** infestations are fairly common, as well as **diamondback moth (DBM)**, **imported cabbage worm (ICW)**. Scout plantings weekly. Check 5 consecutive plants each in 10 random locations throughout the planting, paying particular attention to the innermost leaves where ICW often feed. Consider treating if caterpillars are found on 10% or more plants that are in the 0-9 true leaf stage. From 9-leaf to the early head stage (in broccoli, cauliflower and cabbage) infestations up to 20% may be tolerated. Once heads begin to form, a 5% threshold should be observed to protect the marketable portion of the plant. For leafy greens such as collards and kale, 10% plants infested is the threshold throughout. It is important to identify DBM correctly, because if it present, synthetic pyrethroid insecticides may not provide acceptable control. DBM larvae are small, and taper toward both ends. They thrash vigorously when disturbed (see photograph at right).

In parts of central NJ, new broccoli and collard plantings are developing **crucifer downy mildew (CrDM)** infections. CrDM caused necrotic spots to develop on the upper surface of older leaves. Inspection of the lower leaf surfaces will show pale purple sporulation erupting from the infected tissue. This disease can be especially hard on broccoli and collard greens, so growers should actively scout plantings at least weekly. Cole crops should be treated with appropriate fungicides at the first occurrence of this disease. Consult the *2014 Commercial Vegetable Production Recommendations* for specific fungicide recommendations.

The link for the Vegetable IPM Map Archive is:

<http://www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm>

This site contains all current pest maps as well as those from previous years, back to 1999.

