

Vegetable Crops IPM Update, Week Ending 7/17/13

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Sweet Corn

European corn borer (ECB) adult activity is now increasing in the southwestern and central counties at this time (see ECB map). These individuals represent the beginning of a second flight. At this time, infestations are quit low but will increase over the next several weeks. Consider treating if 12% or more plants exhibit the characteristic “shot-hole” type feeding on leaves and/or droppings or ECB larvae in emerging tassels.

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. Consider weekly applications through the silk stage unless local corn earworm catches dictate a tighter schedule. This will help prevent ear infestations resulting from eggs laid on or near the developing ear.

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

Clinton	2	Hillsborough	1	Pedricktown	1
Crosswicks	2	Indian Mills	1	Pennington	1
Downer	1	Medford	1	Sergeantsville	1
Hammonton	1	Mullica Hill	1	Tabernacle	1

Fall armyworm (FAW) infestations are increasing in counties northward through Morris. At present, infestation percentages have risen to 12% in some areas. 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 earworm moths (CEW) have increased somewhat in central and southern NJ blacklight traps over the past week. No individuals have been captured in northern counties. Numbers are low-to-moderate overall, but even at these levels, the damage can be economically important. It is noteworthy that CEW catches from North Carolina, Virginia and Delaware are fairly low at this time. We look to increases in these states’ catches as a warning that we will soon see similar increases here. As yet, this has not happened.

Blacklight: At this time, the highest **blacklight** catches are occurring in southern Burlington and Salem counties (see CEW Blacklight Map). In this blacklight-based map,

the blue area relates to a 4-5-day silk spray schedule and green areas represent a 3-day silk spray schedule.

Pheromone: CEW **pheromone** catches have increased somewhat over the past week indicating an increased risk of infestation.

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

Indian Mills	2	Downer	1	Pedricktown	1
Woodstown	2	Elm	1	Tabernacle	1
Crosswicks	1	Green Creek	1		
Cinnaminson	1	Hammonton	1		

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

Eldora	9	Elm	3
East Vineland	6	Beckett	2
Green Creek	5	Springdale	2
Woodstown	5		

Silking Spray Schedules*:

South –3-4 days

Central – 5-6 days

North – 6-7 days

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

Tomatoes

A number of plantings are exhibiting atypical symptoms of **early blight**. In these cases, lower leaves remain green while drying out after infection. Normally early blight is characterized by tan lesions with target-shaped rings. Excessively wet weather may have resulted in more severe infections, killing foliage more quickly than is normal. Repeated submissions to labs have consistently returned early blight results.

A number of high tunnels have unusually high infestations of **tomato hornworm (THW)**. These fast-growing caterpillars consume large quantities of foliage near the upper portion of the plant. This appears as branches totally stripped of leaflets. THW will also feed on green fruit, removing large pieces of fruit. Though they grow to lengths up to 3 ½ inches, they are well camouflaged. In the field, this feeding is typically not economic, but in tunnels where early fruit are at a premium, control may be warranted. Insecticides labeled for other worm pests of tomato fruit, whether sprayed or applied through the drip are effective against THW.

Blacklight catches of native **brown stink bugs** increased this week. This is coincident with the appearance of stink bug damage in high tunnel tomatoes in Somerset County. While it is not clear whether natives or the BMSB were responsible for this injury, native species have a distinct preference



Cloudy spot – Stink bug injury.

for tomatoes. Typically this injury increases with drier weather. Be sure to monitor fruit for this damage (known as cloudy spot – see photo). If cloudy spot is increasing in harvested fruit, consider an insecticide application to limit further damage. Consult the *2013 Commercial Vegetable Production Recommendations* for specific insecticide recommendations.

Peppers

Beet armyworm (BAW) may be active in a few southern NJ pepper fields. These caterpillars generally feed on young foliage before entering fruit. Early infestations may be identified feeding near growing points. BAW is resistant to a number of synthetic pyrethroid insecticides. Newer materials, including spinosad-based insecticides, as well as those including chlorantraniliprole and flubendiamide are effective against BAW.

Pepper weevil: For the time period of July 11 to 16, fifteen weevils were caught on pheromone traps in Woolwich Township, all of which were on-farm traps. For at least two weeks now no weevils have been found at other locations in south Jersey. Two fields were confirmed to have infestations where fruit has been aborted due to the presence of pepper weevil. At least one whole generation has occurred in each of these fields. Three other adjacent pepper fields are assumed to be infested.
Woolwich Township – 15 weevils

Brown Marmorated Stinkbug (BMSB)

BMSB adult catches in blacklights continue to increase throughout the state, with areas of higher activity in Hunterdon, Morris and Warren counties as well as in southwestern NJ (see BMSB map). The first BMSB individual was found in a Warren County pepper field this week. BMSB has shown a preference for peppers in the past. See the photo below, for example of BMSB injury on peppers. Growers in areas of higher activity who grow tree fruit, or other preferred crops like peppers and legumes should scout crops frequently for signs of infestation or damage.



BMSB injury on frying peppers.

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.

Pumpkins and Winter Squash

A sentinel plot containing susceptible and resistant cucumber varieties, as well as muskmelons, watermelons, acorn and butternut squash and pumpkins is now established

at the Snyder Research and Extension Farm in Hunterdon County. The purpose of this plot is to detect the presence of **downy mildew (DM)** in northern NJ. **As of last week, DM is infecting cucumbers in this sentinel plot.** Where untreated, DM is quickly defoliating some cucumber varieties throughout the state now. DM infections require specific fungicides be added to the protectant fungicide program. Consult the *2013 Commercial Vegetable Production Recommendations* for specific fungicide recommendations and rotations to minimize the threat of resistance. As yet, no infections have occurred on winter squash, melons or pumpkins. For more information on the regional presence of DM as well as comprehensive, weekly forecasts, see the following website: <http://cdm.ipmpipe.org/>

Some of the earlier planted pumpkin and gourd fields now have enlarging fruit. These plantings are beginning to develop **powdery mildew (PM)** infections. When scouting for other pests, be sure to look at 2 older leaves per plant on each of 5 consecutive plants. Do this at 10 sites throughout the planting for a total of 100 leaves. If 2 or more PM lesions are found in this sample, it is time to begin the regular protectant fungicide program. Consult the *2013 Commercial Vegetable Production Recommendations* for specific fungicide recommendations and rotations to minimize the threat of resistance.