

Vegetable Crops IPM Update, Week Ending 7/24/13

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Sweet Corn

European corn borer (ECB) adult activity is generally increasing, although higher numbers have shifted to the east over the past week (see ECB map). There is still very limited activity in the northern counties. The second flight is underway, and egg laying should now be occurring in the south and central counties. Infestations 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:

Eldora	2	Green Creek	1	Matawan	1
Georgetown	2	Indian Mills	1	Milford	1
Phillipsburg	2	Lawrenceville	1	Princeton	1
Folsom	1	Little York	1	Tabernacle	1

Fall armyworm (FAW) infestations are present in counties northward through Morris. Infestation percentages have risen above 12%, particularly in coastal 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) are increasing slowly in central and southern NJ blacklight traps. Very few 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 remain 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 from central Burlington County southward (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 slightly over the past week (see CEW pheromone map) indicating an increased risk of infestation. The CEW pheromone map is in general agreement with the blacklight map, although the 3-day zone (green) is expanded, largely due to the limited number of pheromone sites relative to blacklight sites.

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

Indian Mills	3	Pedricktown	2	Griggstown	1
Downer	2	Woodstown	2	Hammonton	1
East Vineland	2	Cinnaminson	1	Matawan	1
Folsom	2	Elm	1	RAREC	1

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

East Vineland	13	Woodstown	7
Elm	9	Springdale	6
Hammonton	7	Green Creek	4
Pedricktown	7		

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.

Two-spotted spider mites (TSSM) are occurring in some silking sweet corn plantings at this time. This is the result of last weeks' high temperatures and repeated use of synthetic pyrethroid insecticides for worm control. Look for a bronze color to older foliage. Inspect the underside of these leaves for the presence of mites. If the infestation is late in the silk stage, it may be possible to harvest without mites in the husks. However, it may be necessary to include a miticide to reduce numbers if more than a week is left between detection of the mites and harvest. It is also wise to switch chemistries for worm management during the silk stage. Newer products including the active ingredients chlorantraniliprole, spinetoram, and flubendiamide will not have the negative impact on many beneficial insects that may help keep TSSM in check.

Tomatoes

Two-spotted spider mites (TSSM) are being found in tomatoes at this time. Hot weather favors TSSM, and may also reduce the activity of insects that prey on TSSM. Check 2 complete leaves each on 5 consecutive plants in 10 random locations in the planting. Look for the presence of whitish "pin-spots" on the upper surface of leaves. These spots appear in response to TSSM feeding on the lower surface. As TSSM increase, spots will coalesce to form a yellow area on the leaf surface. If not managed,

TSSM will cause leaves to become bronze in color and may kill the plants. Make sure some samples are from field edges or where the tomato crop borders other favored hosts like eggplant and watermelon. Spot treat, if possible. Do not wait until TSSM is widespread throughout the field, as it will become more difficult to manage. Consult the *2013 Commercial Vegetable Production Recommendations* for labeled materials.

Blacklight catches of native **brown stink bugs** are still occurring. This is coincident with the appearance of stink bug damage in some tomato plantings. While it is not clear whether natives or the BMSB were responsible for this injury, native species have a distinct preference for tomatoes. Typically this injury increases with drier weather. Be sure to monitor fruit for this damage (known as cloudy spot). 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) is a pest that could occur in peppers at any time. These caterpillars generally feed on young foliage before entering fruit. Early infestations may be identified by foliar 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 period of July 17 to 22, weevils continue to be caught only in the Woolwich Township area. All but two of the weevils were caught on on-farm traps. No additional infested fields detected.

Woolwich Township – 9 weevils

We are attempting to manage weevils in one small field where 10 pheromone traps have been set. So far in one week 65 weevils have been caught.

Brown Marmorated Stinkbug (BMSB)

BMSB adult catches in blacklights continue to increase throughout the state, with heavier catches occurring across northern NJ as well as in southwestern NJ (see BMSB map). Nymphal BMSB infestations have been found this week in Hunterdon, Somerset and Warren County pepper fields. Although field numbers have been low, the presence of nymphs is alarming because it indicates that adults have been present long enough to deposit eggs. It is also important to note that the nymphs cannot fly, and will feed continuously on plants and fruit. BMSB has shown a preference for peppers (especially taller plants like frying peppers) in the past. 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. Adult BMSB are very difficult to detect in crops due to their ability to detect movement. They will hide or drop to the ground if the plant they are on is disturbed. One good way to spot adults is to slowly walk pepper fields before mid-morning. Observe plants approximately 10-15 feet in front of you as you walk. Adults frequently bask in the upper portion of the canopy at this time of day.

Consider treating if damage on harvested fruit is increasing, nymph groups are found in the field, or adults are present in multiple sites within a planting. Pepper plants too young to have fruit will not be affected.

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. **DM is infecting cucumbers in this sentinel plot and throughout the state.** Where untreated, DM is quickly defoliating cucumbers. 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/>

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.