

Vegetable Crops IPM Update, Week Ending 7/10/13

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Sweet Corn

There are just a few pockets of **European corn borer (ECB)** adult activity in the southern counties at this time (see ECB map). If these individuals represent the beginning of a second flight, the numbers will increase over the next week. Generally, the second flight does not begin until late July. At this time, infestations are quit low. Where fresh injury remains, 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:

Mullica Hill	2	Eldora	1	Lawrenceville	1
Allentown	1	Georgetown	1	Tabernacle	1
Cinnaminson	1	Indian Mills	1		
Elm	1	Medford	1		

Fall armyworm (FAW) are increasing in southern and coastal counties. 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 decreased in central and southern NJ blacklight traps over the past week, and no individuals have been captured in northern counties. No captures have occurred in the northern counties. Numbers are low overall, but even at these levels, the damage can be economically important.

Blacklight: At this time, the highest **blacklight** catches are occurring in Atlantic, Cumberland, Gloucester and Salem counties (see CEW Blacklight Map). In this blacklight-based map, the blue area relates to a 4-5-day silk spray schedule.

Pheromone: CEW **pheromone** catches have also declined since last week and the threat to silking sweet corn, while still significant, has decreased.

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

East Vineland	1	Hammonton	1
Egg Harbor	1	Indian Mills	1
Eldora	1	Medford	1
Elm	1	RAREC	1

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

East Vineland	2	Green Creek	1
Elm	2	Pedricktown	1
Beckett	1	Springdale	1
Eldora	1	Woodstown	1

Silking Spray Schedules*:

South –4-5 days

Central – 6-7 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.

Cole Crops

As insecticide treatments are applied for imported **cabbage worm (ICW)**, **diamondback moth larvae (DBM)**, and **cabbage looper (CL)** infestations, a common phenomenon is occurring. DBM frequently remains active after an application of a pyrethroid insecticide or a carbamate material. DBM resistance to these classes of insecticide is fairly frequent. In such cases, growers should rely on materials that are based on spinosad, chlorantraniliprole or flubendiamide. These materials are effective against all the main caterpillar pests of cole crops, and do not result in rebounds of non-target pests. They are not, however, effective against flea beetle adults.

Labeled materials differ by crop, so check the *2013 Commercial Vegetable Production Recommendations* for specific recommendations.

Tomatoes

Bacterial leaf spot (BLS) infections continue to appear in more tomato plantings. In all cases, fields have a history of the disease. Rotations away from tomatoes and peppers have generally been a minimum of 3 years, but this has evidently not been sufficient. Nearly constant heavy rains have created ideal conditions for appearance and spread of these diseases. Keeping appropriate fungicide/bactericide schedules has been difficult for the same reason. Be aware that the practices of pruning and tying tomato plants in the field can spread bacterial pathogens if they are present on any of the plants. It is advisable to use latex gloves while pruning, and discard them at the end of each row. Using new gloves with each new row will help limit spread in the field. Additionally, tying wands may be dipped in a bleach solution at row end as well for the same reason. Bacterial infections (speck, spot and canker) typically appear first as very dark lesions on

leaf edges or interior tissue. Foliage of any age may be affected. Be sure to work in younger plantings before older, potentially infected ones if tying or other activities are necessary in multiple plantings. This will lower the risk of spreading the pathogen to younger plants. Various chemical applications may also be used to help suppress bacterial infections in both tomatoes and peppers (see the *2013 Commercial Vegetable Production Recommendations*), and these should be considered even in the absence of symptoms.

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: Since July 2, more weevils have been caught, all in Woolwich Township. Only 1 weevil was caught near a processing plant. The remaining weevils were all caught on traps in pepper fields, suggesting that we now have infested fields, although this hasn't been confirmed.

Woolwich Township – 13 pepper weevil

Brown Marmorated Stinkbug (BMSB)

BMSB adult catches in blacklights have increased throughout the state, but primarily on the Cumberland/Salem County border (see BMSB map). BMSB has shown a preference for peppers in the past. Growers in the south western part of NJ who grow tree fruit, or other preferred crops like peppers and legumes should scout crops frequently for signs of infestation or damage.

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

These crops are now emerging in many areas. It is important to monitor frequently for the presence of **striped and spotted cucumber beetles** at this time, particularly if the seed was not purchased pre-treated with an insecticide for cucumber beetle. Check 5 consecutive plants each in 10 random locations. Examine upper and lower surface of seed leaves for the presence of beetles. Consider treating if beetles are found at 5 or more sites. Heavy, but local infestations may be spot treated. Management of these pests will limit the loss of plants to the bacterial wilt disease that the beetles transmit.

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 this week, DM has begun to infect cucumbers in this sentinel plot** (see today's alert from Dr. Andy Wyenandt : <http://plant-pest-advisory.rutgers.edu/?p=6267>). *The incidence of DM lesions is low, but will increase dramatically on susceptible hosts.* 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/>