

Vegetable Crops IPM Update, Week Ending 9/25/13

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Sweet Corn

European corn borer (ECB) adult activity has decreased everywhere in the state since the onset of cold night temperatures (see ECB map). It is likely that there are few plantings left now that are not yet silking. However, in the case that a planting has not yet reached this stage, 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:

Georgetown	1	Milford	1	South Branch	1
Griggstown	1	Newton	1		
Hillsborough	1	Oldwick	1		
Little York	1	Sergeantsville	1		

Fall armyworm (FAW) infestations are present throughout the state, although they have declined in severity with cooler temperatures. 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%. *As in recent years, FAW has proven to be difficult to control with some pyrethroid insecticides.* Newer materials, including spinosad-based insecticides, as well as those including active ingredients chlorantraniliprole and flubendiamide are effective against FAW.

Cool evenings over the past week have resulted in decreased **corn earworm moth (CEW)** numbers. This activity should continue to rise and fall with fluctuations in temperature. Overall, New Jersey is experiencing a moderate late season population at this time, and it is high enough to cause damage if not managed properly.

Blacklight: The highest **blacklight** catches are in from Mercer-Burlington County border area (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. In general, where 3 day zones exist within larger 4-5 day areas, it is advisable to defer to the more conservative schedule.

Pheromone: The number of CEW pheromone traps in southern NJ has declined to a number too low from which to generate a meaningful map image. The few remaining

pheromone traps have registered CEW numbers consistent with the 3-day schedule indicated by the blacklight network.

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

Georgetown	3	Chester	1	New Egypt	2
Hackettstown	2	Elm	1	Newton	1
Medford	2	Green Creek	1	Tabernacle	1
Allentown	1	Little York	1	Woodstown	1

Silking Spray Schedules*:

South – 3 days

Central – 3-4 days

North – 5 days

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

Tomatoes

Late blight has been appearing on tomatoes in several areas throughout the state recently. These occurrences remain isolated, but all growers should include fungicides with specific activity against late blight (if not already doing so) with their regular protectant program immediately. Consult the *2013 Commercial Vegetable Production Recommendations* for labeled materials.

Peppers

Beet armyworm (BAW) numbers in southern NJ pheromone traps declined as nights have cooled. However, fields from Hammonton on south should still be scouted weekly. These caterpillars generally feed on young pepper foliage before entering fruit. 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. YSAW is now impacting pepper some pepper fields in central NJ, and may be controlled with materials that are effective against BAW.

The highest nightly BAW pheromone trap catches in southern NJ are as follows:

East Vineland	27	Green Creek	15
Hammonton	24	Eldora	11
Elm	19	Folsom	8

Pepper weevil:

Pepper weevil populations remain high across southern New Jersey. Over one thousand weevils were collected in the past week despite cool night-time temperatures. Where light infestations occur, the number of weevils on the traps dropped because of the cooler temperatures, but the populations remain in the field.

Farmers with infested fields, who plan to extend their pepper harvests until frost, must continue to protect the young fruit. Farmers who will finish harvesting in the next two weeks should discontinue spraying for weevils.

We will maintain traps in most locations even after fields are finished. Weevils can be caught in fields for many days after the peppers have been plowed under. However, none of these weevils can overwinter.

Brown Marmorated Stinkbug (BMSB)

BMSB adult catches have decreased to nearly nothing since the onset of colder night temperatures. **This pest may still be a threat to host crops!** When temperatures have been warm recently, BMSB adults and nymphs were found in high numbers in peppers in northern counties. BMSB has shown a preference for peppers (especially taller plants like frying peppers) in the past. Growers in areas that have had 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

Cucurbit downy mildew (CDM) is active on pumpkins and winter squash throughout the state. *Fungicides that specifically target CDM must be included in with the regular protectant fungicide program.* Where untreated, DM will quickly defoliate host crops. DM infections result in sharp yellow lesions on the upper leaf surface. On the lower surface, dark sporulation will be apparent as long as conditions are moist. Consult the *2013 Commercial Vegetable Production Recommendations* for specific fungicide recommendations and rotations to minimize the threat of resistance. Be sure to continue fungicide use until the “handles” on the fruit are solid. This will ensure good quality at the time of sale.

Be aware that the use of synthetic pyrethroid insecticides for cucumber beetle control may result in dramatic increases in **melon aphid** populations. In fact, many fields have large populations of melon aphid now, despite not having been treated for other pests. These aphids generally do not do extensive damage to plants (except under extreme infestation pressure), but their presence on the underside of leaves results in the deposition of sticky droppings on the surface of fruit. This can become an economic issue should fruit need to be cleaned prior to sale, or if affected fields are to be opened for U-pick. Materials that specifically target aphids (pymetrozine) and neonicotinoid insecticides are effective against melon aphid. Consult the *2013 Commercial Vegetable Production Recommendations* for specific materials and rates.

Cole Crops

Diamondback moth (DBM) infestations are now common and **imported cabbage worm (ICW)**, and in some cases **BAW** and **cross striped cabbage worm** are present. 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 and BAW correctly, because if it present, synthetic pyrethroid insecticides may not provide acceptable control.

Crucifer downy mildew has appeared on broccoli and collard plantings in northern NJ. This fungal infection can cause significant damage to all foliage, and is particularly problematic on leafy greens because of the direct injury to the marketable portion of the plant. Crucifer downy mildew is characterized by yellow lesions on the upper leaf surface, with pale lavender colored sporulation below. Be sure to inspect plantings weekly for the appearance of this disease. Longer periods of leaf wetness favor the development of this disease. Consult the *2013 Commercial Vegetable Production Recommendations* for fungicides and rates.

Hawaiian Beet Webworm

As noted in a pest alert late last week, **HBWW** has again appeared in fair numbers in New Jersey. This pest favors beet foliage, as well as spinach and Swiss chard. Amaranths (both cultivated, and pigweed) are also hosts. At present, adults (a small moth – see photo) have been seen in Cumberland, Salem and Somerset counties. As yet, damage has not occurred in host crops, but the larvae will damage foliage and produce webbing on the underside of leaves.

