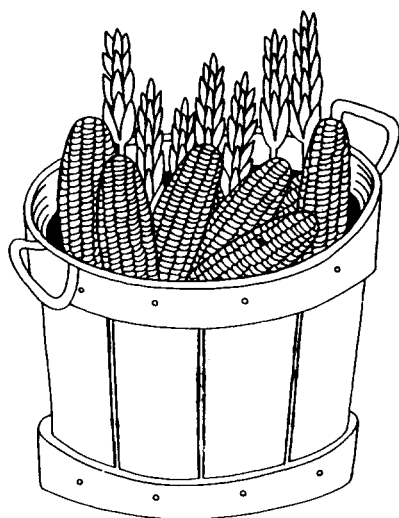


PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

OCTOBER 3, 2007



INSIDE

IPM Update 1

Weekly Weather Summary . . . 3

IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

European corn borer (ECB) adult numbers have declined to nearly nothing over the past week, signaling the end of the last flight (see ECB map). Larval feeding may still be found on some late sweet corn plantings. Most late plantings are in silk, and the silk spray schedule required for **corn earworm (CEW)** control should prevent damage from ECB at this time.

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

Allentown	1	Elmer	1	New Egypt	1
Centerton	1	Hackettstown	1	Phillipsburg	1
Clinton	1	Jones Island	1		
Denville	1	Little York	1		

Fall armyworm (FAW) feeding in all stages of growth is heavy at this time. FAW is capable of causing significant injury to sweet corn plants and will feed on all stages, including seedlings. For this reason it is necessary to check all pre-silking fields for signs of FAW feeding. Look for large, ragged holes and lots of caterpillar droppings in the whorl. Consider treating if 12% or more FAW injury is found alone, or in combination with ECB injury in a planting. For B.t. corn, silk sprays are still necessary to prevent ear damage by FAW. This pest is not as susceptible to the toxin as are ECB and CEW, and some level of infestation can occur. In general, a 3-day silk spray schedule as required for CEW control on non-B.t. corn should be lengthened to 7-days for FAW control in B.t. corn.

Corn earworm (CEW) catches also have declined further throughout the state, although significant numbers remain (see CEW population map). CEW adults pose a significant threat to silking sweet corn. The cross-hatched area (green on the web, found at: www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm) corresponds to a 3-day silk spray schedule.

Silking Spray Schedules*:

- North – 3 days
- Central – 3 days
- South – 3 days

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

SEE IPM ON PAGE 2

IPM FROM PAGE 1

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

East Vineland	10	Wall	4	Chester	2
Denville	7	Hackettstown	3	Elm	2
Farmingdale	5	Georgetown	3	Phillipsburg	2
Clinton	4	Tabernacle	3	Princeton	2

Cole Crops

Cabbage looper (CL), imported cabbage worm (ICW), diamondback moth larvae (DBM), and in some areas, **yellow-striped armyworm (YSAW)** are all being found on the cole crops at this time. In heading type cole crops like cabbage and broccoli, check 5 consecutive plants each in 10 random locations. Look on the undersides of leaves and on the youngest leaves at the center of the plant. Consider treating if 10% or more plants are infested while in the 0-9 true leaf stage. The threshold may increase to 20% from 9 true leaves to the early head stage. Once heads form, the threshold becomes a more conservative 5%, in order to protect the marketable portion of the plant. For leafy greens like collards, use a 10% threshold throughout the life of the crop to minimize injury to the leaves.

Alternaria and **downy mildew (DM)** are present on some plantings. *Alternaria* causes a target-shaped lesion on older foliage, while downy mildew results in a yellow spot on the leaf (typically on collards, kale and broccoli) with white-to-purplish fluffy growth on the lower surface. DM is favored by cooler temperatures and may become more common as the season progresses. See the *2007 Commercial Vegetable Production Recommendations* for useful control materials.

Tomatoes

Stinkbug injury is still occurring on some tomato plantings. Look for a diffuse, yellow blotch on red fruit or a white blotch on green fruit. The actual damage is beneath the skin. If this injury is detected during harvest or scouting and is increasing, consider an insecticide application to limit further damage.

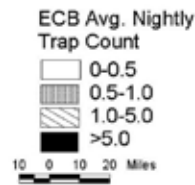
Two-spotted spider mites (TSSM) are active in many late tomato plantings. Look for whitish "pin-spots" on the upper leaf surface as an early indication of infestation. As the population increases, webbing will be produced on the leaves. If left untreated, TSSM will cause foliage to turn brown and dry prematurely. Ideally, TSSM is treated at low levels, when spot applications may be effective.

Peppers

When scouting peppers, be sure to note the presence of **aphids** on the underside of leaves. These pests can build to high numbers on plants, especially with repeated use of synthetic pyrethroid insecticides for ECB management. As colonies increase in size, their droppings result in a sticky coating on the fruit below.

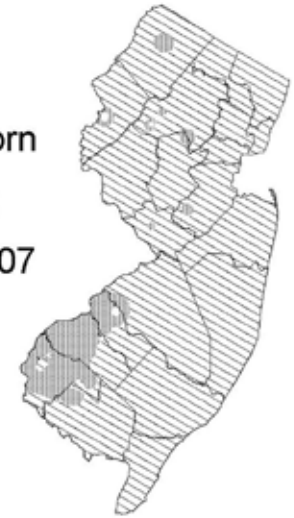
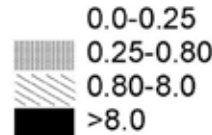
SEE PEPPERS ON PAGE 3

Distribution of Adult European Corn Borer for the Week Ending October 03, 2007



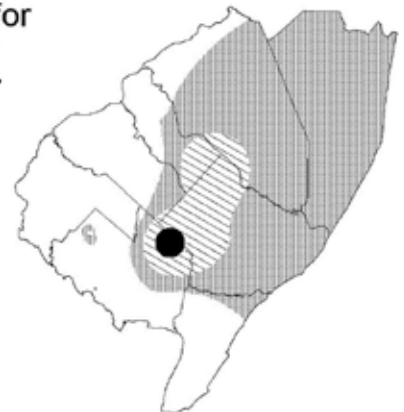
Data collected and processed by: Kris Holmstrom, Marilyn Hughes
Rutgers Cooperative Extension & Center for Remote Sensing

Distribution of Adult Corn Earworm for the Week Ending October 03, 2007



Data collected and processed by: Kris Holmstrom,
Rutgers Cooperative Extension Pest Management Office

Distribution of Adult Beet Armyworm for the Week Ending October 03, 2007



Data collected by Joe Mahar and processed by Kris Holmstrom
Rutgers Cooperative Research and Extension

Consider treating if aphids average 100 or more per 100 leaves sampled. This situation has occurred in several IPM scouted fields and both northern and southern NJ recently.

Severe foliar distortion and russetting of developing fruit may indicate the presence of a **cyclamen mite** infestation. This has occurred recently on one Hunterdon County pepper field. The mites are not visible without a microscope. Initial diagnosis is usually based on plant symptoms and confirmed later in the lab. Miticides labeled for TSSM are effective on cyclamen mite.

Beet armyworm (BAW) adult catches have decreased somewhat in the pheromone network in the southern counties, although catches are still highest in the Elm-Folsom-Hammonton area (see BAW map). Here, catches average over 20/night. Most peppers have been harvested in the area, but those that remain are potential targets for infestation where BAW is high. In most other areas, adult numbers are below those considered potentially damaging at this time. While checking for other insect pests, look for leaves exhibiting heavy feeding near the upper portion of the plant. Often, small BAW larvae will be found near the buds where this feeding occurs. Later, as they enlarge, BAW will begin feeding on fruit.

Pumpkins and Winter Squash

Most pumpkin and winter squash fields are currently being harvested, but for the later fields, be sure to check for the presence of **melon aphids**. These pests are still increasing in a number of northern NJ pumpkin fields. Melon aphids, like other types, deposit sticky droppings. Large populations result in a sticky coating on pumpkins beneath the foliage. If this occurs too close to harvest, the fruit may need to be washed prior to sale. It is very important to scout fields weekly, for the presence of pests including **aphids**. Check 10 mature leaves per site in 10 random sites throughout the field. Consider treating if leaves with an average of approximately 25 aphids are found in each of 10 sample sites. **Cucumber beetles** can increase in fields at this time, causing injury to the rinds of maturing fruit. While scouting, note the presence of striped or spotted cucumber beetles in samples. Consider treating if beetles are found in 2 or more sites, particularly if any feeding (scarring on the rind) is discovered.

Powdery mildew (PM) infections are widespread as we enter the time of harvest. The need for further control is dictated by fruit maturity and time of harvest. If vines are still reasonably healthy with green fruit still present or the field will not be harvested quickly and foliar cover is needed, continue using a protectant fungicide. For recommended fungicide rotations for PM, consult the *2007 Commercial Vegetable Production Recommendations*.

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much, much above normal averaging 67 degrees north 69 degrees central and 70 degrees south. Extremes were 91 degrees at several locations on the 27th, and 44 degrees at Charlotteburg on the 30th. Weekly rainfall averaged 0.00 inches north, 0.00 inches central, and 0.00 inches south. The heaviest 24 hour total reported was 0.02 inches at Canoe Brook on the 28th to 29th. Estimated soil moisture, in percent of field capacity, this past week averaged 81 percent north, 65 percent central and 58 percent south. Four inch soil temperatures averaged 67 degrees north, 68 degrees central and 69 degrees south.

Weather Summary for the Week Ending 8 am Monday 10/1/7

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
CANOE BROOK	.02	43.76	13.72	91	47	70.	12	3243	614	74
CHARLOTTEBURG	.00	31.40	1.06	87	44	67.	11	2793	714	73
FLEMINGTON	.00	34.01	5.36	91	45	68.	9	3046	351	79
NEWTON	.00	27.97	.07	86	45	65.	9	2748	413	73
FREEHOLD	.00	33.04	5.24	90	48	69.	9	3308	433	70
LONG BRANCH	.00	31.90	3.76	85	53	69.	8	3076	257	47
NEW BRUNSWICK	.00	38.43	10.13	90	48	68.	7	3228	224	75
TOMS RIVER	.00	26.95	-1.84	89	50	68.	8	3128	308	46
TRENTON	.00	27.57	.81	91	51	70.	8	3393	264	48
CAPE MAY COURT HOUSE	.00	18.26	-6.72	85	51	69.	5	3283	403	49
DOWNSTOWN	.00	20.26	-5.89	90	47	70.	8	3396	247	50
GLASSBORO	.00	24.57	-2.99	91	54	72.	10	3727	616	54
HAMMONTON	.00	20.51	-7.01	91	48	70.	9	3497	380	44
POMONA	.00	22.26	-2.51	88	50	69.	8	3426	531	47
SEABROOK	.00	21.88	-3.37	89	53	71.	9	3729	559	52
SOUTH HARRISON	.00	24.59	-2.37	90	53	71	NA	3609	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW LAST WEEK 176 (Ending 9/24/07) THIS WEEK 210 (Ending 10/1/07)										

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