

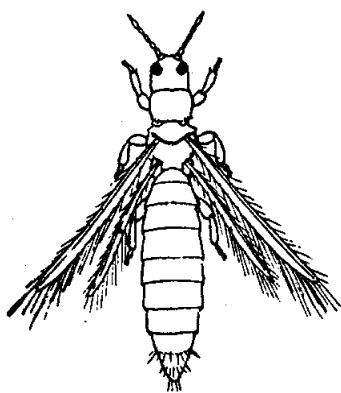
PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

AUGUST 6, 2008

Pest Notes

Gerald M. Ghidui, Ph.D., Specialist in Vegetable Entomology



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✓ **Thrips** populations have been high in tomato and pepper fields throughout southern New Jersey. It is difficult to detect the flower thrips but can be seen by tapping the flowers over a light colored surface (cardboard, paper, etc). Damage appears in several forms, depending on when the thrips oviposit or feed. On peppers and tomatoes, oviposition causes small dimples in the fruit, and feeding causes “gold-flecking”, which is small gold spots appearing as ‘glitter’ or as round, bright halos. Scarring and bronzing also may appear on pepper fruit. Control of flower thrips is recommended if more than half of the inspected flower clusters have thrips. Entrust, SpinTor and Radiant are effective and labeled for flower thrips on peppers and tomatoes. Pyrethroids (lambda-cyhalothrin, Proaxis, Renounce, etc) are labeled for thrips, but are less effective against western flower thrips. Assail and Venom are newer chemistry insecticides that have been effective against flower thrips in research trials throughout the southern US. Both of these are labeled for the fruiting vegetable crop group. In New Jersey, Monitor is labeled for thrips in tomatoes. Remember that high pressure, high volume may be necessary to ensure the spray is forced into the flowers where the thrips hide.

✓ **Stink bugs** and **tarnished plant bug** populations have also been on the increase in tomato and pepper fields, and both nymphs and adults have been reported in increasing numbers. Both of these pests are common on numerous crops, including vegetables, field crops, fruit crops, and even flower crops and weeds. These insects pierce the foliage and fruits with needlelike mouthparts to extract plant sap, and at the same time inject a toxic saliva into the plant. Their feeding causes distorted plant growth, especially terminal growth, and a yellowing or bronzing of the plant leaves and tissue. Many research reports indicate that plant bug damage causes flower buds to abort. In peppers and tomatoes, stink bug damage often appears as white blotches on green fruit, and bright yellow blotches on red fruit, often showing up as individual yellow ‘asterisks’, or entire areas of blotchy yellow. Also, the damage known as ‘catfacing’ occurs on vegetables when these pests feed on the developing fruit. Both of these pests are difficult to control, as they easily fly into and out of fields. Monitor build up of these pests in nearby agronomic crops (corn, soybeans, etc). As the nearby crops

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dry down, the bugs leave that host and fly into nearby tomato and pepper fields. If damage to fruit is increasing, insecticide treatment is warranted. Pyrethroids such as cyfluthrin, lambda-cyhalothrin, Mustang MAX, Proaxis and Renounce and others are labeled. Thionex (old name Thiodan) and Monitor are labeled on tomatoes, and are still effective. These pests are highly mobile and move throughout the plant, so high volume – high pressure are recommended to obtain thorough coverage of the foliage and flowers. □

IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

European corn borer (ECB) adult catches are low in most areas (averaging 1 or less per night), with a few slightly higher catches in parts of Hunterdon, Morris, and Salem counties (see ECB map). ECB feeding is now occurring in sweet corn. For whorl stage sweet corn, consider treating for ECB when 12% or more plants show signs of the “shot-hole” type feeding on newer leaves. Remember to treat plantings as the tassels open and begin a silking stage spray program from that time forward. ECB adults will continue to lay eggs on these plants through the silking stage, and constitute a threat to the ears. A silk spray program as dictated by local corn earworm (CEW) counts will help prevent ear infestations from ECB. Consult the *2008 Commercial Vegetable Production Recommendations* for materials and rates.

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

Flanders	2	Downer	1	Mannington	1
Little York	2	Elm	1	Morristown	1
Springdale	2	Hackettstown	1	Seeley Lake	1
Beemerville	1	Indian Mills	1	Sergeantsville	1

Adult **corn earworm (CEW)** catches have remained steady at fairly low numbers over the past week. Highest and most consistent catches are still in the south (see CEW map), with a particular hot-spot in the area around Centerton, on the Cumberland-Salem County border. Catches in the northern counties are still scattered and light. We are most likely in a situation where CEW adults will increase gradually for the next 2-3 weeks. After this, the adult population may suddenly increase depending on weather patterns. Catches from North Carolina have increased dramatically over the past 10 days, although Maryland and Delaware’s catches are still not exceptional. Large-scale migration of CEW adults is most likely still at least a week away. Overall, our population is a threat to silking sweet corn. Growers should access information on CEW populations from this publication or from population maps posted on the RCE Vegetable IPM Program website: <http://www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm>

Shaded areas on the map (blue on the web) indicate a 4-5 day silking spray schedule, while cross-hatched areas (green on the web) represent a 3-day silking spray schedule.

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

Elm	2	Folsom	1	Medford	1
Woodstown	2	Hopewell	1	Phillipsburg	1
Centerton	1	Green Creek	1	Springdale	1
Downer	1	Mannington	1	Oldwick	1

Fall armyworm (FAW) are actively feeding on corn throughout the state. Larval populations are still somewhat spotty. Feeding tends to be on groups of plants in individual fields with neighboring plantings often unaffected. Feeding will become more uniform in fields as FAW adults increase. FAW is capable of causing significant injury to sweet corn plants and will feed on all stages, including seedlings. For this reason

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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.

Silking Spray Schedules*:

North – 6 days

Central – 3-5 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.

Pumpkins and winter squash

Powdery mildew (PM) is occurring on early plantings of pumpkin and winter squash now. As fruit set occurs and fruit begin to gain size, (PM) infections will develop. This fungal pathogen first appears as a dime-sized lesion that looks like white powder. They can develop on either leaf surface as well as the petioles. While scouting, look on mature leaves, particularly those within the canopy for PM lesions. When the threshold of 1 lesion per 50 older leaves is reached, begin the regular, weekly protectant fungicide program.

Be alert for the possibility of **downy mildew (DM) infections**. As of August 4, DM has been detected on cucumbers in Cumberland and Salem counties. So far, infections appear to be on cucumber only, but this situation may change as other strains arrive. Check the Cucurbit Downy Mildew Forecast website (<http://www.ces.ncsu.edu/depts/pp/cucurbit/forecasts/c080714.php>) for details on the latest forecast and spore trajectories. DM first appears as sharp yellow lesions on the upper surface of leaves. Veins are yellow and constricted on the lower leaf surface. Shortly after this, dark sporulation occurs along veins on the lower surface beneath the lesion. This sporulation will be present when conditions are wet or very humid. In a matter of several days, significant defoliation can occur. Fungicides specific to DM and related fungi are required for good control of this pathogen. For recommended fungicide rotations for DM and PM, consult the *2008 Commercial Vegetable Production Recommendations*.

Tomatoes

Brown stinkbugs are increasing now, with individuals present in many scouted crops. A dramatic increase in feeding was noted on high-tunnel tomatoes from the northern counties this week. The first feeding in field tomatoes was observed as well. This is the time of year when adults are present and moving around in search of food and egg laying sites. Tomatoes are a favored host, especially if dry weather reduces the availability of native host plants. Now is the time to pay attention to fruit in the field for signs of feeding. Stinkbug feeding on tomatoes first appears as a diffuse whitish blotch

on green fruit. The spot changes to bright yellow as the fruit matures. If this feeding is on the increase in the field or in harvested fruit, consider treating to suppress the population.

High **thrips** activity may be present at this time. Although these pests are most common in the southern part of the state, they may build to economically damaging levels anywhere in New Jersey. When scouting, tap at least 10 random fresh flower clusters onto an index card or other small white surface. If, over a period of days, thrips numbers are increasing in flower samples, consider treating to limit injury.

Peppers

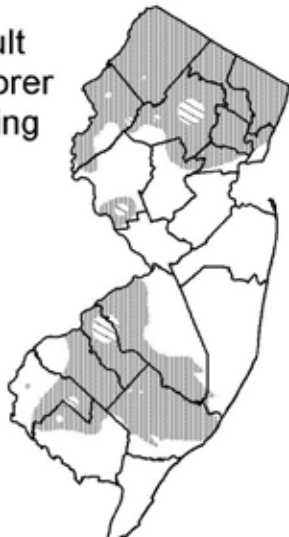
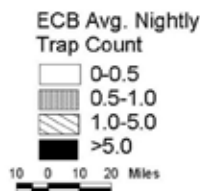
Beet armyworm (BAW) pheromone traps are now in place throughout southern New Jersey. Catches are generally low, but are showing increases across bay-shore areas. A particular hot-spot over the past week has been near Jones Island (see BAW map), where adult catches are 11/night. While this local population is not exceptionally high, it is an indication that activity is increasing and scouting of peppers should begin. When 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.

As **ECB** adult catches increase, consider preventive applications to limit larval infestations in peppers. When local blacklight catches average one or more ECB per night (shaded or cross-hatched areas on the map), it is time to commence weekly insecticide applications. Choice of materials is important. Repeated use of synthetic pyrethroid materials will result in **aphid** and possible **two-spotted spider mite (TSSM)** outbreaks. Spinosad based materials or insect growth regulators (IGR) will not have this effect. For choice of materials, check the *2008 Commercial Vegetable Production Recommendations*.

Note: Activities of the Vegetable IPM Program in northern New Jersey are supported and funded in part by the New Jersey Highlands Council.

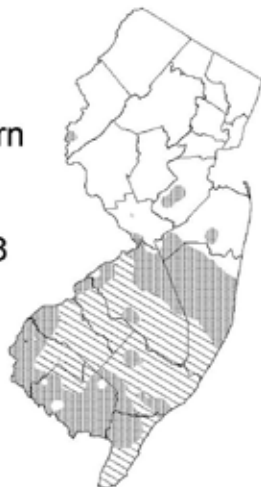
SEE DISTRIBUTION MAPS ON PAGE 4

Distribution of Adult European Corn Borer for the Week Ending August 06, 2008



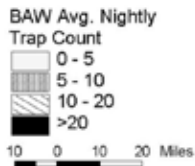
Data collected and processed by: Kris Holmstrom, Marilyn Hughes
Rutgers Cooperative Extension & Center for Remote Sensing

Distribution of Adult Corn Earworm for the Week Ending August 06, 2008



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

Distribution of Adult Beet Armyworm for the Week Ending August 06, 2008



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

It's a Business

Bill Lamont, Penn State Horticulture

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This year is certainly the year to really recognize that our farming activities are indeed first and foremost a business enterprise. I fully realize that there are many other important benefits gained from engaging in a farming enterprise but decisions need to be made on financially sound information. I can remember the days when a grower would be happy if at the end of year there was some cash in their pockets. There wasn't really any economics attached to this balance sheet but just that there was cash in one's wallet. That was a model that survived through many years but now the world has changed and growers are being challenged as never before to farm and still make a profit.

The concept of cheap food has made the consuming public lazy and they have come to expect it as if it is a fundamental right written in the constitution. Well the growers that I have been talking to recently know that this is indeed not the case. Every input into their farming operations has exploded and these costs have to be passed on to the consumer or wholesaler or else one has to review if their farming operation is indeed a viable economic enterprise. I have always challenged growers to be able to tell me how much you have invested in a product at any given time in the life of the crop. Without this kind of detail you are shooting in the dark as far as pricing goes. You as a producer have to have your balance sheet and cost of production for your product down to the penny so you know how to fairly price your product for yourself and your buyer. You are certainly not in the business to sell produce at a loss, which is what you may be doing if you do not really put the economic pencil to your operation. The business of farming especially vegetables and fruits will require not only good books but also education of the consumer as to why the price of your produce has to go up. □

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged above normal, averaging 74 degrees north, 77 degrees central and 78 degrees south. Extremes were 92 degrees at Pomona, Hammonton and New Brunswick on the 2nd, and 58 degrees at Charlotteburg on the 4th. Weekly rainfall averaged 0.28 inches north, 0.23 inches central, and 0.26 inches south. The heaviest 24 hour total reported was 0.67 inches at Cape May Courthouse on the 2nd to 3rd. Estimated soil moisture, in percent of field capacity, this past week averaged 83 percent north, 74 percent central and 70 percent south. Four inch soil temperatures averaged 69 degrees north, 70 degrees central and 72 degrees south.

Weather Summary for the Week Ending 8 am Monday 8/ 4/ 8

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
*BELVIDERE BRIDGE	.31	17.66	-2.53	90	63	76.	3	1808	161	75
CANOE BROOK	MISSING									
CHARLOTTEBURG	.32	20.75	-.71	86	58	73.	1	1721	443	72
*FLEMINGTON	.20	17.88	-2.72	89	59	74.	0	1774	85	82
NEWTON	MISSING									
*FREEHOLD	MISSING									
LONG BRANCH	.31	15.96	-3.96	91	63	77.	2	1759	28	64
NEW BRUNSWICK	.30	21.25	1.26	92	60	77.	3	2068	173	75
TOMS RIVER	.28	17.21	-3.33	90	61	76.	2	2012	278	63
TRENTON	.03	19.76	.55	89	63	77.	1	2152	177	54
CAPE MAY COURT HOUSE	.68	14.63	-3.06	90	64	77.	1	2103	255	79
DOWNSTOWN	.12	17.17	-1.53	90	62	77.	1	2161	174	48
GLASSBORO	.07	16.16	-3.52	90	65	79.	3	2120	159	56
HAMMONTON	.11	15.09	-4.65	92	63	78.	2	2256	296	54
POMONA	.31	17.89	.04	92	63	79.	4	2227	397	63
SEABROOK	MISSING									
SOUTH HARRISON	.19	16.92	-2.92	90	63	78	NA	2117	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW										
LAST WEEK	263 (Ending 7/28/08)									
THIS WEEK	259 (Ending 8/4/08)									
* SOME DATA IS MISSING AND THEREFORE CUMULATIVE AND AVERAGE VALUES WILL BE OFF FOR THESE STATIONS ESPECIALLY FOR PRECIPITATION SINCE SIGNIFICANT RAINFALL OCCURRED DURING THAT PERIOD.										

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