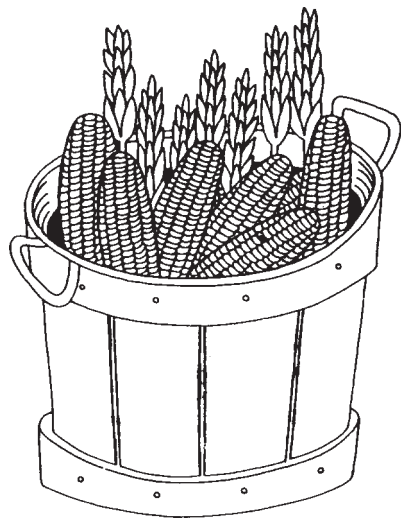


PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

SEPTEMBER 7, 2005



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IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

Adult **European corn borer (ECB)** activity is increasing again in many parts of the state. Cumberland, Gloucester and Salem as well as Burlington, Ocean, and Warren Counties have traps registering very high catches now (see ECB map). The late season flight is now fully underway. Be sure to check all remaining whorl and pretassel stage sweet corn plantings for signs of ECB damage. Check 5 consecutive plants each in 10 random locations. Look for the “shot-hole” type injury on leaves and discolored sections in the emerging tassels. Consider treating when 12% or more of samples plants show fresh feeding signs. Additionally, be sure to treat these early sweet corn plantings as they go to full tassel and first silk. This application will help eliminate remaining ECB larvae before they can re-enter the plant near the developing ear. Current **corn earworm (CEW)** adult numbers require silk spray schedules that will be sufficient to prevent ECB damage to developing ears by larvae that have been deposited on or near the ears themselves. The highest average nightly ECB blacklight catches are:

Centerton	44	Mannington	13	Tabernacle	10
Shirley	26	Elmer	12	Sergeantsville	8
Belvidere	14	Bayside	10	Woodstown	8
Cohansey	14	Seeley Lake	10	Indian Mills	7

Late last week, CEW moth catches increased sharply throughout much of the state. Many traps had double-digit CEW catches per night. As of the weekend, however, the wind shifted to the northwest, and evening temperatures have dropped. This event has limited the influx and activity of CEW at least temporarily. In general, the current population is one that requires a 3-day silk spray schedule to manage effectively. At present, CEW numbers are not at the extreme levels we sometimes get in September. It is important to keep track of the weather. Should dominant winds come again from the south, we may experience another significant increase in CEW adults in our region. On the map, crosshatched areas (green on the web version) <http://www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm> warrant a 3 day silk spray schedule. Black areas on the map (red on the web version) indicate a 2-3 day spray schedule. The highest average nightly CEW blacklight catches are:

SEE IPM ON PAGE 2

Chapel Heights	21	Woodstown	13	Elmer	9
Shirley	16	Hackettstown	12	Sergeantsville	8
Mannington	14	Jones Island	12	Belvidere	7
Tabernacle	13	Hammonton	11	Pedricktown	7

Fall Armyworm (FAW) is active throughout the state, with infestations common. Damage is quite high in some cases. This pest will lay eggs on all stages of sweet corn, including large seedlings. As a result, it now becomes critical to include seedling stage corn in scouting activities. Initial injury to sweet corn appears as “window-pane” type feeding on leaves, with damaged areas progressing down toward the whorl. As the larvae increase in size, they begin to chew large, ragged holes in the leaves, and their brown droppings are quite obvious. Consider treating when 12% or more plants are infested with FAW alone, or in combination with ECB.

General 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 sweet corn.

Pumpkins

As fields mature, it is important to determine when to discontinue fungicide applications. Fields still having adequate foliage should be treated to limit **powdery mildew (PM)** and **downy mildew (DM)** damage as long as fruit must remain in the field for several more weeks. If foliage is largely gone, or fruit are to be removed promptly, it is not necessary to continue the foliar program.

Phytophthora fruit rot has increased in a number of fields over the past week. This disease, which also affects crowns and foliage, is easily identified by the white, yeast-like growth on pumpkin fruit prior to complete collapse of the affected fruit. Although there are fungicides labeled for its control, these are more effective at limiting the foliar phase than at controlling fruit rot. Because the fungus often infects fruit where there is soil contact, coverage with a fungicide is difficult. Adequate field rotation (4-5 years) should be observed to avoid future loss to this type of organism. For the present, maintain the necessary foliar program to minimize losses to the mildews on plants that are not affected by any crown rot. Consider early removal of healthy fruit if the field if there are signs of fruit rots. To avoid spreading fruit infections, do not stack fruit after removal from the field.

Now is the time to monitor fields frequently for the return of **cucumber beetles**. These insects often feed on maturing fruit late in the season, causing scarring on the rinds. This injury is more severe on large varieties like ‘Atlantic Giant’ and ‘Prizewinner’, where the beetles frequently bore into the flesh, causing rot to set in. Check 100 fruit at random at least weekly. If cucumber beetles

or fruit injury are seen in more than one area of the field, consider treating to limit further damage.

Peppers

Aphids, **TSSM**, and **thrips** are all potential pests of peppers at this time. Monitor fields weekly for the presence of these organisms. Check 2 leaves and 2 fruit per plant on 5 consecutive plants in 10 random locations in the field. Observe the under sides of leaves for aphids and mites. Consider treating if aphid numbers exceed 100 per 100 leaf sample or there are fruit on the plants that are being disfigured by the sticky droppings of the aphids. Consider treating for TSSM if more than 10% of sampled leaves are infested. (Spot treatments may be useful if the infestation is localized). Observe fruit and leaves for the light or silver-colored streaks caused by thrips feeding. Consider treating if thrips are found on 10% or more fruit, or 10% or more plants or fruit are showing signs of fresh feeding.

With current **ECB** and **CEW** activity throughout the state, it is important for all pepper plantings to be protected against fruit infestation by these pests. Both larvae will penetrate fruit just under or near the cap, resulting in increased incidence of soft rot. Plantings should be treated weekly to minimize injury. Consult the *2005 Commercial Vegetable Production Recommendations* for labeled materials. On the ECB map, peppers in any black, shaded or cross-hatched area are at risk for infestation. On the CEW map, areas in black (red on the web version) are at risk from CEW infestation also.

Beet armyworm activity has expanded somewhat over the past week. On the BAW map, the shaded area indicates a light population that is not likely to be injurious at present levels. The crosshatched area represents a moderate population, and scouting of peppers for injury should be undertaken in that area. The black region on the map indicates a potentially damaging population. Fields in this area should be scouted frequently for the first signs of BAW feeding. BAW catches remained high in Cumberland and Atlantic Counties over the past week, and the area of highest activity has spread to include much of Salem County. High catches over the past week include 61 adult BAW per night near Jones Island and 50 per night near Cedarville in Cumberland County. Initial BAW feeding occurs on leaves near the growing terminals. Foliage has numerous ragged holes, and the small green larvae may be found curled up near the buds. As the larvae enlarge, they begin to damage fruit, and become much harder to control. Scouting is critical to optimizing control of BAW.

Cole Crops

Cabbage looper (CL) infestations are high in many cabbage, broccoli and other cole crop plantings at this time. These caterpillars do considerable damage to the larger leaves before moving onto developing heads as the plants mature. They are capable of causing significant

SEE COLE CROPS ON PAGE 3

COLE CROPS FROM PAGE 2

loss on all crops, but especially on collards and kale, where the mature leaf is the saleable portion. Check 5 consecutive plants each in 10 random locations in the field. Consider treating if greater than 20% of heading type cole crops are infested prior to head formation and if greater than 5% are infested when heads are present. For leafy greens, consider treating if 10% or more plants are infested at any time.

Snap Beans

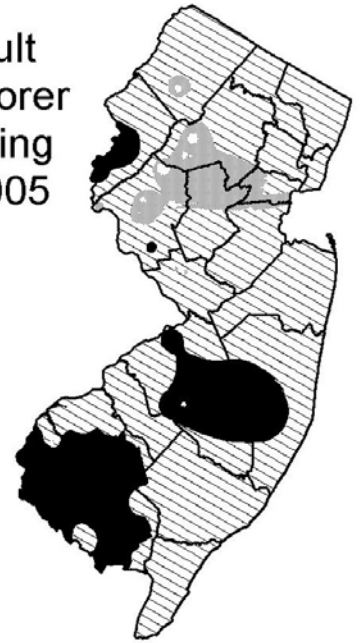
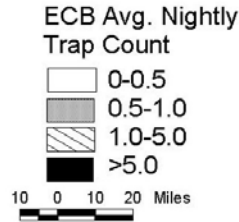
High **ECB** and **CEW** activity poses a threat to snap and lima beans at this time. It is important to treat snap bean fields at the blossom and pin stages as long as local trap catches are 5 or more ECB per night. Subsequent weekly applications should be made if ECB catches are above 10 per night. Extremely high adult populations (25-50) moths per night may require a 6-day spray interval on snap beans. This type of population is now present in parts of Cumberland County, where processing snap beans are grown. If ECB is not high enough to generate a spray schedule, but CEW catches exceed 20 per night, consider treating snap beans at 5-7 day intervals.

Distribution of Adult Beet Armyworm for the Week Ending September 07, 2005



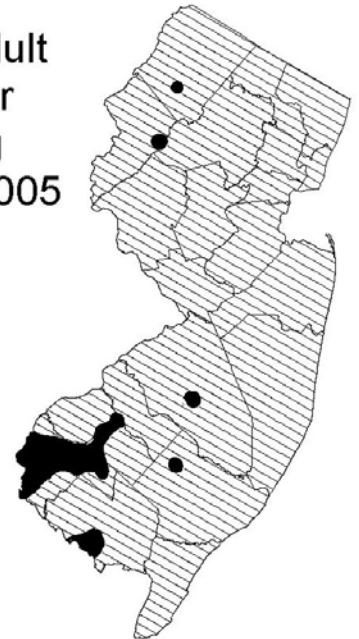
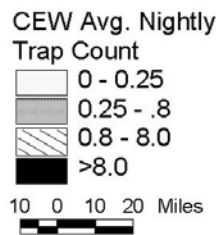
*Data collected by Joe Mahar and processed by Kris Holmstrom
Rutgers Cooperative Research and Extension*

Distribution of Adult European Corn Borer for the Week Ending September 07, 2005



*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 September 07, 2005



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

Vegetable Disease Update

Andy Wyenandt, Ph.D., Specialist in Vegetable Pathology and Wesley Kline, Ph.D.,
Cumberland County Agricultural Agent

✓ **Cucurbits – Powdery mildew – Powdery mildew is developing on cucurbits in south Jersey.** Powdery mildew typically occurs from mid-July until the end of the season. Unlike Downy mildew, the diagnostic characteristics of Powdery mildew **are pure white 'fuzzy' growth on both the upper and lower leaf surface, petioles and stems.**

Symptoms typically begin on older, lower leaves and can develop and spread rapidly under dry, humid conditions. Control of Powdery mildew begins with regular scouting for symptoms and weekly fungicide applications. Fungicide resistance management of the fungus which causes Powdery mildew is critical. Fungicides with a high risk for resistance development such as the strobilurins (Cabrio, Pristine, Flint, Amistar, Tanos, Group 11) should be tank mixed with a protectant fungicide such as Bravo (M4) or Sulfur (M1) and rotated with fungicides of a different chemistry such as Bravo (chlorothalonil, M4 + Nova or Procure (Group 3). Group 3 fungicides are also high-risk and should never be applied alone. Growers need to read and follow restrictions on labels carefully. For more information on control of Powdery mildew and other important diseases of cucurbits please see the *2005 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Cucurbits – Downy Mildew –** Downy mildew continues in all cucurbit plantings. In some fields Downy mildew has caused 100% loss. Growers should take great precautions to keep Downy mildew under control. If Downy mildew has been a problem in fields, growers should scout and continue on a weekly fungicide maintenance program. There are a number of fungicides labeled for control of Downy mildew and many will help control other important diseases in cucurbits. For information on control of Downy mildew and other important diseases of cucurbits please see the *2005 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Tomato – Anthracnose –** Symptoms of Anthracnose are easily diagnosed. Symptoms on ripe fruit appear as water-soaked circular lesions that often have a lighter colored tan center. Black fruiting bodies are often visible in the center of Anthracnose lesions. Control of Anthracnose begins with preventative fungicide applications. Fungicides labeled for other important foliar and fruit diseases of tomato will help control Anthracnose. If fruit-ripening agent has been used, additional fungicide applications may be necessary to help control Anthracnose. For more information on control please see the *2005 New Jersey Commercial Vegetable Production Recommendations*. □

Annual Farm Safety Twilight Meeting

The 4th Annual Farm Safety Twilight Meeting will be held hosted by Paul and Barbara Shinn at the Toyland Farm (610 Georgetown-Juliustown Road, Jobstown, NJ) on Wednesday, September 21, 2005, from 6 to 9 p.m.

This meeting is intended for the entire farm family since safety is everyone's concern.

Attendees will hear talks and see demonstrations on subjects such as equipment safety, fire prevention, skin/sun protection, chainsaw safety, and many other topics. We will also have a special breakout session for the children. A special new feature for this year's meeting is a "Personal Protection Equipment Fashion Show", to demonstrate the latest gear for pesticide applicators. The meeting will be **free of charge** to farm families and will include **pesticide credits, a pig roast, spectacular home made desserts, take home safety items**, and much more.

Registration is required by September 14, 2005. Please call Rutgers Cooperative Research & Extension of Burlington County at (609) 265-5050 to reserve your seat today! □

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much above normal, averaging 72 degrees north, 75 degrees central and 76 degrees south. Extremes were 92 degrees at New Brunswick on the 1st, and 52 degrees at Andover on the 5th. Weekly rainfall averaged 0.18 inches north, 0.12 inches central, and 0.32 inches south. The heaviest 24 hour total reported was 0.93 inches at South Harrison on the 29th to 30th. Estimated soil moisture, in percent of field capacity, this past week averaged 67 percent north, 50 percent central and 41 percent south. Four inch soil temperatures averaged 71 degrees north, 74 degrees central and 75 degrees south.

Weather Summary for the Week Ending 8 am Monday 9/ 5/ 5

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	missing									
CANOE BROOK	missing									
CHARLOTTEBURG	missing									
FLEMINGTON	.10	24.63	-.64	89	54	74.	7	2750	398	63
NEWTON	.26	18.81	-5.71	84	52	70.	6	2545	474	61
FREEHOLD	.19	23.73	-.90	90	54	74.	6	2781	296	61
LONG BRANCH	.13	22.46	-2.52	90	59	75.	6	2766	339	32
NEW BRUNSWICK	.08	23.69	-1.22	92	56	76.	6	2909	290	62
TOMS RIVER	.19	23.91	-1.60	90	55	75.	5	2725	309	33
TRENTON	.01	24.20	.58	89	59	76.	6	2941	225	31
CAPE MAY COURT HOUSE	1.56	24.64	2.58	89	60	75.	4	2550	138	71
DOWNSTOWN	.02	19.81	-3.49	89	57	75.	5	2799	77	44
GLASSBORO	missing									
HAMMONTON	.01	21.74	-2.58	91	58	76.	6	2886	183	20
POMONA	.00	20.52	-1.85	91	58	77.	9	2800	279	23
SEABROOK	.00	22.12	-.18	90	62	77.	7	3105	368	28
SOUTH HARRISON	.95	24.53	.58	88	61	76	NA	2861	NA	NA
*SOME CUMULATIVE VALUES ESTIMATED DUE TO MISSING PAST DATA										
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week* 226 (Ending 8/29/05)										
This Week 243 (Ending 9/5/05)										
* February total base 40 equals 32 units										

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCRE in your County.

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