

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

SEPTEMBER 17, 2008



INSIDE

Pest Notes1
Vegetable Disease Update2
IPM Update4
Weekly Weather Summary6

Pest Notes

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

✓ **Spinach:** Cornell (Long Island Research Center) IPM reports **Hawaiian Beet Webworm moths** are active along weedy field edges in eastern Long Island. Hawaiian beet webworm larvae (caterpillars) feed on leaf undersides and eat small holes in spinach, chard, beet and amaranth leaves. When the population is high, they can cause significant damage to spinach. This is about the time that moths are noticeable in the field, or along field edges, so closely monitor for these adults (small, dark brownish moths with characteristic white bands on the wings). Also, moths are also attracted to blacklight traps, and activity can be monitored with these traps. Webworms can be controlled using a Bt, Confirm, Intrepid or Coregan. Because larvae feed on the leaf undersides, thorough leaf coverage is necessary for effective management. Control of webworms is necessary while worms are small and before they move into the heart of the plant.

✓ **Lima beans:** **Lygus bug** populations have been high on lima beans throughout some southern NJ counties. These pests attack the pods, and ruin the developing bean within the pod. Effective materials for Lygus bugs include dimethoate, Lannate, Thionex (old Thiodan), or any of several pyrethroids, including bifenthrin (Brigade and others), lambda-cyhalothrin (Warrior and others), Mustang MAX and Proaxis.

✓ **Pumpkins:** **Cucumber beetle** populations are relatively low at this time, but stink bugs have been reported in high numbers in southwestern NJ and other areas. Although not normally an economic pest of pumpkins, stinkbugs can sting the leaves and fruit, causing damage to both. The pyrethroids have been especially effective against stink bugs in many crops, including pumpkins. Asana, bifenthrin, lambda-cyhalothrin, Baythroid, and permethrin (Pounce 3.2EC and others) will control stink bugs in pumpkins. These pests are highly mobile, and thorough coverage of the foliage and fruit is important.

✓ **Cabbage and related crops:** Low numbers of **cabbage worm** pests are reported throughout the entire Mid-Atlantic area. Monitor fields closely for **cabbage loopers**, **imported cabbageworms**, and **diamondback moth larvae**, and treat if 20% or more of the plants are infested with any worm species before heading, and if 5% of the plants are infested after heading. Obtain thorough leaf coverage, especially to leaf undersides and into the center of the plant. Consult page F18 of the *2008 Commercial Vegetable Production Recommendations for NJ*

SEE PEST NOTES ON PAGE 2

for more suggestions on worm control in cabbage and related crops. Two newly labeled and highly effective insecticides for the cole crops include Synapse and Coragen.

Synapse (flubendiamide) is labeled on the leafy Brassicas (broccoli, Brussels sprouts, cabbage, Chinese cabbage, collards, kale, kohlrabi, mustard greens, etc) for loopers, imported cabbageworms, diamondback moth, and armyworms (including fall and beet armyworms).

Coragen (chlorantraniliprole) is labeled on the leafy Brassicas also (broccoli, Brussels sprouts, cabbage, Chinese cabbage, collards, kale, kohlrabi, mustard greens, etc) for cabbage loopers, corn earworms, cross-striped cabbageworms, Hawaiian beet webworms, beet armyworms, and diamondback moth larvae.

Both of these new materials are extremely effective against these worm pests, and are used at very low rates (Coragen at 3-5 oz per acre, and Synapse at 4-5 oz per acre). In field trials throughout NJ, DE, MD, NY and VA these materials have resulted in excellent control of all of the major worm pests. □

Vegetable Disease Update

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

✓ **Cole Crops – Downy mildew** can be a problem in fall cole crops (cabbage, collards, broccoli, cauliflower and kale). Infection begins as irregular yellow spots on leaves which later turn brown. A white fluffy growth develops on the underside of leaves during cool moist weather. When the disease first appears apply a fungicide every 7 to 10 days. Azoxystrobin (Quadris), Bravo, Cabrio, Maneb, Ridomil Gold Bravo, Actigard and Aliette are labeled. For more information on control please see the *2008 New Jersey Commercial Vegetable Production Recommendations*.

✓ **Cucurbits – Downy mildew - Downy mildew has been detected on cucumber, cantaloupe, butternut squash, pumpkin and watermelon in New Jersey. Basic fungicide maintenance programs for all cucurbit crops should be adjusted to include fungicides for downy mildew control.**

Tank mix one of the products listed below with a protectant fungicide such as chlorothalonil (M5), maneb (M3), or mancozeb (M3) (see label for rates and specific crop use).

Ranman (cyazofamid, 21) at 2.1 to 2.75 fl. oz. 400SC/A, or
Previcur Flex (propamocarb HCL, 28) at 1.2 pt 6F/A, or
Gavel (zoxamide + mancozeb, 22 + M3) at 1.5 to 2.0 lb 75DF/A (some muskmelon may be sensitive)

Curzate (cymoxanil, 27) at 3.2 oz 60DF/A, or

Tanos (famoxodone + cymoxanil, 11 + 27) at 8 oz 50WDG/A

Remember that downy mildew materials should always be tank mixed with a protectant fungicide and rotated weekly with fungicides from a different FRAC code to reduce the chances for fungicide resistance development. For more information on CDM control please see the *2008 New Jersey Commercial Vegetable Production Recommendations Guide*. To track the progress of CDM please visit NCSU cucurbit downy mildew forecasting webpage at:

<http://www.ces.ncsu.edu/depts/pp/cucurbit/>

If you suspect downy mildew on your farm, please contact your county agent or Andy Wyenandt (856) 455-3100 ext 4144 so we can confirm its presence in New Jersey.

✓ **Cucurbits – Powdery mildew** - In a typical year, powdery mildew occurs from mid-July until the end of the season. Symptoms typically begin on older, lower leaves and can spread rapidly under dry, humid conditions. **Control of Powdery mildew begins with regular scouting for symptoms and weekly fungicide applications.** Begin a fungicide program when PM has been found in region and/or when 1 lesion is found on the underside of 45 leaves. Fungicide resistance management of the fungus which causes Powdery mildew is critical in the mid-Atlantic region! Fungicides with a high risk for resistance development, such as the strobilurin (Pristine, FRAC code 11) and Nova or Procure (FRAC code 3), should be tank mixed with a protectant fungicide such as chlorothalonil (M5) and rotated with fungicides of a different chemistry.

**For control of cucurbit Powdery mildew in:
Pumpkin and winter squash fields:**

SEE DISEASE UPDATE ON PAGE 3

Alternate:

Nova or Rally (myclobutanil, 3) at 5 oz 40WP/A plus chlorothalonil--2-3 pt 6F/A, or Procure (triflumizole, 3) at 4-8 oz 50WS/A plus chlorothalonil--2-3 pt 6F/A

With:

Micronized Wettable Sulfur (M2) at 4 lb 80W/A, sulfur may injure plants especially at high temperatures. Certain varieties can be more sensitive. Consult label for precautions, or

With a tank mix containing:

chlorothalonil plus Pristine (pyraclostrobin + boscalid, 11 + 7) at 12.5-18.5 oz 38WG/A

If Powdery mildew has become well established in the mid- to late part of the season, only apply protectant fungicides such as chlorothalonil or sulfur.

Summer squash and cucumber fields:

Alternate:

Nova or Rally (myclobutanil, 3) at 5 oz 40WP/A plus chlorothalonil at 2-3 pt 6F/A, or Procure (triflumizole, 3) at 4-8 oz 50WS/A plus chlorothalonil at 2-3 pt 6F/A

With a tank mix containing:

chlorothalonil plus Pristine (pyraclostrobin + boscalid, 11 + 7) at 12.5-18.5 oz 38WG/A

In Muskmelon and Watermelon fields:

Alternate:

Nova or Rally (myclobutanil, 3) at 5 oz 40WP/A plus chlorothalonil at 2-3 pt 6F/A, or Procure (triflumizole, 3) at 4-8 oz 50WS/A plus chlorothalonil at 2-3 pt 6F/A

With a tank mix containing:

Quintec (quinoxifen, 13) at 6 oz 2.08F/A plus chlorothalonil at 2-3 pt 6F/A

chlorothalonil plus Pristine (pyraclostrobin + boscalid, 11 + 7) at 12.5-18.5 oz 38WG/A

For more information on control of Powdery mildew of cucurbits please see the *2008 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Leeks – Purple Blotch** – Symptoms of Purple blotch include tannish-brown, elongated, concentric, circular lesions with chlorotic margins. Lesions run parallel with the leaf veins. Development of Purple blotch is favored by warm night temperatures. Fungicide applications should begin in the fall as soon as transplants are set out on 10-day intervals as long as night temperatures remain warm. There are a number of fungicides labeled for the control on Purple blotch. For more information on control please see the *2008 New Jersey Commercial Vegetable Production Recommendations*.

✓ **Lettuce –Bottom rot/Drop** – For Bottom Rot, Endura 70W (boscalid, 7) at 8 to 11 oz/A, or iprodione (FRAC code 2) at 1.5 to 2 lb/A should be applied one week after transplanting or thinning and 10 and 20 days

later. For Drop, the biological Contans 5.3WG at 2 to 4 lbs/A pre-plant can be incorporated at a depth of 1 to 2 inches, or iprodione (FRAC code 2) at 1.5 to 2 lb/A or Botran at 2 to 5.5 lbs 75WP/A beginning one week after transplanting or thinning and again at 10 and 20 days later. For more information on control of Bottom Rot and Drop and other important diseases of lettuce please see the *2008 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Pumpkin - White mold or Sclerotinia rot** - White mold may cause problems when pumpkins are planted in the same field each year and in fields where other susceptible crops such as bean have been grown. Development of white mold is favored by prolonged, cold wet weather. Symptoms often begin to show up as a soft, mushy area around the stem as the fruit reaches maturity. Infected fruit often collapse inward near the stem. Large, black fruiting bodies (sclerotia) may be produced around infected areas. Sclerotia serve as overwintering and long-term survival structures. A long crop rotation is necessary to help control white mold. Infected fruit should be removed from the field immediately. Early maturing fruit left in the field for a prolong time period are susceptible to white mold.

✓ **Pumpkin - Sunscald injury** - Sunscald injury occurs when pumpkin fruit are suddenly exposed to heavy sunlight during the latter stages of fruit ripening during the fall. Sunscald injury often occurs when pumpkin plants become prematurely defoliated in the early fall by Powdery mildew or Downy mildew or when vines collapse due to Phytophthora blight or bacterial wilt. Symptoms of sunscald injury include the collapsing of rind tissue on the side of the fruit which is in direct contact with the afternoon sun. Sunscald injury often develops as a pinkish-red color on exposed fruit which becomes flat in appearance. Over time fruit tissue may become tan to brown and secondary pathogens often invade the sunscald injured areas of the fruit. To help reduce the potential for sunscald injury, maintain foliage for as long as necessary, especially if fruit are going to be left in the field for long periods.

✓ **Spinach – White Rust** – Symptoms of White rust include **irregular, chlorotic areas on the upper leaf surface with white, blister-like pustules developing on lower leaf surface**. Development of White rust is favored by cool nights and mild day temperatures with **prolonged periods of dew or fog which favor wet leaf surfaces**. Control of White rust begins with crop rotations of 2 or more years. Some varieties have partial resistance and should be used if possible. A preventative fungicide schedule should begin 2 to 3 weeks after planting, and/or **if weather conditions favor disease development**. There are a number of fungicides labeled for the control of White rust on spinach. For more information on the control of White rust on spinach please see the *2008 New Jersey Commercial Vegetable Production Recommendations*. □

IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

European corn borer (ECB) adult catches are very low in most areas except in parts of Cumberland and Salem counties (see ECB map). For any remaining 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. A silk spray program as dictated by local corn earworm (CEW) counts will also 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:

RAREC	2	Downer	1	Princeton	1
Beckett	1	Elm	1	Seeley Lake	1
Belvidere	1	Mannington	1	Shiloh	1
Centerton	1	Matawan	1	Tabernacle	1

Adult **corn earworm (CEW)** catches have stabilized at moderate levels for mid - September. Although a few traps are catching high numbers, most areas do not have the population we would expect to see at this time of year (see CEW map). As nights warm, catches may increase, while temperatures in the 50°F range will suppress activity. See below for the recommended silk spray schedule. This population is a serious 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>

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:

RAREC	13	Georgetown	7	Jones Island	5
Beckett	9	Elm	6	Allamuchy	4
Indian Mills	9	Mannington	6	Centerton	4
New Egypt	9	Crosswicks	5	Tabernacle	4

Fall armyworms (FAW) are actively feeding on corn throughout the state. 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.

Note: B.t. sweet corn still needs to be treated during the silk stage! While this corn effectively elimi-

nates ECB and CEW, some FAW will still infest ears. In general, when a 3-day schedule is required for CEW control, B.t. corn should be treated on a 7-day schedule through the silk period.

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.

Pumpkins and winter squash

Many pumpkins plantings in the northern counties appear to have matured early, and despite good control of foliar diseases, the vines are in decline. Observations of fruit show good quality with solid handles in most cases.

Be alert for the possibility of **downy mildew (DM) infections**. This is important mainly for the latest plantings at this time. DM has been detected on several cucurbit crops throughout NJ. The Cucurbit Downy Mildew Forecast website (<http://www.ces.ncsu.edu/depts/pp/cucurbit/forecasts/c080714.php>) is a great resource for information and forecasts regarding DM. Check Dr. Andy Wyenandt's disease update in this newsletter, and the Cucurbit Downy Mildew Forecast website 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*.

Be sure to look at the surface of pumpkin fruit while scouting plants. **Cucumber beetles** often feed on the rinds late in the season, resulting in scarring or even holes in fruit. This is particularly common on giant varieties like Big Max and Atlantic Giant. In some cases, these wounds result in a fruit rot. Consider treating if cucumber beetles are found at 2 or more of the 10 sample sites, and injury is found on any fruit.

Tomatoes

As **CEW** trap catches increase, the potential for fruitworm injury increases. Be sure to check fruit near the upper part of the canopy for feeding. CEW will enter the fruit around the shoulder, leaving one or more holes in fruit. Often, larvae may be seen half-way in the fruit as they feed. If this damage is increasing to a point where it is present in more than two sites in ten, consider treating to limit injury. Consult the *2008 Commercial*

SEE IPM ON PAGE 5

Vegetable Production Recommendations for materials and rates.

Mite infestations have become more frequent lately, with prolonged dry conditions. Check for whitish pin-spots on the upper surface of leaves. Two-spotted spider mites (TSSM) will be underneath these leaves. When TSSM increases, feeding will result in yellow areas on leaves, and an increase in webbing on affected areas. Finally, leaves will turn brown and dry. Treat as soon as TSSM are found, as small infestations may be handled with spot treatments. Large infestations become difficult to manage.

Peppers

Beet armyworm (BAW) pheromone traps are in place throughout southern New Jersey. Most catches are very low, but the usual hot-spot along the Salem - Cumberland border remains higher (see BAW map). Catches in the 5-10/night range (shaded on the map) indicate that regular scouting should occur in that area. Cross-hatched areas (10-20/night) mean there is an increase threat of egg-laying. Black areas (>20/night) indicate a significant threat for infestation. Scouting should commence immediately in those areas. 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.

With higher **ECB** adult catches in parts of southern NJ, peppers in those areas are at risk of infestation. 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*.

Cole Crops

As late season plantings emerge, be sure to check at least weekly for the presence of flea beetles. This pests can damage seedlings quite badly if not controlled. Check 5 consecutive plants each in 10 random locations. Consider treating if flea beetles are present on 50% or more plants and damage is visible on leaves.

Cabbage looper (CL), imported cabbage worm (ICW), and diamondback moth larvae (DBM) are all present on cole crops at this time. Scout plantings weekly, 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.

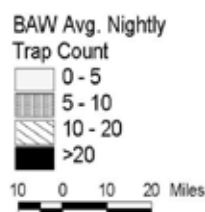
Crucifer downy mildew (CDM) has been on the increase in cole crop plantings in northern NJ at this time. It is particularly common in direct seeded collard plantings where plants are closely spaced and foliage remains wet all day. Look for yellow lesions on the upper surface of leaves with white – to light purple sporulation beneath. This disease can significantly reduce the marketability of leafy greens.

Greens

Last September and October, a number of spinach, chard, and beet fields suffered from infestations of **Hawaiian beet webworms (HBWW)**. The adult (a small gray moth with white spots on the wings) is frequently found in low numbers late in the season, but does not usually result in the type of infestations we had last year. In an effort to provide advance warning of such an event, Joe Ingerson-Mahar and southern IPM technicians are monitoring blacklight traps for increases in this pest. As yet, only scattered individuals have been captured. Increases in HBWW adult catches will be reported in this publication.

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

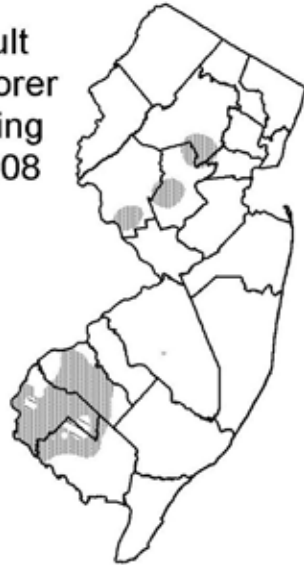
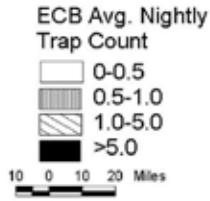
Distribution of Adult Beet Armyworm for the Week Ending September 17, 2008



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

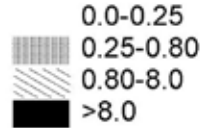
SEE ECB AND CEW DISTRIBUTION MAPS ON PAGE 6

Distribution of Adult European Corn Borer for the Week Ending September 17, 2008

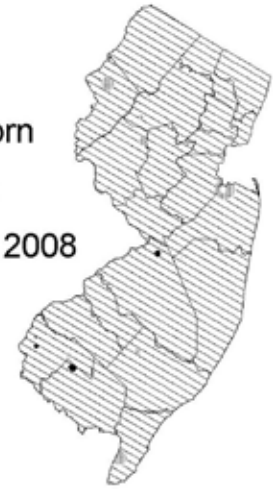


Data collected and processed by: Kris Holmstrom, Marilyn Hughes
Rutgers Cooperative Extension & Center for Remote Sensing

Distribution of Adult Corn Earworm for the Week Ending September 17, 2008



10 0 10 20 Miles



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

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much above normal, averaging 68 degrees north, 70 degrees central and 72 degrees south. Extremes were 93 degrees at Canoe Brook and Flemington on the 15th, and 50 degrees at Toms River on the 12th. Weekly rainfall averaged 1.40 inches north, 1.20 inches central, and 1.19 inches south. The heaviest 24 hour total reported was 1.38 inches at Newton on the 9th to 10th. Estimated soil moisture, in percent of field capacity, this past week averaged 97 percent north, 93 percent central and 93 percent south. Four inch soil temperatures averaged 71 degrees north, 72 degrees central and 73 degrees south.

Weather Summary for the Week Ending 8 am Monday 9/15/ 8

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	1.41	22.47	-3.96	90	55	71.	7	2727	286	91
CANOE BROOK	.94	25.88	-1.86	93	52	67.	2	2644	196	95
CHARLOTTEBURG	1.53	29.24	1.22	88	51	66.	5	2495	550	93
FLEMINGTON	1.25	23.74	-2.84	93	54	69.	4	2643	132	95
NEWTON	1.89	24.97	-.86	88	53	68.	6	2797	598	93
FREEHOLD *	1.31	18.57	-7.29	92	52	70.	4	2502	-157	93
LONG BRANCH	1.08	20.66	-5.54	85	54	70.	3	2651	49	87
NEW BRUNSWICK	1.30	30.26	4.04	92	55	70.	4	2994	198	94
TOMS RIVER	.72	23.76	-3.01	90	50	70.	3	2901	295	81
TRENTON	1.60	25.59	.75	91	56	71.	4	3117	217	85
CAPE MAY COURT HOUSE	1.42	18.36	-4.83	89	62	73.	3	3075	459	91
DOWNSTOWN	.86	21.43	-2.97	92	52	71.	3	3095	184	88
GLASSBORO	1.15	21.78	-3.79	90	57	72.	4	3123	243	86
HAMMONTON	1.90	20.79	-4.77	91	53	72.	4	3228	339	91
POMONA	.71	23.62	.28	90	55	72.	6	3203	507	79
SEABROOK	1.08	20.20	-3.24	90	59	74.	6	3306	379	85
SOUTH HARRISON	.88	23.02	-2.09	89	56	72	NA	3102	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW										
LAST WEEK	240	(Ending 9/8/08)								
THIS WEEK	221	(Ending 9/15/08)								

* SOME DATA IS MISSING AND THEREFORE CUMULATIVE AND AVERAGE VALUES WILL BE OFF FOR THIS STATION ESPECIALLY FOR PRECIPITATION SINCE SIGNIFICANT RAINFALL OCCURRED DURING THAT PERIOD.

RUTGERS

New Jersey Agricultural
Experiment Station

Plant & Pest Advisory
Rutgers School of Environmental
and Biological Sciences
ASB II, 57 US Hwy. 1
New Brunswick, N.J. 08901

FIRST CLASS
POSTAGE PAID
PERMIT #576
MILLTOWN, NJ 08850

PLANT & PEST ADVISORY VEGETABLE CROPS EDITION CONTRIBUTORS

Rutgers NJAES Cooperative Extension Specialists

Gerald M. Ghidui, Ph.D., Vegetable Entomology
George Hamilton, Ph.D., Pest Management
Joseph R. Heckman, Ph.D., Soil Fertility
Bradley A. Majek, Ph.D., Weed Science
Andy Wyenandt, Ph.D., Vegetable Pathology

Rutgers NJAES-CE County Agricultural Agents

Atlantic, Richard W. VanVranken (609-625-0056)
Burlington, Raymond J. Samulis (609-265-5050)
Cape May, Jenny Carleo (609-465-5115)
Cumberland, Wesley Kline, Ph.D. (856-451-2800)
Gloucester, Michelle Infante-Casella (856-307-6450)
Hunterdon, Winfred P. Cowgill, Jr. (908-788-1338)
Middlesex, William T. Hlubik (732-398-5260)
Monmouth, Bill Sciarappa, Ph.D. (732-431-7260)
Morris, Peter J. Nitzsche (973-285-8300)
Passaic, Elaine F. Barbour, Agric. Assistant (973-305-5740)
Salem (856-769-0090)
Warren, William H. Tietjen (908-475-6505)

Vegetable IPM Program (732-932-9802)

Joseph Ingerson-Mahar, Vegetable IPM Coordinator
Kristian E. Holmstrom, Research Project Coordinator II

Newsletter Production

Jack Rabin, Associate Director for Farm Services, NJAES
Cindy Rovins, Agricultural Communications Editor

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 RCE in your County.

Use of Trade Names: No discrimination or endorsement is intended in the use of trade names in this publication. In some instances a compound may be sold under different trade names and may vary as to label clearances.

Reproduction of Articles: RCE invites reproduction of individual articles, source cited with complete article name, author name, followed by Rutgers Cooperative Extension, Plant & Pest Advisory Newsletter.

For back issues, visit our web site at:
www.rce.rutgers.edu/pubs/plantandpestadvisory