

# PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

AUGUST 24, 2005

## Pest Notes

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



### INSIDE

Pest Notes .....	1
Vegetable Disease Update .....	2
Determining Effective Cover Crop Seeding Dates .....	3
Web Soil Survey .....	3
IPM Update .....	4
15th Annual Great Tomato Tasting .....	6
Sustainable Horticultural Research Twilight Meeting .....	6
Weekly Weather Summary .....	7

✓ **Cabbage:** All the worm pests are present in cabbage at this time, including the **cabbage looper**, **imported cabbageworm**, and the **diamondback moth** larvae. Treat cabbage, broccoli, cauliflower, collards, etc. for these pests when 20% or more of the plants have at least one worm pest before heading, and when 5% of the plants have at least one worm during heading (thresholds for leafy cole crops are lower because the leaf is the edible portion that needs to be protected). Most effective materials for all of the worm pests on the cole crops is Avaunt, Orthene, Proclaim, SpinTor, Lannate, and Intrepid. Read all directions/restrictions on the label because not all materials are labeled on all crops.

For best control of pests of cole crops, it is recommended to use a spreader-sticker in the spray tank to prevent excessive runoff of the pesticide on the waxy surface of the leaves.

✓ **Pepper: European corn borer** moth populations are beginning to decline, but still relatively high in some areas throughout the state. Refer to the trap catches in the IPM section of this newsletter to determine moth activity in specific areas. Many materials are effective against corn borer larvae, including the non-pyrethroids Avaunt, Confirm, and SpinTor. The pyrethroids, including Asana, bifenthrin, Mustang MAX, permethrin, and Warrior, are also effective against corn borer larvae. Remember to avoid the overuse of pyrethroids by at least alternating with other, non-pyrethroid materials in the spray program.

Several pepper-growing areas of the state also have **beet armyworm** infestations attacking pepper. This pest is much more difficult to control than European corn borer or **corn earworm**, so use the appropriate pest control material (the pyrethroids *have no effect* against the beet armyworm). Use Avaunt, Confirm, Intrepid (high rate), Lannate, Proclaim, or SpinTor.

For all of the worm pests (European corn borer, beet armyworm, corn earworm), timing and spray coverage are critical. Applications must be made to ensure adequate spray coverage throughout the entire plant (especially the fruit cap area); application must be made before larvae enter the fruit.

✓ **Tomato:** IPM Specialist Joe Mahar reported that **brown marmorated stinkbugs** were trapped in Cinnaminson, Cherry Hill and Mullica Hill. This likely means trouble for tomato growers, as these large-bodied stinkbugs can cause much damage to tomatoes. Stinkbugs are currently a problem in tomatoes throughout New Jersey, and are difficult to control

SEE PEST NOTES ON PAGE 3

# Vegetable Disease Update

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

✓ **Cucurbits – Bacterial Wilt** – Symptoms of Bacterial wilt are beginning to show up in Cucurbit crops. Symptoms of Bacterial wilt will vary depending on crop. In general, plants may wilt during the day in hot weather and ‘recover’ during cooler parts of the evening and morning. Margins and inter-veinal areas of leaves become necrotic which cause leaves to appear ‘scorched’. Healthy green plants turn chlorotic with time and infected plants eventually collapse and die exposing fruit to sunscald injury. Cutting through stem tissue at the base of infected plants often reveals a coppery-tan color where the bacterium causes the vascular tissue to ‘plug up’. Control of Bacterial wilt begins with controlling **striped and spotted cucumber beetles** which vector the pathogen early in the growing season as plants emerge. Late-season beetle control will remain important as fruit begins to mature. Late-season beetle feeding may cause injury to stems ruining aesthetic quality. For more information on cucumber beetle and Bacterial wilt control please see the *2005 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Cucurbits – Powdery mildew – Powdery mildew starting in 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*.

✓ **Peppers - Bacterial Spot** – Symptoms of Bacterial spot on pepper leaves include small, brown water-soaked lesions that turn brown and necrotic in the centers. Spots may coalesce and form large blighted areas on leaves and premature defoliation can occur. On fruit, brown lesions can form which have a roughened, cracked wart-like appearance. High temperatures, high relative humidity and rainfall favor Bacterial spot development. Loss from Bacterial spot can be reduced somewhat by maintaining high levels of fertility, which will stimulate new growth. For more information on control of Bacterial spot of pepper please see the *2005 New Jersey Commercial Vegetable Production Recommendations*.

✓ **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 a 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*.

✓ **Tomato – Buckeye Rot – Wet weather and wet soils** favor the development of Buckeye rot. Symptoms of Buckeye Rot on green fruit include brownish-tan lesions that have a *definitive concentric appearance*. As lesions form the fruit will begin to soften up, this is quite different than **Late blight** which will cause a dark brownish/black lesion with the fruit remaining somewhat firm. Unlike Late blight, Buckeye rot won’t attack the foliage. For more information on control please see the *2005 New Jersey Commercial Vegetable Production Recommendations*. □

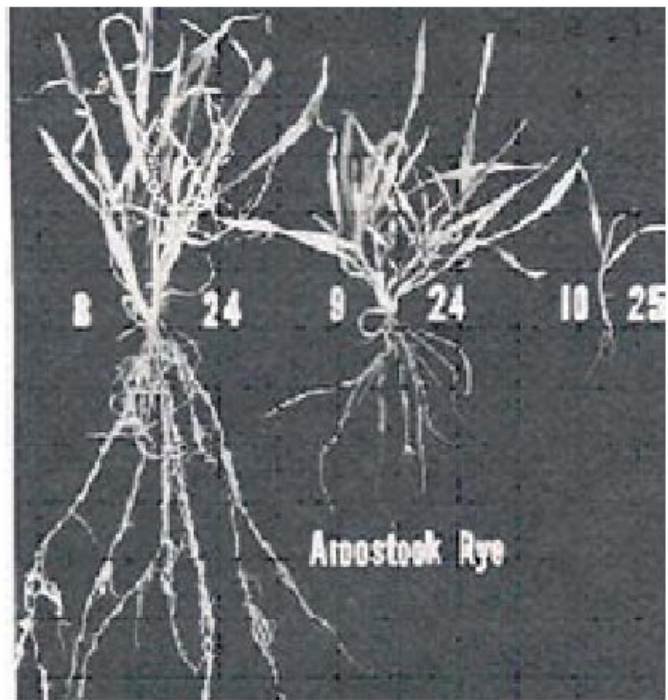
# Determining Effective Cover Crop Seeding Dates

*Reprinted from Vegetable Notes, UMass Extension, August 18, 2005.*

Well-established cover crops are effective in reducing residual soil nitrate after the harvest of corn or other crops, and nitrate released from applied manure. They hence minimize the nitrate leaching to ground water during the fall and winter months. Numerous studies have also shown that effective cover crops prevent erosion and loss of reactive phosphorus in runoff from fall applied manure. Our studies and those of others have shown that cover crops also reduced nitrate leaching in subsurface soil layers. However, the ability of the cover crop to absorb nitrate from the soil is affected by the degree of colonization of the soil by roots.

Cover crop seeding date is important for adequate canopy and root development before cool weather slows or stops growth. In an earlier study at the University of Massachusetts Agronomy Research Farm this was shown to be mid-September or earlier for southern regions of New England (Figure 1). Later seeding dates in most years will result in less than adequate leaf growth to reduce the erosive force of rain and runoff, and the small root growth will not contribute much to stabilizing the soil or for nutrient uptake. The mid-September seeding dates for cover crops were established for their effectiveness for erosion control. Whether effective dates for erosion control are similar to effective dates for preventing leaching are unknown. However, any delay in establishment of cover crops beyond the effective date will increase the amount of nitrate and phosphorus leaching.

Very little is known about the factors controlling growth and actual effectiveness of cover crops planted at different dates on ground water quality. It has been reported that cover crops planted in August had 50% more nitrogen accumulation than cover crops planted in mid to late September. Our results from 2004, which was milder than the normal fall, seem to confirm these reports for both rye and oat cover crops. Also, rye retained more of the accumulated N through the winter than oat.



*Figure 1. Cover crops on December 27; seeded on dates shown in Amherst MA*

---

## Web Soil Survey

Agriculture Secretary Mike Johanns announced the launch of a USDA Web Soil Survey site that provides public access to the national soils information system. On-line soil information is now available at: <http://soils.usda.gov/survey>. Select Web soil survey for this new window to soil maps and reports.

*Submitted by Joseph Heckman, Specialist in Soil Fertility.* □

---

### PEST NOTES FROM PAGE 1

for several reasons. There are few truly "effective" materials that control stinkbugs, although many are labeled. The best materials available include Actara, Baythroid, Danitol, Monitor, Mustang MAX, Thionex, and Warrior. However, even with these materials, control is difficult because the bugs often hide very well, or are easily spooked and fly from the field before a spray can affect them. Oftentimes, the spray itself is not very effective. If bugs are present, and damage is increasing, use one of the above materials to control the population before much damage occurs. Obtain thorough coverage for best results. □

# IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

## Sweet Corn

Adult **European corn borer (ECB)** activity continues to decline throughout the northern and central areas of the state. In Cumberland County, however, moth catches remain quite high (see ECB map). Larval injury in whorl and pretassel stage sweet corn plantings is present in all areas. Be sure to check all 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:

Shirley	32	Belvidere	7	Hackettstown	5
Cohansey	13	Elmer	6	Little York	4
Seeley Lake	12	Woodstown	6	Phillipsburg	3
Bayside	10	Allamuchy	5	Sergeantsville	3

CEW moth catches continue to increase steadily throughout the state, although there has been no large, widespread increase that would be associated with a particular weather event. **Areas of higher activity have been found in parts of Cumberland, Gloucester, and Camden Counties (see CEW map).** Delaware and Maryland are reporting increasing CEW catches as well, although they too indicate a gradually rising population in most cases. Should we get favorable weather for CEW migration, there could be a large statewide increase. On the map, shaded areas (blue on the web version, found at <http://www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm>) indicate a 5-6 day silking spray schedule, while crosshatched areas (green on the web version) warrant a 3-4 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:

Beckett	15	Cohansey	5	Springdale	4
Shirley	9	Medford	5	Elm	3
Chapel Heights	7	E. Vineland	4	Fishing Creek	3
Seeley Lake	6	Jones Island	4	Folsom	3

**Fall Armyworm (FAW)** is active throughout the state, with infestations now common. Infestations are 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 - 3-4 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

**Cucurbit downy mildew (DM)** should be considered present on vine crops in all areas of the state. DM symptoms often begin as sharp yellow spots on the upper surface of leaves. Observation of the lower leaf surface will typically show that the lesion is associated with veins. As the infection progresses, dark spores will be apparent on the lower leaf surface during periods of high humidity. Under warm, wet conditions, rapid defoliation of leaves can occur if regular control is not undertaken. Check fields weekly to assess control. If DM is causing increasing defoliation of the field, a shorter schedule or change of fungicidal materials may be warranted. Most pumpkin and winter squash fields have reached the action threshold of 1 **powdery mildew (PM)** lesion per 50 older leaves. Regarding PM, look for small, powdery spots on either surface of older leaves. Be sure to check leaves within the canopy as well. In order to protect fields against both pathogens, it is necessary to be on a weekly fungicide program that includes both protectant materials and a product that targets fungi similar to DM. For labeled fungicides, consult the *2005 Commercial Vegetable Production Recommendations*. Any field that has not been scouted recently should be checked for PM and DM.

Over the past few weeks, some pumpkin fields in the northern counties have lost plants to a crown rot disease that has been diagnosed as **Fusarium** at the Plant Diagnostic Clinic. The plants begin to yellow, and ultimately collapse with none of the obvious white yeast-like growth often present when **Phytophthora** is involved. There may, however, be amber colored ooze coming from the tissue near the crown. 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. Additionally, plants in some fields have older leaves turning yellow, then brown, with no associated wilting

SEE IPM ON PAGE 5

of the vine. This may be heat and moisture stress in association with advanced maturity. Small fruited varieties that mature earlier in particular may have these symptoms.

### Tomatoes

**Brown stinkbugs** (*Euschistus spp.*) are active and laying eggs on host crops like tomatoes. These insects will feed directly on tomato fruit, causing a pale, diffuse blotch on green fruit that turns bright yellow as the fruit matures. More damaging is the injury caused by the nymphs as they begin to hatch and slowly disperse in the planting. In general, damage is worse during dry periods, because stinkbugs seek more succulent irrigated hosts as non-crop hosts dry up. The incidence of stinkbug injury is higher this season than last, as we have had a prolonged stretch of hot dry weather. Adult stinkbugs are difficult to detect in tomatoes because they hide or drop to the ground when approached. The nymphs may be easier to spot, as they remain in a group for some time after egg hatch. Check 5 consecutive plants each in 10 random locations in the planting. Look at two complete leaves and two fruit per plant. If adult stinkbugs or nymphs are found in more than one sample, or if fruit injury is increasing in field samples or in picked baskets, consider applying a labeled insecticide. Thrips are favored by dry weather as well, and can cause a small, gold colored spots on the surface of fruit. Check for flower thrips by tapping fresh blossoms over an index card. If thrips are increasing in samples, consider treating. Additionally, consider treating if thrips are found on leaves, or injury is increasing on harvested fruit.

### 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** activity throughout the state, it is important for all pepper plantings to be protected against fruit infestation by this pest. Larval ECB will penetrate fruit just under 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.

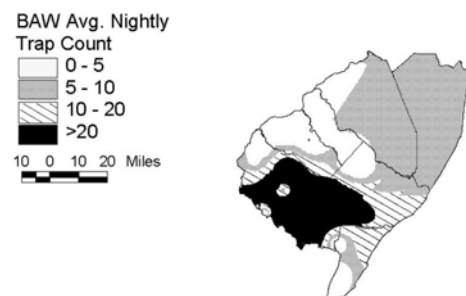
RCR&E Vegetable IPM personnel have deployed **beet armyworm (BAW)** pheromone traps in the southern counties where this pest causes injury to peppers in some years. Many times, low levels of BAW adults are captured without economically significant infestations ever occurring. However, higher adult activity (greater than 20 per night on average) is considered to be a potential threat to peppers. 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 have increased again in some of the "hot-spots" in Cumberland and Salem Counties over the past week. High catches over the past week include 117 adult BAW per night near Cedarville and 96 per night near Jones Island 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 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.

SEE DISTRIBUTION MAPS ON PAGE 7

### Distribution of Adult Beet Armyworm for the Week Ending August 24, 2005



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

## 15<sup>th</sup> Annual Great Tomato Tasting!

August 31, 2005

3:00 – 8:00 PM (rain or shine)

The Melda C. Snyder  
Teaching Garden

Rutgers Snyder Research  
and Extension Farm

140 Locust Grove Road  
Pittstown, NJ (Hunterdon  
County)

Join us in our Teaching Garden and sample the more than 70 varieties of delicious vine-ripened 'Jersey Tomatoes' that we are growing this season. It's your once a year chance to taste our annual selections of hybrid and heirloom tomatoes. It's a perfect opportunity to decide which varieties you want to grow in your garden next year, or to find out which tomatoes to look for at your local Farm Stand. Visitors will also be able to taste-test apples and peaches and vote for their favorite.

- ◆ Take a Hayride Tour of the Farm
- ◆ Rutgers University Cooperative Extension faculty, staff and Master Gardeners will be on hand to answer your gardening questions
- ◆ Tour the bed of Deer Resistant landscape plants
- ◆ Visit our hybrid and heirloom flower beds
- ◆ There will be drawings for door prizes throughout the event
- ◆ Admission is free (a \$3.00 donation is suggested to help cover program expenses)

For directions to the Farm and to RSVP please call (908) 713-8980.

Snyder Research and Extension Farm is Located 1.5 miles south of Pittstown, NJ at the intersection of Locust Grove Road and Rt. 615 (Pittstown Road). □

## Sustainable Horticultural Research Twilight Meeting

Wednesday, September 7, 2005

5:30 PM – 8:30 PM

Rutgers Snyder Research & Extension Farm, Locust Grove Road, Pittstown, NJ (Hunterdon County)

*Sponsored by Rutgers Cooperative Research & Extension in cooperation with the New Jersey National Organic Farmers Association*

### Wagon Tour of Research Plots at the Rutgers Snyder Research & Extension Farm (Starts promptly at 5:30 p.m.)

Production Practices for Corn Mazes - Bill Bamka, Rutgers Cooperative Research & Extension (RCRE) of Burlington County

Super Slender Spindle System Apple Trial (2000 Trees/Acre) – Win Cowgill, RCRE of Hunterdon County

NC-140 2002 Dwarf Apple Rootstock Trial with Cameo and Gala - Win Cowgill

Leaf Mulch for Quality Pumpkin Production - Dr. Joe Heckman, RCRE, Specialist in Soil Fertility

Fresh Market Specialty Pepper - Bill Tietjen, RCRE of Warren County

Pumpkin Disease Control Trial for Powdery & Downy Mildew - Win Cowgill

Food & Feed Grade Soybean Trials (organic & conventional production) - Bill Sciarappa, RCRE of Monmouth County

Fall Cole Crop's Variety Trial - Dr. Mel Henninger, RCRE, Specialist in Vegetable Crops

Companion Plantings for Controlling European Corn Borer - Dr. George Hamilton, RCRE, Specialist in Pest Management and Kris Holmstrom, RCRE Program Associate, Vegetable IPM

Evaluating Sweet Corn Varieties for Northern New Jersey - Raymond Samulis, RCRE of Burlington County

### Inside Program

Crop Insurance Opportunities for 2005 - 2006 - Kris Smolenski, Program Assistant, RCRE of Salem County

Peach and Apple Variety Showcase - over 50 trays of new fruit cultivars on display - Win Cowgill and Jim Beyer, Plant and Soil Science Technician

Specialty Tomato Show Case - Peter Nitzsche, RCRE of Morris County

Specialty White Potato Showcase - Dr. Mel Henninger

Things Growers Need to Consider When Handling Pesticides – Dr. George Hamilton

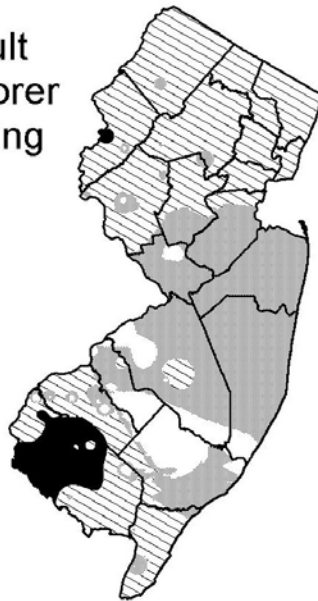
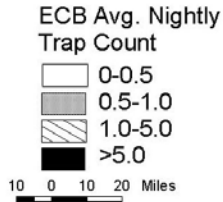
NJ Pesticide Re-certification Credits will be awarded at the end of the meeting.

Dinner - Sandwiches & cold salads will be provided at the end of the field tours.

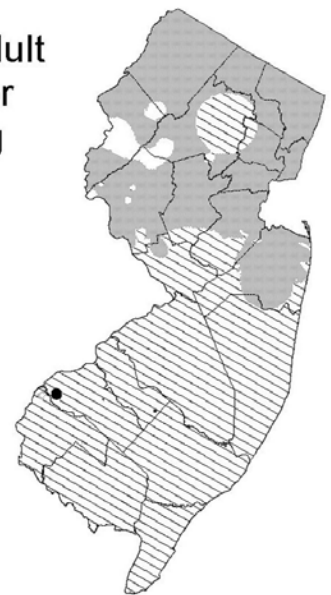
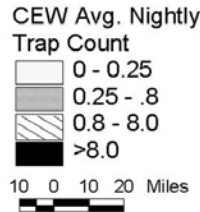
Pre-registration is required to provide refreshments and have adequate room on the tours.

Register by calling or e-mailing Diana Boesch at RCRE of Hunterdon County, at (908) 788-1339 or boesch@aesop.rutgers.edu by September 5, 2005. □

### Distribution of Adult European Corn Borer for the Week Ending August 24, 2005



### Distribution of Adult Corn Earworm for the Week Ending August 24, 2005



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

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

## Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much above normal, averaging 73 degrees north, 76 degrees central and 76 degrees south. Extremes were 95 degrees at Canoe Brook on the 22nd, and 56 degrees at Andover on the 18th. Weekly rainfall averaged 0.27 inches north, 0.28 inches central, and 0.69 inches south. The heaviest 24 hour total reported was 0.81 inches at Cape May Court House on the 17th to 18th. Estimated soil moisture, in percent of field capacity, this past week averaged 73 percent north, 62 percent central and 55 percent south. Four inch soil temperatures averaged 75 degrees north, 77 degrees central and 77 degrees south.

#### Weather Summary for the Week Ending 8 am Monday 8/22/05

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE MISSING										
CANOE BROOK	.59	19.08	-5.05	95	60	75.	5	2586	550	70
CHARLOTTEBURG	MISSING									
FLEMINGTON	.07	24.22	.95	91	58	74.	3	2432	343	70
NEWTON	.15	18.39	-4.09	89	56	72.	4	2278	427	66
FREEHOLD	.13	23.25	.57	93	61	74.	3	2447	222	58
LONG BRANCH*	.05	22.32	-.57	94	65	77.	5	2427	280	38
NEW BRUNSWICK	.48	23.47	.63	94	60	76.	3	2559	244	70
TOMS RIVER	.20	23.68	.25	93	62	76.	5	2394	265	36
TRENTON	.52	24.16	2.44	91	68	77.	4	2602	183	62
CAPE MAY COURT HOUSE	1.13	22.72	2.49	90	65	76.	2	2211	113	50
DOWNSTOWN	1.10	18.98	-2.42	91	63	75.	2	2470	46	57
GLASSBORO	.33	20.73	-1.63	91	65	76.	3	2737	335	47
HAMMONTON	.88	21.64	-.74	94	63	77.	4	2543	138	51
POMONA	.30	20.49	-1.10	94	63	77.	6	2450	207	32
SEABROOK	.38	22.12	1.61	91	64	76.	3	2756	319	49
SOUTH HARRISON	.54	23.49	1.30	92	65	76.	NA	2513	NA	NA

\*SOME CUMULATIVE VALUES ESTIMATED DUE TO MISSING PAST DATA  
WES KLINE — GDD BASE 40 PINEY HOLLOW Last Week\* 286 (Ending 8/15/05) This Week 248 (Ending 8/22/05)  
\* February total base 40 equals 32 units

MILLTOWN, NJ 08850  
PERMIT #576  
POSTAGE PAID  
FIRST CLASS

New Brunswick, N.J. 08901-8551  
18 College Farm Road  
Rutgers' Cook College  
Plant & Pest Advisory  
RUTGERS  
COOPERATIVE RESEARCH & EXTENSION  
NJ AGRICULTURAL EXPERIMENT STATION



## PLANT & PEST ADVISORY VEGETABLE CROPS EDITION CONTRIBUTORS

### **Rutgers Cooperative Research & Extension (RCRE) 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

### **RCRE County Agricultural Agents**

Atlantic, Richard W. VanVranken (609-625-0056)

Burlington, Raymond J. Samulis (609-265-5050)

Cape May, Russell Blair (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, Peter R. Probasco (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

For back issues, visit our web site at: [www.rce.rutgers.edu/pubs/plantandpestadvisory](http://www.rce.rutgers.edu/pubs/plantandpestadvisory).

**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.

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