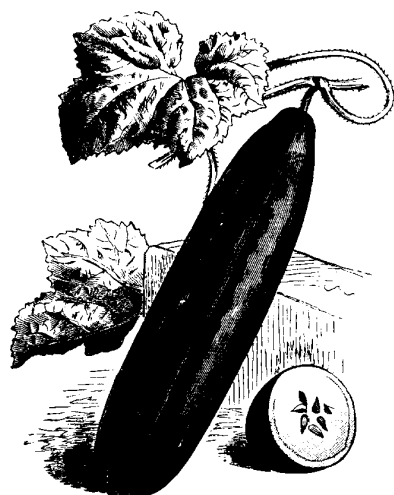


# PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

JUNE 6, 2001



## INSIDE

Veg Crops Diseases .....	1
Fungicide for Controlling Phytophthora Blight on Cucurbits .....	2
Pest Notes .....	3
Extending Local Seasons & Markets Twilight Meeting & Tour .....	3
IPM Update .....	4
Weekly Weather Summary .....	5

## Vegetable Crops Diseases

*Stephen A. Johnston, Specialist in Plant Pathology*

✓ **Asparagus:** To reduce the incidence of **Fusarium root & crown rot**, do not overcut production fields. Fields can be harvested until June 15.

✓ **Beans, snap:** **Bacterial blight** is present on lima beans at this time. Infected leaves contain numerous irregular shaped gray lesions with reddish borders. Avoid working in fields while the foliage is wet, and apply a copper fungicide every 7 days to reduce spread.

✓ **Beet:** Maintain foliar applications of Quadris every 7 days for control of **Cercospora leaf spot**. Do not make more than two sequential applications in a row. After the second application, make an application of a copper fungicide.

✓ **Cole crops:** Maintain applications of maneb or chlorothalonil (Bravo or Equus) every 7-10 days for the prevention of **Downy mildew** and **Alternaria leaf spot**.

✓ **Cucumber:** For control of **Belly rot (Rhizoctonia)**, apply Quadris at the 1-3 leaf stage, and make a second application just prior to vine tip over or 10-14 days later. Then alternate chlorothalonil (Bravo, Equus) + Benlate or Topsin M with Quadris every 7-10 days for the rest of the season to control **Anthracnose**.

✓ **Greens:** Apply Ridomil Gold 4E as a soil surface application after seeding for control of **Damping-off**.

✓ **Leeks:** Apply Bravo as a foliar spray to protect leaves against **Purple blotch**.

✓ **Lettuce:** A new biological fungicide is now available for the control of **Drop (Sclerotinia)**. The fungicide, Contans WG, is to be applied at the rate of 1-4 lb/A to infested fields after harvest. Disc infested fields to expose sclerotia of the fungus, then apply Contans WG. The fungicide contains a fungus that will attack the exposed sclerotia, and destroy them. The population will be reduced prior to the start of the next crop in the fall.

✓ **Muskmelon:** Once the vines begin to run start foliar applications of chlorothalonil (Bravo or Equus) or mancozeb alternated with Quadris for the control of **Alternaria leaf blight**.

✓ **Parsley:** Apply Quadris 2F as a foliar spray every 7-14 days for control of **Septoria leaf spot**. In order to prevent the development of resistant strains of the pathogen to Quadris, do not make more than 2 applications/crop. If a third fungicide application is needed prior to harvest, apply a copper fungicide.

*SEE DISEASES ON PAGE 2*

# Fungicide for Controlling *Phytophthora* Blight on Cucurbits

Stephen A. Johnston, Specialist in Plant Pathology

The Environmental Protection Agency has granted a specific exemption under the provisions of section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act to the New Jersey Department of Environmental Protection for the use of Acrobat 50W to control ***Phytophthora blight*** in squash (summer, winter, and pumpkin), cantaloupes, watermelons and cucumbers. The following conditions and restrictions must be met:

- Acrobat 50WP manufactured by BASF Corporation is to be used. All applicable directions, restrictions and precautions on the EPA-registered product label and the supplemental label must be followed.
- Acrobat 50WP may be applied by ground or air at a maximum rate of 6.4 oz. product/A.
- Acrobat 50WP can be applied a maximum of 5 times per season.
- A 4-day preharvest interval must be used.

***Phytophthora blight*** has recently been detected in Southern New Jersey on summer squash. The use of Acrobat 50WP should begin in all areas of the state where there are known fields infested with ***Phytophthora***. Environmental conditions are favorable for the development of the disease, and fields should be protected. To avoid the development of resistant strains of the fungus to Acrobat, combine Acrobat 50WP with mancozeb on summer squash, melons and cucumbers, and with maneb on winter squash and pumpkins. □

## DISEASES FROM PAGE 1

✓ **Pepper: *Phytophthora blight*** is present in some fields at this time. Infected plants have a black, girdling lesion present at the soil line, and the plant wilts. Improve drainage in the field to reduce high soil moisture from occurring around the base of the plant during rainfalls. Apply mefenoxam (Ridomil Gold, Ultra Flourish) as a directed spray to the base of the plant or via injection through drip irrigation shortly after transplanting, 21 and 42 days later for control. Maintain foliar applications of a copper fungicide + maneb every 7 days for prevention of bacterial spot.

✓ **Potato, white:** Weather conditions are favorable for the development of **late blight**. Maintain applications of a protectant fungicide such as mancozeb or chlorothalonil every 5 days for prevention.

✓ **Spinach:** The recent heavy rainfall has resulted in chlorosis of older leaves in some fields. In some cases this is due to high soil moisture resulting in lack of oxygen and leaching nitrogen from the root zone. Side dress nitrogen applications will correct the situation in well-drained fields; however, in fields with low areas, plants will not recover from the excess soil moisture.

✓ **Squash, summer: *Phytophthora blight*** is present in some fields at this time. Infected plants collapse and a black girdling lesion is present in the crown of the new growth. Infected fruit collapse and a white to cream wet rot is present. Recently, New Jersey was granted a Section 18 Emergency Exemption permit for the use of Acrobat 50W for the control of this disease (see accompanying article for details). Apply Acrobat 50W + mancozeb as a foliar spray every 7-10 days for control.

✓ **Tomato: *Phytophthora blight*** is present in some fields at this time. Infected plants have black girdling lesions present on the stems throughout the plant. Apply Ridomil Gold Bravo, Flouironil or Ridomil Gold Copper as a foliar spray every 14 days to assist in control. Apply chlorothalonil (Bravo, Equus) or Quadris in between applications of the above fungicides to provide control of other foliar and fruit diseases.

**Bacterial leaf spots** are present in some fields at this time. Infected leaves contain numerous black lesions. Maintain foliar applications of a copper fungicide + mancozeb every 7 days for control.

✓ **Watermelon:** Once the vines begin to run, make foliar applications of chlorothalonil (Bravo, Equus) alternated with Quadris for control of **Anthracnose, Alternaria leaf blight & Gummy stem blight**. Make applications every 7-10 days. □

## Pest Notes

Gerald M. Ghidui, Specialist in Vegetable Entomology

✓ **General:** The new Actara and Platinum labels (both are active ingredient thiamethoxam), from Syngenta, are registered on cucurbit vegetables (cucumber, squash - summer and winter, watermelon, pumpkin, melons, edible gourds, tomato, pepper - bell, chili, eggplant, pepino, tomatillo, white and sweet potato, yams, artichoke, and cassava. Thiamethoxam is labeled for control of **Colorado potato beetles, potato leafhoppers, aphids, thrips, plant bugs, flea beetles, white-flies, stink bugs, and pepper weevils.** Consult label for all rates, restrictions, directions, etc. This material was just registered, and is not listed in the *2001 Commercial Vegetable Production Recommendations for New Jersey.*

✓ **Lettuce:** **Aphids** and **leafhoppers** are starting to build up in leaf and head lettuce crops. Various pest management materials are listed on pages 110-111 of the *2001 Commercial Vegetable Production Recommendations for New Jersey.* Several of the listed materials will control both of these pests if populations warrant a treatment.

✓ **Pepper:** Both **green peach aphids** and **potato aphids** have been found on leaves of pepper transplants. Populations of these pests tend to rapidly increase during periods of cool weather followed by short periods of warm weather, as we have experienced in southern New Jersey during the past month or two. Effective control materials include acephate (only *two* acephate applications are allowed per season), Actara WP, Fulfill WDG, Lannate, MS-R, Provado 1.6F and Vydate L. In field trials located at the Bridgeton Research Center, both Actara and Fulfill have shown excellent **aphid** control in lettuce and bell pepper, even when **aphid** populations have reached several thousand per 25 leaves.

✓ **Potato:** **Potato leafhopper** adults and nymphs are found in untreated potato fields. If **leafhopper** counts exceed 1 adult per sweep (using a sweep net) or 1 nymph per 10 leaves, a treatment is recommended. *Do not let leafhopper* populations build up in potatoes, as damage and yield loss can be severe as a result of even low populations of this pest. Ambush, Asana, Baythroid, dimethoate, Guthion, Imidan, Lannate, Pounce, Thiodan and Vydate are listed in the recommendation book for control of **leafhoppers.** Thiodan and Vydate will also effectively control the **Colorado potato beetle** and **aphids** as well. Refer to pages 175-176 of the *2001 Commercial Vegetable Production Recommendations for New Jersey* for more information on **leafhopper** control in white potatoes.

Also, **European corn borer** populations are still low (less than 3-4 per night in the blacklight traps), and have not exceeded this level this year. It is most likely that damage to potato stems will also remain low, as it is now late in the season for the first generation **European corn borer** to reach a high population level. □

## Extending Local Seasons & Markets Twilight Meeting & Tour

Featuring the SARE  
Greenhouse Project  
NOFA-NJ and  
Cook College Dept. of Nutrition  
Wednesday, June 13, 2001  
5:30 Dinner/Networking  
6:30 Tour & Presentations

Join us at the passive solar greenhouses on the Cook Campus in New Brunswick for an evening exploring new market opportunities for selling your produce locally.

While you're there, help evaluate the first season of production in the Coleman-style greenhouses, too! Peppers, tomatoes, and some melons should be ready!

The event is free!

To help us plan for food, please RSVP NOFA-NJ at 609-737-6848 (by June 11, 2001 please)

### Presenters:

Ralph Coolman, Cook College  
Pearl Thompson, Elijah's Promise Culinary Training Program  
David Fischer, NJ Urban Ecology Program  
Farm-to-School Program  
Jim Weaver, Tres Piani and Slow Foods Movement

*Northeast Organic Farming Association of NJ supports a local food system based on organic principles through education, advocacy, organic certification and technical support for farmers using organic techniques. This event is funded by the USDA Sustainable Agriculture Research & Education Program.*

# IPM Update

Kristian Holmstrom and Sarah Walker, Program Associates in Vegetable IPM

## Sweet Corn

With temperatures moderating slightly the first part of this week, there has been a gradual increase in adult **European corn borer (ECB)** activity as recorded by blacklight traps. Overall, **ECB** activity remains low (see **ECB** map). The first infestations of **ECB** are starting to show up in whorl and pretassel corn in the central counties. Check all whorl and pretassel corn for the presence of **ECB** larvae and/or fresh feeding. The threshold is 12% infested plants, and the critical time for control is in the pretassel stage. In the northern counties, feeding has been below the 2% level in whorl stage sweet corn. Evening temperatures in the upper 50 to 60 degree range, as projected for the upcoming week, should bring further increases in **ECB** adult activity.

The highest average nightly **ECB** blacklight trap catches are:

Allentown	6	Shirley	3	Georgetown	2
Sergeantsville	4	Allamuchy	2	Little York	2
Mullica Hill	3	Burlington	2	Milford	2
Pemberton	3	Cohansey	2	Pennington	2

Sporadic **corn earworm (CEW)** catches are occurring in the southern counties. As yet, they have not reached a level of 0.25 moths per night at any site. This is the lowest level that requires the production of a **CEW** map. It is interesting to note that by this time last year, we had a significant adult **CEW** population, and had already published two maps. Those with access to the web can view archived maps from the two previous years at [http://www.crssa.rutgers.edu/projects/gps/web\\_page/pest/ppa2001.html](http://www.crssa.rutgers.edu/projects/gps/web_page/pest/ppa2001.html). Due to recent reports of a few sweet corn plantings in the silking stage in southern counties, a **CEW** silk spray schedule appears in this edition.

The highest average nightly **CEW** blacklight trap catches are:

Chapel Heights	1	Indian Mills	1
Hammonton	1	Shirley	1

## General Sweet Corn Spray Schedule\*

Silking corn: South - 6 day

\* These are general spray recommendations for large areas of the state. Growers can increase or decrease the intervals based on their own local situations.

## Tomatoes

Recent heavy rains have largely eliminated **thrips** and **two-spotted spider mite (TSSM)** populations from scouted fields in the northern counties. A few high tunnel plantings still have low-level infestations, however. These situations bear watching to ensure that **TSSM** populations don't reach damaging levels. It is easier to control **TSSM** when the infestation is low.

## Peppers

**Green peach aphids** are starting to show up in low numbers in some fields now. However, the predator and parasite populations are active and should provide control especially if broad-spectrum or pyrethroid insecticides can be avoided. Sample 2 leaves on 5 plants in 10 random locations and count the number of **aphids**. Consider treating fields if 1-2 **aphids** per leaf are present and no natural control is evident (such as brown mummified aphids, ladybugs, lacewings, flower fly maggots). While sampling for **aphids** look for **ECB** egg masses and consider treating if 1-2 egg masses are found in the 50-plant sample and small fruit (half-inch) are present.

## Snap Beans

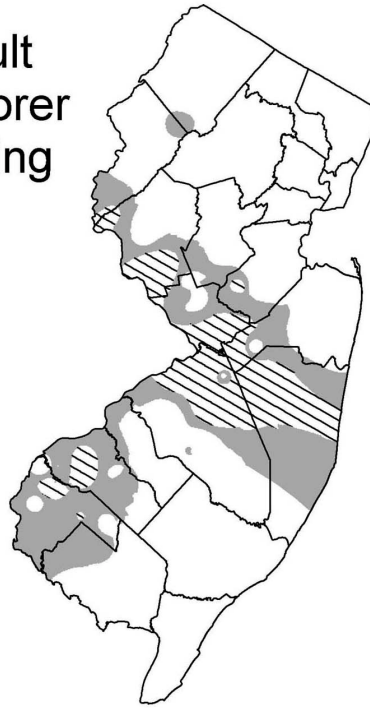
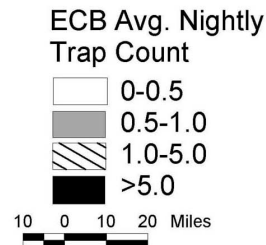
Bean fields should be checked at least once a week now for **thrips** and **potato leafhoppers (PLH)**. Both of these insects were easily found in a field in Burlington County this week. Sample leaflets from the middle and top half of non-consecutive plants and count the number of **thrips** per leaflet. The threshold is 6 **thrips** per leaflet. However, if other insects are present (such as **PLH**) reduce the threshold to 2-3 per leaflet. For **PLH** use a sweep net and make 10 sweeps in 10 random locations in the field and count the number of adults and nymphs. The threshold is 5 **PLH** per sweep (500/100 sweeps). If threshold levels of **thrips** are present, also reduce the **PLH** threshold to 250 per 100 sweeps.

## White Potatoes

Continue to check early fields for signs of **ECB** infestations. The moth levels remain low (see **ECB** map) and it is unlikely that many **ECB** eggs and larval infestations will be easily found. A few moths were seen flying in a field yesterday but no egg masses or stem entries have been found in 2 fields checked in Cumberland and Salem Counties. However, **PLH** adult levels have increased since last week, though no nymphs have been seen yet. Make 10 sweeps in 5 locations in the field and consider treating when levels exceed 25 adults and/or nymphs per 50 sweeps. Also make sure to sample plants for all stages of **Colorado potato beetles (CPB)**. **CPB** egg masses were easily found in a field in Salem County that had potatoes in it last year. The Bt insecticides are effective against small larvae if you can time the applications to 25% egg hatch. See the *2001 Commercial Vegetable Recommendations Manual* for thresholds and more detailed control information. For resistance management, do not use Provado if Admire has been used.

SEE **ECB** DISTRIBUTION MAP ON PAGE 5

# Distribution of Adult European Corn Borer for the Week Ending June 6, 2001



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

## Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much below normal. Extremes were 77 degrees at Hammonton on the 30th and 35 degrees at Charlotteburg on the 1st. Weekly rainfall averaged 1.69 inches north, 1.59 inches central, and 0.76 inches south. The heaviest 24 hour total reported was 2.23 inches at Trenton on the 1st to 2nd. Estimated soil moisture, in percent of field capacity, this past week averaged 97 percent north, 92 percent central and 78 percent south. Four inch soil temperatures averaged 59 degrees north, 61 degrees central and 63 degrees south.

### Weather Summary for the Week Ending 8 am Monday 6/ 4/01

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	.65	12.56	.66	73	40	57.	-8	457	65	98
CANOE BROOK	2.84	12.00	-1.09	75	39	58.	-7	509	144	96
CHARLOTTEBURG	1.89	12.77	-.18	74	35	56.	-6	389	131	98
LONG VALLEY	1.96	11.24	-2.11	68	38	56.	-7	362	63	95
NEWTON	1.13	13.74	2.20	73	38	58.	-5	462	158	96
FREEHOLD	1.23	12.61	.27	75	42	61.	-5	608	157	94
LONG BRANCH	1.48	14.05	1.37	75	43	61.	-4	471	71	95
NEW BRUNSWICK	1.96	13.74	1.60	75	40	61.	-6	536	52	99
PEMBERTON	1.48	10.88	-.89	76	38	60.	-7	584	105	90
TOMS RIVER	1.13	11.25	-1.04	76	41	61.	-3	551	135	95
TRENTON	2.27	14.57	3.40	75	44	62.	-6	587	56	90
CAPE MAY COURT HOUSE	.82	8.28	-2.55	75	46	63.	-3	583	110	73
DOWNSTOWN	.74	10.65	-.44	75	42	61.	-7	585	40	96
GLASSBORO	1.29	12.93	1.08	76	48	63.	-5	655	130	91
HAMMONTON	.71	10.06	-1.48	77	42	63.	-5	609	92	92
POMONA	.40	8.78	-1.90	75	42	62.	-4	554	106	69
SEABROOK	1.02	12.89	2.62	75	47	63.	-5	643	93	91
ATLANTIC CITY MARINA	.36	6.33	-3.79	74	50	64.	-1	551	127	51
SOUTH HARRISON	1.26	14.04	2.35	74	46	63	NA	610	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW Last Week 169 (Ending 5/28/01) This Week 150 (Ending 6/4/01)										

Rutgers Cooperative Extension - NJAES  
U.S. DEPARTMENT OF AGRICULTURE  
Rutgers - The State University of New Jersey  
Plant & Pest Advisory  
18 College Farm Road  
Cook College  
New Brunswick, N.J. 08901-8551

## PLANT & PEST ADVISORY

### VEGETABLE CROPS EDITION CONTRIBUTORS

#### Rutgers Cooperative Extension Specialists

Joseph A. Fiola, Ph.D., Small Fruit & Viticulture  
Stephen A. Garrison, Ph.D., Vegetable Crops  
Gerald M. Ghidui, Ph.D., Vegetable Entomology  
George Hamilton, Ph.D., Pest Management  
Joseph R. Heckman, Ph.D., Soil Fertility  
Stephen A. Johnston, Ph.D., Plant Pathology  
Bradley A. Majek, Ph.D., Weed Science

#### Rutgers Cooperative Extension 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)  
Mercer, Daniel Kluchinski (609-989-6830)  
Middlesex, William T. Hlubik (732-745-3443)  
Monmouth, Bill Sciarappa, Ph.D. (732-431-7260)  
Morris, Peter J. Nitzsche (973-285-8300)  
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, IPM Program Associate  
Sarah Walker, IPM Program Associate

#### Newsletter Production

Jack Rabin, Assistant Director, NJAES  
Cindy Rovins, Editor and Designer

For back issues, visit our web site at: <http://www.rce.rutgers.edu/pubs/plantandpestadvisory/index.html>.

Rutgers Cooperative Extension (RCE) provides information and educational services to all people without regard to sex, race, color, national origin, disability, or age. RCE is an Equal Opportunity Employer.

**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.