

# PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

MAY 1, 2002



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## Vegetable Crops Diseases

*Stephen A. Johnston, Ph.D., Plant Pathology*

✓ **Asparagus: Purple spot** continues to occur on some spears being harvested at this time. Infected spears have numerous elliptical lesions with purple borders and gray centers scattered over the portion of the spear near the soil surface and progressing towards the tips. There are no control measures available at this time. Removal of the previous year's fern growth during the winter reduces the incidence of the disease the following harvest season. In order to reduce stress associated with production fields, which can lead to an increase in severity of **Fusarium Root and Crown Rot**, adhere to the following recommended cutting regime. Do not harvest the year following establishment of the bed. Harvest for two weeks the third year. In subsequent years, stop harvesting by June 15<sup>th</sup>.

✓ **Beans, snap:** Apply Ridomil Gold 4E in a 7-in. band over the row after seeding or apply Ridomil Gold PC 11G as an in-furrow application for the control of **root rots**.

✓ **Beets:** Apply Ridomil Gold 4E as a soil surface application after seeding for control of **damping-off**. Observe fields for the presence of **Cercospora leaf spot**, which is characterized by small circular red lesions with gray centers. Once observed, apply Quadris 2.1F as a foliar spray for control.

✓ **Cole crops:** Observe plants for the presence of **downy mildew**. Symptoms include irregularly shaped lesions on the older leaves. Beneath the lesions white sporulation occurs early in the morning. Apply Aliette alternated with maneb every 7 days as a foliar spray for control once observed.

✓ **Corn, sweet:** All fields should be treated for **flea beetles** to reduce the transmission of **bacterial wilt (Stewart's Wilt)**. Several control options are available. Plant seed treated with Gaucho, apply Counter 20CR as an in-furrow or banded application at planting, or apply foliar sprays with an insecticide beginning at the spike stage of growth.

✓ **Cucumbers:** Immediately after seeding or transplanting, treat fields with mefenoxam (Ridomil Gold or Ultra Flourish) for control of **damping-off** caused by Pythium. Shortly after transplanting, apply a copper fungicide + mancozeb as a foliar spray to reduce the incidence of **angular leaf spot**. Apply an insecticide at seeding or transplanting or as a foliar spray up until flowering for control of **cucumber beetles** that transmit **bacterial wilt**.

*SEE DISEASES ON PAGE 2*

✓ **Eggplant:** Fields used for production should be well drained and devoid of low spots. Produce the crop on raised beds and allow drainage to occur at the end of the field to avoid conditions of high soil moisture that favor the development of **Phytophthora blight**.

✓ **Leeks:** **White rot** is present on overwintered leeks at this time. Infected plants are stunted, with white mycelium and black sclerotia present at the root plate. Control involves soil fumigation of fields prior to transplanting in the fall. The disease only occurs on the overwintered crop due to the fungus's requirement for cool soil temperatures.

✓ **Lettuce:** **Drop** caused by *Sclerotinia sclerotiorum* (large sclerotia producing species) is present in fields at this time. In younger fields, apply Ronilan or Rovral as a directed spray to the base of the plants once plants recover from transplanting or after thinning. Repeat 10 and 20 days later for the control of **drop**.

✓ **Muskmelons:** Rotate away from fields that produced muskmelons for at least 5 years before returning to muskmelons to reduce the incidence of **Fusarium wilt**, and plant the Fusarium resistant variety, 'Athena'. Apply an insecticide at seeding or transplanting or as a foliar spray up until flowering for control of **cucumber beetles** that transmit **bacterial wilt**.

✓ **Onions:** **White rot** is present on overwintered bunching onions at this time. Infected plants are stunted, with white mycelium and black sclerotia present at the root plate. Control involves soil fumigation of fields prior to seeding in the fall. The disease only occurs on the overwintered crop due to the fungus's requirement for cool soil temperatures. Now is the time to begin fungicide applications for the control of **downy mildew**, **purple blotch (Alternaria)** and **blast (Botrytis)** on overwintered onions and leeks. Repeat applications every 7 days.

✓ **Parsley:** Soon after seeding, apply a soil surface application of mefenoxam (Ridomil Gold 4E or Ultra Flourish 2E) for the control of **damping-off**.

✓ **Peppers:** Avoid using fields that are poorly drained. However, if poorly drained fields must be used, select the varieties, 'Paladin' or 'Aristotle', which have resistance to **Phytophthora blight**. Maintain applications of streptomycin foliar sprays every 5-7 days until transplanting to assist in preventing **bacterial spot**. Produce the crop on raised beds and allow drainage to occur at the end of the field to avoid conditions of high soil moisture that favor the development of **Phytophthora blight**.

✓ **Spinach:** **Anthracnose** and **white rust** are present in fields at this time. Apply Quadris 2.1F as a foliar spray, and repeat in 7 days. Do not make more than 2 sequential applications of Quadris to avoid the development of resistant strains of the pathogens.

✓ **Squash, summer:** Apply an insecticide at seeding

## Pest Notes

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

✓ **General:** Conditions are ideal for development and survival of **maggots** that attack vegetable seeds and seedlings, including radish, root crops, cucumbers, squashes, and pumpkins, and other crops. Cool, wet weather is favorable to oviposition, and seeds do not sprout or the maggots destroy young seedlings. Injury will likely be even more pronounced in soils high in organic matter.

Effective control of maggots can be obtained using a seed treatment that contains either chlorpyrifos, diazinon, permethrin, or imidacloprid. Many seed treatments are available either as planter-box treatments or commercially available seed, depending on crop (Note: refer to the specific crop labels for available seed treatments). For many crops, such as cucurbits, the use of at-plant treatments of imidacloprid for **aphids** and other pests will significantly reduce maggot populations.

✓ **Eggplant:** As eggplant is being readied for transplanting to the field, consider the use of a pre-plant or at-plant treatment for control of early season **Colorado potato beetles**, **flea beetles** and **aphids**. Imidacloprid (Admire 2F) can be applied in any of 5 different manners, including pre-plant applications, and thiomethoxam (Platinum 2SC) can be applied at planting time. Both of these materials are highly effective in early-season pest control, including the notorious Colorado potato beetle. And because of the long period of hot temperatures that occurred previously, it is likely that potato beetle and flea beetle populations will be high this spring. □

or transplanting or as a foliar spray up until flowering for control of **cucumber beetles** that transmit **bacterial wilt**.

✓ **Sweet Potato:** Use new or sterilized sand in seedbeds for sprout production. Use seed potatoes that are free of **scurf**, and dip potatoes in Mertect 340F prior to bedding for disease control. Maintain bed temperature between 80-85°F, and do not allow overheating to prevent collapse of the potatoes.

✓ **Tomato:** For staked tomato culture, thoroughly wash reused stakes and treat with a chlorine dip (5 minutes in a solution containing 5 gallons Clorox in 95 gallons of water) to reduce overwintering inoculum of **bacterial canker**. For transplants, maintain applications of streptomycin every 5-7 days until transplanting. Maintain adequate moisture levels and avoid sudden changes in temperature that results from leaving open vents and doors near young, tender seedlings to avoid injury to transplants. Shortly after transplanting apply Actigard as a foliar spray to reduce the incidence of **bacterial diseases**. Use only the low rate (1/3 oz/A) and repeat every 7 days for a total of 6 applications. □

# Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much below normal. Extremes were 73 degrees at Cape May Courthouse on the 29th and 27 degrees at Charlotteburg on the 24th. Weekly rainfall averaged 2.38 inches north, 2.26 inches central, and 2.36 inches south. The heaviest 24 hour total reported was 2.36 inches at Pomona on the 28th to 29<sup>th</sup> estimated soil moisture, in percent of field capacity, this past week averaged 90 percent north, 81 percent central and 64 percent south. Four inch soil temperatures averaged 51 degrees north, 53 degrees central and 55 degrees south.

## Weather Summary for the Week Ending 8 am Monday 4/29/02

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	3.06	9.00	1.33	64	31	47.	-7	188	158	100
CANOE BROOK	2.54	8.81	.38	65	29	48.	-6	224	202	100
CHARLOTTEBURG	2.62	9.30	1.00	63	27	43.	-8	161	158	100
FLEMINGTON	2.24	8.34	.25	63	29	47.	-7	224	198	100
LONG VALLEY	1.94	8.00	-.62	63	30	45.	-7	167	157	100
NEWTON	1.88	6.97	-.42	65	31	45.	-7	181	172	100
FREEHOLD	2.21	7.34	-.67	65	30	49.	-6	274	229	100
LONG BRANCH	2.95	8.70	.42	65	34	48.	-6	220	186	100
NEW BRUNSWICK	2.20	7.16	-.52	65	31	48.	-8	243	181	100
PEMBERTON	MISSING									
TOMS RIVER	1.85	8.82	.72	71	30	49.	-6	279	240	100
TRENTON	2.11	6.95	-.31	70	32	49.	-8	258	181	100
CAPE MAY COURT HOUSE	3.03	9.64	2.59	73	35	52.	-4	286	223	100
DOWNSTOWN	1.90	7.26	-.01	72	30	50.	-7	265	184	100
GLASSBORO	1.31	7.05	-.61	71	39	54.	-3	296	219	100
HAMMONTON	1.74	7.25	-.19	71	29	49.	-8	276	204	100
POMONA	2.89	9.70	2.57	71	30	50.	-5	271	222	100
SEABROOK	2.90	8.59	2.11	72	36	53.	-4	300	216	100
ATLANTIC CITY MARINA	2.74	8.70	1.97	71	41	53.	-2	220	165	100
SOUTH HARRISON	1.44	7.26	.65	70	36	52	NA	287	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week 217 (Ending 4/22/02)										
This Week 69 (Ending 4/29/02)										

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

David Drake, Ph.D., Wildlife Management  
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, Associate Director for Farm Services, NJAES  
Cindy Rovins, Crop Management Communications Editor

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