

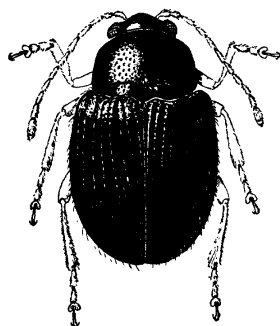
PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

MAY 12, 1999

Vegetable IPM Update

Kristian Holmstrom and Sarah Walker, Program Associates in Vegetable IPM



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Sweet Corn

Corn flea beetles are active in some southern fields this week, with some populations high (40 beetles/100 plants) where soil insecticides were not used. Check plantings in the spike stage through early whorl on sunny calm days, preferably in the late morning to early afternoon (between 10 a.m. and 3 p.m.). Pay particular attention to plantings that did not receive a soil insecticide at planting. Count the number of **flea beetles** on ten consecutive plants in ten random locations throughout the planting. Since **flea beetles** are quite active and jump from plant to plant, look ahead as you are checking the plants for shiny small (2 mm) oval-shaped black beetles. **Flea beetle** feeding damage looks like short lines or stripes on the leaves. The threshold is six beetles per one hundred plants for susceptible varieties if no systemic insecticide was used at planting. If a treatment is necessary, make the application in the late afternoon and when conditions are warm, sunny, and calm so that the maximum number of beetles are exposed.

The first **European corn borer (ECB)** adult was recorded on 5/6 in Cumberland County, and this week they are showing up in most of the southern and some central area blacklight traps. Activity of the population is directly related to evening temperatures, with greater numbers occurring when temperatures increase above 60 degrees F. For this week, the highest average nightly **ECB** blacklight trap catches are:

Cohansey	2	Woodstown	1	Hammonton	1
Shiloh	2	Georgetown	1	Crosswicks	1
Centerton	2	Pedricktown	1		
Shirley	2	Mullica Hill	1		

The first **corn earworm (CEW)** adults were caught in Cumberland and Mercer counties. Southern New Jersey is a border-line area for overwintering by corn earworms, and the success of overwintering is dependent on the severity of the winter temperatures. As a result of the moderate winter, we may see a higher first generation population of **CEW** this season. The highest average nightly **CEW** blacklight trap catches are:

Shiloh	1
Allentown	1

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White Potatoes

European corn borer (ECB) adult populations are beginning to increase in the southern potato blacklight traps, although the numbers are well below the suggested threshold of 10 per night. The **late blight** and **corn borer** fax program has begun as of Friday. These faxes contain current information for managing late blight and **ECB** for white potatoes, and are sent to subscribers on Tuesday and Friday each week. If you are interested in subscribing, please contact Mel Heninger (732-932-9711 ext.120) or Sally Walker (609-451-2800).

Cole Crops

Flea beetle damage may be found now on newly transplanted or direct-seeded fields throughout the state. Damage appears as numerous small holes on the leaves. Check plantings on warm days for the presence of **flea beetles** and damage to small plants. Multiple beetles per plant can result in significant foliar damage to very small plants. Consider treating young plantings if flea beetles are present and damage is occurring on most plants. □

Pest Notes

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

✓ **General:** A high-ranking EPA official has warned tree fruit growers that the organophosphate insecticides are in trouble, and that growers should seek alternatives to these materials. The organophosphate group includes Dibrom, methyl-parathion, diazinon, MSR, Orthene, Lorsban, Guthion, Monitor, and others. If registrations for these materials are cancelled, the pest management programs for vegetables would be severely impacted.

✓ **Asparagus:** **Asparagus beetles** are plentiful in most fields. These pests are causing direct damage to the spears as they feed on the tips, and cause indirect damage by depositing hard-to-remove eggs on the spears. Control the adults using foliar sprays of Lannate, malathion, methoxychlor, permethrin (Ambush, Pounce) or Sevin. Days to harvest is one (1) day for all of the above except methoxychlor, which is three (3) days.

✓ **Cabbage:** The white butterfly seen flying around cabbage fields is the adult of the **imported cabbageworm**. Eggs will be deposited on the foliage, and larvae will hatch and begin feeding within 4-5 days. These pests are easily controlled when larvae are small. The biological insecticides such as DiPel, Agree, Cutlass, Biobit, Crymax, Javelin and others are highly effective against this pest. These materials must be ingested to kill the insect, thus thorough coverage is important.

✓ **Carrots:** **Carrot weevils** are active and adults have been depositing eggs on carrot bait in the Landisville area. Asana XL is labeled at a rate of 9.6 fl oz/A for control of **carrot weevils** in carrots. Thorough coverage at the base of the plant is essential. Do not harvest within 7 days of application. Also, Vydate L is labeled as a soil-directed spray at a rate of 2-4 pt Vydate in 20 gal of water per acre. Apply up to 3 times at 2-3 week intervals, and do not harvest within 14 days of last application.

✓ **Cucurbits:** Seedling pickle plants in several areas have **seed corn maggot** damage and/or **root mites**. Damage from **maggots** is well known, but damage from the **root mites** is not fully understood at this time. Treatments of diazinon preplant or treated seed are recommended for **maggot** control.

✓ **Lettuce, Greens:** Lettuce and other leafy crops are heavily infested with **aphids** in some areas. **Aphids** are extremely difficult to control after the population reaches a high level. Also, control becomes more difficult once the plant nears maturity because it is much easier for the **aphids** to hide and remain protected from insecticide treatments. Very few materials are labeled for the lettuces that have a short days-to-harvest. Most materials have a 7-10 day spray interval until harvest. Dibrom is labeled for **aphid** control and has a 1-day to harvest.

✓ **Parsley:** Carrot weevils are active. County agricultural agent Rick VanVranken reports that **weevils** are being caught in **carrot weevil** traps in Landisville and have been depositing eggs on the carrot bait within the traps. A Special Local Needs label for the use of Guthion 50WP in parsley is in effect. Up to three applications are permitted, with a 21 days to harvest interval requirement. □

Vegetable Crops Diseases

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

✓ **Bean (Snap & Lima):** Apply Ridomil Gold 4E in a 7-inch band over the row after seeding for the control of **damping-off** caused by Pythium. For control of **damping-off** caused by Rhizoctonia (primarily lima beans) and Pythium, apply Ridomil Gold PC 11G as an in-furrow treatment at seeding.

✓ **Beet:** Maintain foliar applications of a copper fungicide on a 10-14 day schedule for control of **Cercospora leaf spot**.

✓ **Cole crops:** Observe fields of Chinese cabbage for the occurrence of **downy mildew**. At the first sign of disease, apply Ridomil Gold/Bravo as a foliar spray and repeat every 14 days.

✓ **Cilantro:** **Bacterial leaf spot** is present in some fields at this time. Avoid working in fields while the foliage is wet to prevent spread.

✓ **Cucumber:** Maintain control of **cucumber beetles** from shortly after transplanting or emergence until flowering to prevent transmission of **bacterial wilt**. In areas where **angular leaf spot** was present in past years, apply a combination of mancozeb + a copper fungicide once the vines begin to run and repeat every 7 days. For other fields, once the vines begin to run, apply Bravo + Benlate or Topsin M as a foliar spray and repeat every 7-10 days.

✓ **Eggplant:** **Gray mold** and **Timber rot (Sclerotinia)** are present on transplants still in the greenhouses at this time. Destroy infected plants and do not transplant them into the field. Provide as much ventilation as possible and reduce the humidity in greenhouses to reduce the incidence of these diseases on the rest of the plants.

✓ **Green:** **Magnesium deficiency** (older leaves exhibiting interveinal chlorosis) is present in mustards at this time. Apply Epsom salts to fields to increase the level of magnesium.

✓ **Lettuce:** The recent dry and warm weather has resulted in fields looking extremely well at this time. Be sure to apply Ronilan or Rovral as a foliar spray directed to the base of plants and surrounding soil shortly after transplanting or thinning, and 10 and 20 days later for control of **drop**. Do not cultivate after the last fungicide application.

✓ **Muskmelon:** Control **cucumber beetles** from shortly after transplanting or emergence until flowering for prevention of transmission of **bacterial wilt**. Once the vines begin to run, apply Bravo or mancozeb as a foliar spray for prevention of **Alternaria leaf spot**.

✓ **Parsley:** For prevention of **bacterial leaf spot**, avoid working in the field while the foliage is wet, and

apply a copper fungicide every 7 days once the disease is observed in the field.

✓ **Pepper:** For prevention of **Phytophthora blight** be sure to produce crop on raised beds. When transplanting with a water wheel transplanter, be sure to fill in the depressions around the base of the plants with additional soil from the row middles or bring in sand. Make cross ditches between rows in low-lying areas of the field, and make a drainage ditch at the ends of the field to allow water to leave the field following a rainfall. Apply Ridomil Gold 4E in a 12-16 inch band over the row following transplanting or via injection through the drip irrigation system. Repeat application 21 and 42 days later.

✓ **Potato (Sweet):** For prevention of **scurf**, use only slips that have been cut above the soil line in the plant bed, or use slips that were produced from seed free of **scurf**.

✓ **Potato (White):** Acrobat MZ fungicide has recently received a Federal label for use on potatoes for the control of **late blight**. Apply 2.25 lb/A when plants are 4-6 inches high or prior to the onset of infection. Repeat application on a 5-10 day schedule. Do not apply within 14 days of harvest.

✓ **Spinach:** **Magnesium deficiency** is present in some fields at this time. Apply Epsom salts to remedy the situation. Maintain applications of a copper fungicide at the lowest labeled rate for the control of **white rust**. For fields close to harvest, apply Aliette to avoid phytotoxicity with the copper fungicides.

✓ **Squash, (summer):** Control **cucumber beetles** from shortly after transplanting or emergence until flowering for the prevention of the transmission of **bacterial wilt**.

✓ **Tomato:** Shortly after transplanting, apply a copper fungicide + mancozeb as a foliar spray and repeat in 7 days for control of **bacterial diseases**. For fields with a history of **timber rot**, apply a foliar spray of Benlate + a spreader sticker at flowering and repeat in 7 days. This disease is particularly prevalent in fields where black polyethylene mulch is used. □

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged near normal. Extremes were 85 degrees at Pemberton on the 9th and 44 degrees at Charlotteburg on 10th. Weekly rainfall averaged 0.63 inches north, 0.31 inches central, and 0.09 inches south. The heaviest 24 hour total was 0.37 inches at Flemington on the 8th to the 9th. Estimated soil moisture, in percent of field capacity, this past week averaged 77 percent north, 70 percent central and 56 percent south. Four inch soil temperatures averaged 57 degrees north, 56 degrees central and 56 degrees south.

The following table contains meteorological information since the start of the growing season March first. The table is updated each Monday and the following is an explanation for each column.

Week=total rainfall for the previous 7 days ending Monday morning

Total=total rainfall since March 1st

Dep=departure from normal of rainfall since March 1st. A negative sign indicates below normal and no sign indicates above normal.

Mx=highest temperature for that 7 day period

Mn=lowest temperature for that 7 day period

Avg=average temperature for that 7 day period

Dep=departure from normal of the average temperature for that 7 day period

Total=total number of growing degree units since March 1st

Dep=departure from normal of growing degree units

%fc=percent of field capacity (soil moisture)

Weather Summary for the Week Ending 8 Am Monday 5/10/99

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	.54	6.47	-2.48	78	46	59.	1	135	35	74
CANOE BROOK	.93	7.18	-2.68	77	49	60.	3	201	117	84
CHARLOTTEBURG	.58	8.90	-.81	75	44	56.	1	92	52	72
FLEMINGTON	.58	5.93	-3.48	79	49	59.	1	147	55	78
LONG VALLEY	.54	6.77	-3.30	74	50	58.	2	116	58	76
FREEHOLD	.48	8.08	-1.26	76	44	59.	0	183	56	81
LONG BRANCH	.49	8.29	-1.36	76	50	57.	-1	179	75	70
NEW BRUNSWICK	.25	6.76	-2.31	76	47	59.	-1	174	24	78
PEMBERTON	.09	6.83	-2.12	85	46	63.	3	223	77	43
TOMS RIVER	.46	4.24	-5.15	78	48	58.	-1	149	37	65
TRENTON	.10	7.43	-1.03	76	43	57.	-3	139	-33	58
CAPE MAY COURT HOUSE	.09	5.94	-2.27	77	50	59.	0	185	36	27
DOWNSTOWN	.04	7.37	-1.08	82	49	62.	1	202	20	41
HAMMONTON	.15	6.80	-1.89	82	49	61.	1	190	24	33
POMONA	.19	7.89	-.34	78	48	58.	-1	168	38	45
SEABROOK	.02	7.23	-.39	80	51	62.	1	245	60	41
ATLANTIC CITY MARINA	.04	6.85	-.92	79	50	58.	0	194	63	35
WOODSTOWN	.16	7.70	-.91	83	37	45	NA	249	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week 93 (Ending 5/3/99)										
This Week 153 (Ending 5/10/99)										

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