

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

SEPTEMBER 2, 1998

Pest Notes

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



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✓ **Bean:** The spray schedule for snap beans varies depending on the pest species and pest pressure. **Corn borer** sprays are critical during the early bloom/bud stage, and again at the late bloom/early pin stage. A third spray may be needed, depending on **borer moth** activity. For **corn earworm**, sprays may be needed every 5-7 days, depending on **corn earworm moth** activity. Consult pages 71-72 of the 1998 Commercial Vegetable Production Recommendations for New Jersey for complete information on management of these pests. Asana and Lannate are effective against both **corn borers** and **corn earworms** in snap beans.

✓ **Corn (Sweet):** **European corn borer**, **corn earworm** and **fall armyworm moth** captures are exceptionally high at this time, and pressure in sweet corn fields will be high. Baythroid, Asana, Warrior and Larvin are most effective against these pests. It is suggested that growers consider a rotation of insecticides (such as 2 pyrethroid applications followed by a non-pyrethroid insecticide) for maximum control of these pests. A high volume, high pressure spray directed at the ear zone is recommended.

✓ **Lettuce:** **Corn earworm (lettuce headworm) moth** activity is high, and lettuce in the 7-leaf to 18-leaf stage should be protected from **earworm** damage. After the 18-leaf stage, **worms** can no longer be controlled. Effective insecticides include Ammo, Fury, Warrior, Mustang, Lannate, Larvin, Pounce and Ambush. Several applications will be necessary as the plant grows (Lannate should be applied every 2-5 days, permethrin and Warrior every 5-10 days, based on **corn earworm moth** populations). With high **moth** counts, apply sprays more frequently, and with lower counts, less frequently.

✓ **Thrips** have been a problem in lettuce fields in central and northern New Jersey. Effective materials include Ammo, Lannate and SpinTor. Use the high labeled rate if given a choice, and this should effectively control **thrips** with one application at this time (*Note:* SpinTor is labeled for leaf and head lettuce, although **thrips** are not listed on these crops. SpinTor is very effective against eastern and western flower thrips, and can be used for these pests in lettuce).

✓ **Pepper:** **European corn borer moths** are still active, as well as **fall armyworm moths**. Pheromone trap and black light trap **moth** captures are high. Pounce, Ambush, Asana, Baythroid and Lannate are labeled for control of both of these pests (*Note:* Asana and Baythroid

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have a 7-day wait until harvest, and Lannate, Pounce and Ambush have a 3-day wait until harvest).

✓ **Watermelon, and other cucurbits:**

Outbreaks of **spider mites** have been reported in several cucurbit crops, especially watermelons. **Mites** can be controlled in cucurbits with any of several miticides, including Kelthane, AgriMek or Metasystox-R. Also, Vydate L applied for **leafminer** control will also control low populations of **spider mites**. Thorough coverage is important, and because of the life cycles of **mites**, a second or even third application may be necessary. □

European corn borer, corn earworm and fall armyworm moth captures are exceptionally high at this time, and pressure in sweet corn fields will be high.

Vegetable Crops Diseases

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

✓ **Asparagus:** Maintain applications of mancozeb as a foliar spray every 7-10 days for control of **rust**.

✓ **Beans (lima & snap):** If soil is wet 6-10 days before bloom, a fungicide should be applied when 70-80% of the plants have one or more open blossoms for control of **white mold (Sclerotinia)**. A second application needs to be made 6 days after the first application if soil remains wet and blossoms are still present. Add a spreader sticker to each fungicide application to enhance activity.

✓ **Cole crops:** On new seedings, apply Ridomil Gold 4E in a 7-inch band over the row for control of **damping-off** and early season control of **downy mildew**. Maintain applications of maneb or Bravo every 7-10 days for the control of **Alternaria leaf spot** and **downy mildew**.

✓ **Carrot: Leaf blights** are present in fields at this time. Infected leaves have numerous, small black lesions with gray centers and dark reddish borders scattered over the leaf and petioles. Maintain applications of Bravo every 7-10 days for control.

✓ **Cucumber:** In fields where **Angular leaf spot** apply a copper fungicide + mancozeb as a foliar spray every 7 days for control, and do not work in fields while the foliage is wet. In other fields, maintain a 7-day schedule with Bravo + Benlate or Topsin M for control of **foliar diseases**.

✓ **Eggplant:** Maintain foliar applications of a copper fungicide + maneb + a spreader sticker every 7-10 days for control of **Phomopsis & Phytophthora fruit rots**.

✓ **Leek:** Maintain foliar applications of Bravo every 10 days for control of **purple blotch**.

✓ **Lettuce:** Apply Ronilan or Rovral as a directed spray to the base of the plants and surrounding soil after thinning, 10 and 20 days later for control of **drop (Sclerotinia)**. Use of Rovral will also control **bottom rot (Rhizoctonia)**.

✓ **Pepper:** Maintain foliar applications of maneb + copper fungicide + a spreader sticker every 7-10 days for control of **bacterial leaf spot & Phytophthora blight**.

✓ **Pumpkin & winter squash:** Maintain applications of Bravo + a copper fungicide every 7-10 days for control of **foliar & fruit diseases**.

✓ **Spinach:** Apply Ridomil Gold 4E in a 7-inch band over the row immediately after seeding for control of **damping-off** and early season control of **blue mold & white rust**.

✓ **Squash (summer):** Maintain applications of Ridomil Gold/Bravo as a foliar spray every 14 days for control of **Phytophthora blight**.

✓ **Tomato:** Maintain foliar applications of chlorothalonil every 14 days and on alternate 14 days apply Quadris. Quadris has a 24C registration in New Jersey for a 1-day preharvest interval.

✓ **Watermelon:** Maintain foliar applications of Bravo + Benlate or Topsin M every 7 days for the control of **anthracnose & gummy stem blight**. □

Weekly Weather Summary

Keith Arnesen, Agricultural Meteorologist

Temperatures averaged much much above normal. Extremes were 97 degrees at Toms River and Pemberton on the 27th and 30th, and 58 degrees at Charlotteburg on the 31st. Weekly rainfall averaged 1.00 inches north, 0.25 inches central, and 0.25 inches south. The heaviest 24 hour total was 1.49 inches at Belvidere on the 25th to the 26th. Estimated soil moisture, in percent of field capacity, this past week averaged 84 percent north, 65 percent central and 47 percent south. Four inch soil temperatures averaged 74 degrees north, 77 degrees central and 78 degrees south.

Weather Summary for the Week Ending 8 a.m. Monday 8/31/98										
WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	1.49	30.89	6.49	87	62	75.	8	2488	299	77
CANOE BROOK	.42	28.60	3.04	94	63	79.	11	2846	640	69
CHARLOTTEBURG	1.24	32.75	6.93	87	58	73.	8	2207	456	82
LONG VALLEY	.84	30.61	3.97	85	60	74.	9	2243	290	76
FREEHOLD	.52	29.55	5.53	93	64	79.	10	2674	265	73
LONG BRANCH	.45	33.43	9.06	92	67	78.	8	2542	210	55
NEW BRUNSWICK	.08	28.49	4.23	93	64	79.	7	2737	224	77
PEMBERTON	.05	22.70	-2.00	97	64	81.	11	2926	469	29
TOMS RIVER	.25	35.56	10.68	97	60	79.	9	2802	486	52
TRENTON	.14	26.02	3.01	92	62	78.	7	2643	28	43
CAPE MAY CRT HSE	.30	22.91	1.41	92	67	79.	7	2801	497	48
DOWNSTOWN	.02	22.90	.15	92	65	80.	9	2898	228	41
HAMMONT	.10	20.22	-3.48	95	65	80.	9	2865	263	30
POMONA	.52	24.99	3.10	96	65	79.	10	2841	415	47
SEABROOK	.03	25.31	3.58	92	65	80.	9	3048	413	39
ATLANTIC CTY MRNA	.54	26.09	5.04	93	69	79.	8	2834	470	43
WOODSTOWN	.00	23.97	0.60	93	62	80	NA	3074	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
				Last Week		236 (Ending 8/24/98)				
				This Week		280 (Ending 8/31/98)				

Vegetable IPM Update

Kristian E. Holmstrom and Sally Walker, Program Associates in Vegetable IPM

Lima and Snap Beans

Both **European corn borer (ECB)** and **corn earworm (CEW)** adult blacklight trap counts are very high in the southern counties. Both pests are a potential threat to snap and lima bean fields at this time.

Peppers

Blacklight trap counts of adult **ECB** and **CEW** are very high in the southern and central counties. In addition, **fall armyworm (FAW)** and **beet armyworm (BAW)** pheromone trap counts remain high in the southern counties, particularly in Atlantic and Cumberland counties. All of these pests continue to be a potential threat to pepper fruit at this time. In our unsprayed research plots, **ECB** are the main fruit pest, and all stages (adults, eggs, small and large larvae) are easily found in the field or on the fruit. In commercial fields, adults and egg masses of **borers** and **armyworms** have been seen, but in most cases weekly insecticide treatments are keeping the larvae out of the fruit.

Two spotted spider mites have begun to appear in several northern New Jersey pepper fields. Usually the infestations are associated with nearby weeds, or in one case, soybeans. Look for yellow patches on the tops of leaves and small white dots between the veins on the undersides of leaves of otherwise healthy plants. Early detection of this pest may allow for spot treatment within plantings.

Recently **thrips** have been found in damaging numbers in Warren County. **Thrips** damage was easily observed on pepper leaves as silvery patches near leaf veins. Individual **thrips** were found on many fruit, particularly near the cap. This pest may go unnoticed until fruit damage occurs. It is necessary to scout plantings weekly for this and other pests. Look at 2 fruit per plant on 50 plants (5 plants in 10 random locations) for the presence of **thrips** or their damage.

Tomatoes

In the southern counties, continue to monitor fields for the presence of **CEW** and **BAW** larvae since adult populations of these pests remain high.

Sweet Corn

Adult catches of **ECB** have generally remained high throughout the southern and central counties this past week. In the northern counties, **ECB** trap catches are spotty, with some areas indicating low populations. Overall, this pest is still a serious threat to sweet corn. Fields that are not yet silking should be scouted weekly and treated with insecticide when 12% of plants are infested with **ECB** alone or in combination with **FAW**.

Silk spray schedules should control larval **ECB** resulting from eggs laid on or near developing ears.

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

Shirley	60	East Vineland	25
Elmer	46	Woodstown	24
Chapel Heights	41	Folsom	21
Centerton	33	Eldora	20
Hammonton	31	Elm	19
Medford	28	Springdale	19

Adult populations of **CEW** are very high in all areas of the state. Recent southerly weather patterns have resulted in significant increases in **CEW** moths in all traps. It is critical that silking schedules be followed now to minimize damage to developing ears.

Silking spray schedules should be initiated at first silk, and should continue as long as the "days to harvest" interval permits. Sprays missed early in the silking period will result in large larvae in the ears with significant damage, while sprays missed late in the silking period will result in "tip worm".

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

New Egypt	56	Jamesburg	26
Shirley	35	Tabernacle	26
Shiloh	32	Medford	25
Hancock Bridge	28	Crosswicks	24
Pemberton	28	Cedarville	23
Elm	26	Sewell	23

General Sweet Corn Spray Schedule

Silking stage:	North	3 day *
	Central	2 to 3 days*
	South	2 to 3 days*

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

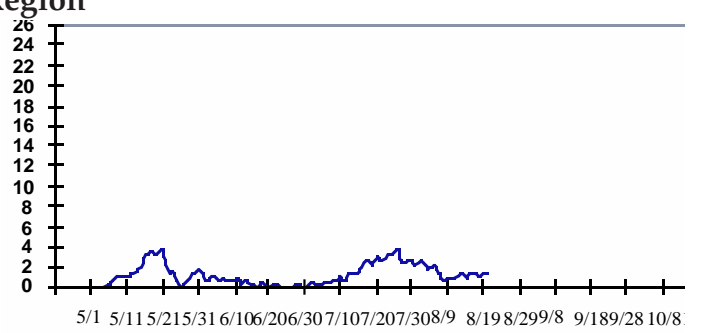
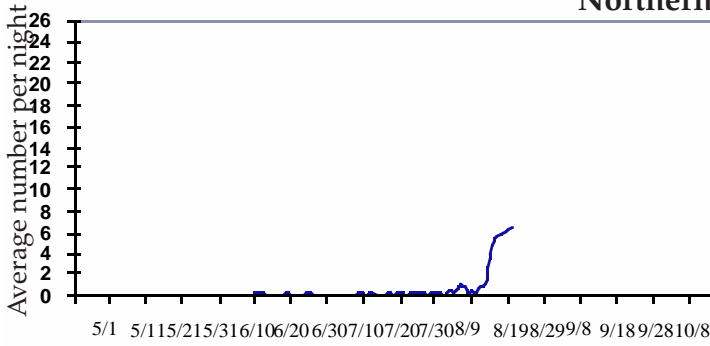
SEE **BLACKLIGHT TRAP CATCHES** ON PAGE 5

Blacklight Trap Catches

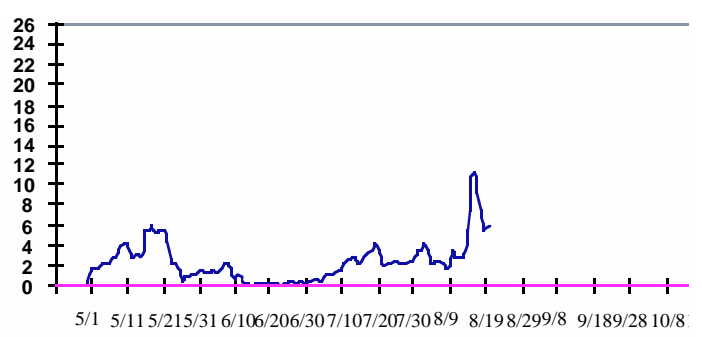
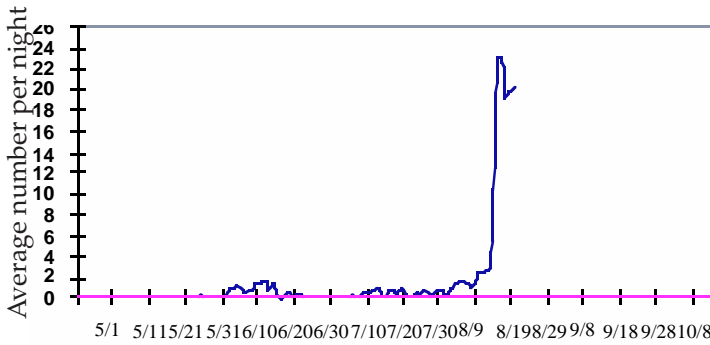
Corn Earworm

European Corn Borer

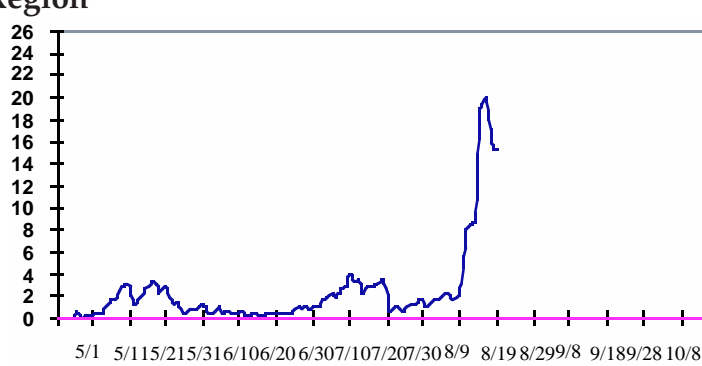
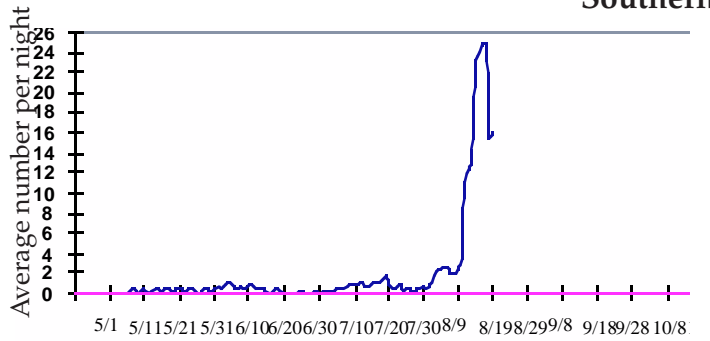
Northern Region



Central Region



Southern Region



Date

Date

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