

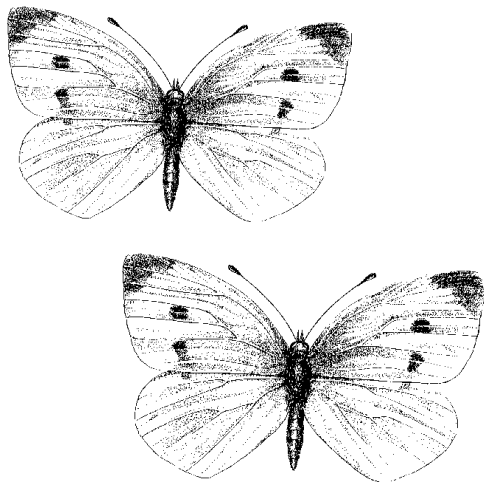
PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

MAY 28, 1997

Pest Notes

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



INSIDE

- Pest Notes 1**
- Vegetable Crops Diseases 2**
- Weed Control 3**
- Fungicide Granted for Late
Blight of Tomatoes 4**
- Vegetable IPM Updates 4**
- Weekly Weather Summary 5**
- Meetings 5**

✓ **General:** Weather conditions are favorable for **aphid** problems: long spells of cool weather followed by sudden warm temperatures, then cool, then warm. The **aphids** “outpace” the predators and parasites. With natural enemies suppressed during cool weather, **aphids** are quick to take advantage of warm weather and build up faster than predators can destroy them. Watch for **aphid** populations as soon as the hot weather arrives, probably later this week, and monitor the population closely to detect outbreaks.

✓ **Cabbage:** Relatively high **flea beetle** populations have been reported in some cabbage fields throughout southern Jersey. These pests chew small round holes in young leaves; and as the leaves expand in size, the holes also expand. Flea beetles feed less as the plant grows in size, and are most damaging when the plants are small. These pests have no known pesticide resistance, and are controlled using applications of either Asana XL, Ammo 2.5EC, Sevin, Thiodan, or Warrior 1EC. Consult label for all rates and restrictions before using. More than one application may be necessary as these pests are highly mobile, and readily move between fields.

Low numbers of imported **cabbageworm** populations are found on various cole crops. These pests chew large holes in the leaves of cabbage plants, etc., and can devour entire leaves as the population increases. Imported **cabbageworms** are larvae of the common white butterfly that is seen fluttering around the cabbage fields at this time. The biological insecticides work well on these pests (any of the *B.t.* insecticides), as do the chemical insecticides. If you use a *B.t.*, the best time of application is early in the morning to allow maximum feeding before the cool evening arrives. The *B.t.* insecticide must be ingested or it will not be effective, and insects cease feeding if the temperature is cool.

✓ **Eggplant:** **Flea beetle** populations are high in fields that have not been treated with Admire 2FS. All labeled insecticides are effective, although multiple applications of a foliar insecticide may be necessary because of emergence and migration patterns of this pest. Monitor fields to determine if feeding damage is increasing. Effective insecticides for **flea beetle** control include Asana, Align, Guthion, permethrin, rotenone, Thiodan, and Vydate. Consult label for all rates and restrictions.

✓ **Onions and Leeks:** Based on the number of Day Degree Days (DDD), the second generation **onion maggot** should begin soon. The first generation has been relatively low in numbers (compared with last

SEE PESTS ON PAGE 2

Vegetable Crops Diseases

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

✓ **Asparagus:** Be sure not to overcut production fields. Harvest period should only be for 8 weeks; however, with the extended cool weather this year, there were several days when fields were not harvested. In instances where days were omitted from harvesting, the number of days skipped could be added to the end of the harvest period this year. The limit on harvest period each year is to minimize stress on the production field, and thereby, reduce the incidence of **Fusarium wilt**.

✓ **Cole crops:** A major control measure for **Clubroot** is to raise the soil pH to as close to 7 as possible. Recent research results from California indicate that growers are applying lime in a band over the row at transplanting, and applying lime in irrigation water to increase soil pH.

✓ **Cucumber:** When the vines begin to run, it is time to begin fungicide applications for the control of **anthracnose**. Repeat applications at 7-day intervals.

✓ **Lettuce:** Leaves of Romaine and Boston types have numerous brown spots along the leaf margins and midrib areas. This is the result of the recent windy and dry weather, and it is not a disease. In some fields, leaves have brown angular shaped lesions scattered over the leaf. These are symptoms of **downy mildew**, and foliar applications of Aliette or maneb need to be applied for control.

✓ **Muskmelon:** **Damping-off** caused by **Pythium** is present in some fields at this time. Infected plants are wilted, and there is a brown lesion present at the base of the plant near the soil line. An application of Ridomil Gold 2E in a 7-inch band over the row or injection via a drip/trickle irrigation system is needed for control. In other fields where plants were established by placing plug mix with seed through plastic mulch, seedlings are exhibiting leaves with marginal burn. This is the result of **drought and wind stress**, and is not a disease. Where plug mix is used, care must be given to maintain adequate soil moisture to prevent moisture stress.

✓ **Onion:** Some fields in North Jersey are exhibiting poor growth of direct seeded fields. This is the result of cool, dry weather, and is not due to a disease. The recent rain should result in improved growth.

✓ **Parsley:** Some fields have plants with white spots on the leaves. This is the result of **drought stress**, and is not a disease.

✓ **Pepper:** There are some reports of **Phytophthora blight** being present at this time. Infected plants should be removed from the field, and the plastic should be removed between the infested area of the field and the healthy area to prevent spread. Maintain applications of Ridomil Gold 2E every 30 days for control.

✓ **Spinach:** Maintain applications of Kocide LF as a foliar spray if plants are 2-3 weeks from harvest, or apply

Aliette if the field is closer to harvest for control of **white rust**.

✓ **Squash (Summer):** **Phytophthora blight** is present in some fields at this time. Infected plants are completely wilted, and a black lesion is present at the base of the leaf petioles where they are attached to the stem. Remove infected plants from the field, and remove plastic mulch from between the healthy and infested area of each row to prevent spread. Apply Ridomil Gold 2E in a 7-inch band over the row, or inject via drip/trickle irrigation for control.

✓ **Potato (Sweet):** Some growers experienced seed that rotted in transplant production beds this spring. This is the result of **soft rot**, and in the future, seed potatoes need to be dipped into a solution of Botran 75W prior to bedding for control.

✓ **Potato (White):** The first Disease Severity Values (DSV's) associated for the **late blight** forecast system were recorded for South Jersey on May 26. No fungicide is warranted until 16 more DSV's occur. The weather has not been conducive for the development of **late blight** this season. The first fungicide application scheduled for the control of **pink rot** is due when tubers are nickel size. The second application should be made 2 weeks later.

✓ **Tomato:** A section 18 specific exemption for the use of Tattoo C to control **late blight** has been granted to New Jersey. See separate article in this issue for details. Use of this fungicide should be made when the disease is detected in the region; otherwise, maintain applications of Bravo for protection against **late blight** and other foliar and fruit diseases. Some fields have plants wilting, and a black, girdling lesion is present at the base. This is the result of infection by **Rhizoctonia**. Infection usually develops in the greenhouse, and the disease does not spread in the field. No control measures are necessary at this point. □

SEE PESTS FROM PAGE 1

year), possibly because of the continually cool temperatures we have had. Within the next week or less the second generation should commence.

✓ **Potato:** Growers can expect **leafhopper** populations to increase in potato fields during the next 2-3 weeks as air temperatures increase. The use of Admire 2FS in-furrow will likely control early **leafhopper** populations. If Admire was not used at plant, monitor fields closely to prevent excessive **leafhopper** damage. Even moderate **leafhopper** damage can reduce yields. For more information on **leafhopper** control, see page 157 of the [1997 Commercial Vegetable Production Recommendations](#).

Colorado potato beetles have emerged and populations are very low throughout the potato growing areas of the state. Growers who have used Admire 2FS in-furrow this year will likely not have a **beetle** population buildup, and these fields should be closely monitored to determine the extent of **beetle** survival. These fields will likely not need Admire next year, and alternatives should be considered for this pest (different chemistry insecticides for 1998). □

Weed Control in Vegetables

Bradley A. Majek, Ph.D.

✓ **Asparagus:** - end of cutting season - Apply Solicam or Devrinol immediately after the end of the cutting season to control annual grasses and certain broadleaf weeds. Solicam also suppresses yellow nutsedge and certain perennial grasses. Use 2.5 to 5.0 lb/A of Solicam 80 DF (2.0 to 4.0 lb ai/A) per year or 4.0 to 8.0 lb/A of Devrinol (2.0 to 4.0 lb ai/A). If an application was made in early spring, supplement after the cutting season, but do not exceed the maximum labeled rate in one year. Consult the label for additional information.

Combine with Lexone/Sencor, or Karmex to improve broadleaf weed control. Level ridges *before* applying herbicide if mechanical leveling is practiced. Rainfall or irrigation is needed to activate the preemergence herbicides, but the products are stable on the soil surface, and will not be lost if rainfall is delayed. Delay irrigation for 8 to 12 hours if weeds are present and postemergence herbicides are used. Consult your Cooperative Extension Office and the product label for additional information.

✓ **Cucumber:** Command 4EC has received a 24C Special Local Needs label for use in New Jersey to control weeds in direct seeded cucumbers. Apply 4 to 6 fluid ounces of Command 4EC (0.125 to 1.88 lb ai/a) preemergence (after seeding) and incorporate between the rows immediately after application. Use rolling basket cultivators or other cultivation equipment, or preplant incorporate 6 to 8 fluid ounces (0.188 to 0.25 lb ai/a) shallowly before seeding. Use the lower rate on coarse textured soils low in organic matter and when cool wet growing conditions prevail. Use the higher rates on fine texture soils.

The purpose of the incorporation or cultivation is to reduce the risk of vapor drift after application. Incorporation must be shallow, only one quarter to one half inch deep. Do **not** preplant incorporate or cultivate deeply. Deep incorporation reduces weed control by diluting the herbicide and increases the risk of crop injury by placing the herbicide into the root zone of the crop.

The weeds controlled by Command include most **annual grasses** and many **broadleaf weeds**. **Common weeds** that escape control when Command is applied at rates safe for use in cucumbers include **carpetweed**, **smooth pigweed**, **morningglory** species, **common cocklebur**, and most **perennial** weeds. Use Command in combination with other herbicides labeled for use in cucumbers, or plan alternate control measures to control these weeds.

Observe the 45-day preharvest interval (PHI) when Command is used on summer squash. Read and follow all label warnings and restrictions that pertain to Command 4EC spray and vapor drift.

✓ **Potato (Sweet):** Use Devrinol 50DF to control weeds in sweet potatoes. Apply 2 to 4 pounds of Devrinol 50DF per acre posttransplant, before the first cultivation has filled the planter wheel track. Incorporate within one day (24 hours) of application with a minimum of one half inch of irrigation, or by cultivation. Devrinol primarily controls annual grasses. Certain **broadleaf** weeds, including **carpetweed**, **common lambsquarter**, **pigweed** and **common purslane** are also controlled or suppressed.

✓ **Squash (Summer):** Command 4EC has received a 24C Special Local Needs label for use in New Jersey to control weeds in direct seeded summer squash, including yellow and zucchini varieties. Apply 4 to 6 fluid ounces of Command 4EC (0.125 to 1.88 lb ai/a) preemergence (after seeding) and incorporate between the rows immediately after application. Use rolling basket cultivators or other cultivation equipment, or preplant incorporate 6 to 8 fluid ounces (0.188 to 0.25 lb ai/a) shallowly before seeding. Use the lower rate on coarse textured soils low in organic matter and when cool wet growing conditions prevail. Use the higher rates on fine texture soils.

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Observe the 45-day preharvest interval (PHI) when Command is used on summer squash. Read and follow all label warnings and restrictions that pertain to Command 4EC spray and vapor drift.

Combine Devrinol with Command 4EC (clomazone) applied at 1.0 pints per acre (0.5 lb ai/a) to increase the species of **broadleaf** weeds controlled where Command can be used. Read and follow all label warnings and restrictions that pertain to Command 4EC spray and vapor drift. Do *not* use Command 4EC where drift may damage sensitive crops or ornamentals. □

Fungicide Granted for Use in the Control of Late Blight of Tomatoes

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

The U.S. Environmental Protection Agency has granted a specific exemption (Section 18) to the New Jersey Department of Environmental Protection for the use of Tattoo C to control **late blight** in tomatoes (including greenhouse). The specific exemption is subject to the following conditions and restrictions:

1. Tattoo C may be applied by ground or air at a maximum rate of 2.3 pints product per acre at a maximum of 5 times per season. If the maximum applications of Tattoo C are made per season, a maximum of 4.5 pounds of chlorothalonil will be used.
2. A 7 day preharvest interval will be observed.
3. Prior to use in the following counties, the regional office of the U.S. Fish and Wildlife Service must be contacted in order to assess the potential exposure to the indicated species:
 - Atlantic, Burlington, Cumberland, Gloucester, Middlesex, Monmouth, Morris, Ocean, Salem: Swamp Pink
 - Atlantic, Burlington, Monmouth, Ocean: Knieskern's Beaked-Rush
 - Burlington: American Chaffseed
 - Burlington, Cumberland: Sensitive Joint-Vetch
 - Sussex: Small Whorled Pogonia
4. No applications of Tattoo C may be made after September 30, 1997. □

Vegetable IPM Updates

Donald J. Prostak, Ph.D., Pest Management

◆ Sweet Corn

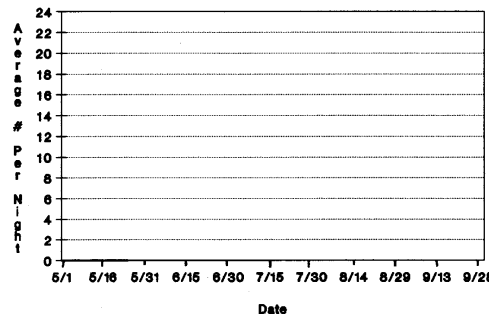
No additional catches of **corn earworm (CEW)** have occurred during the last week.

Owing to the cool weather, **European corn borer (ECB)** catches have remained at the same levels since last week. When warm weather returns, catches will increase sharply.

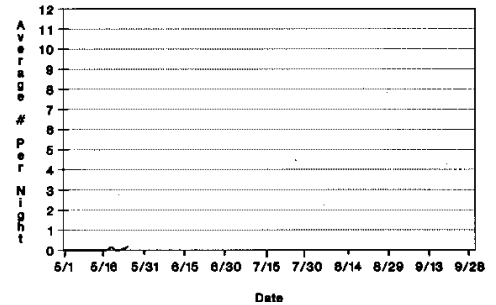
The highest average nightly **ECB** blacklight trap catches are as follows:

Woodstown	5	Shirley	4	Hancocks Brdg	3
Cohansey	4	Centerton	3	Mullica Hill	3
Georgetown	4	Chapel Heights	3	Crosswicks	2
Repaupo	4	Ellisdale	3	Medford	2

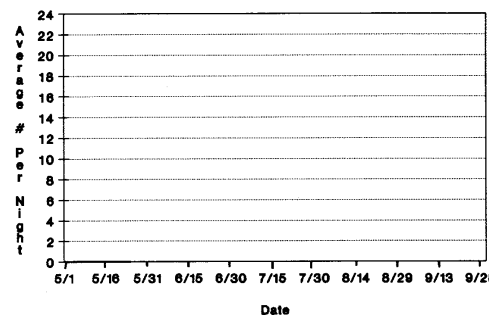
Northern NJ- CORN EARWORM (CEW)
Blacklight Trap Catches



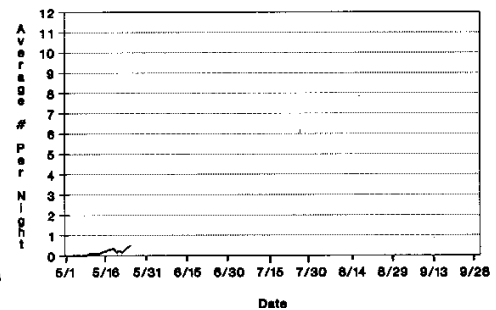
Northern NJ- EUROPEAN CORN BORER (ECB)
Blacklight Trap Catches



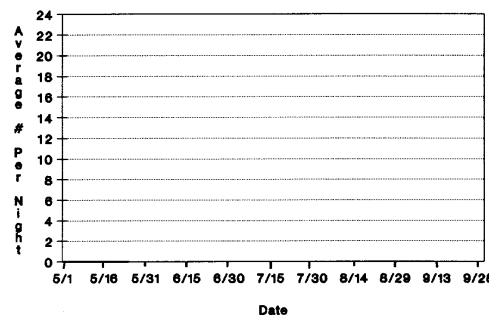
Central NJ- CORN EARWORM (CEW)
Blacklight Trap Catches



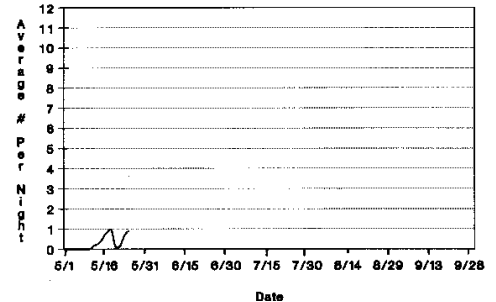
Central NJ -EUROPEAN CORN BORER (ECB)
Blacklight Trap Catches



Southern NJ- CORN EARWORM (CEW)
Blacklight Trap Catches



Southern NJ -EUROPEAN CORN BORER (ECB)
Blacklight Trap Catches



Weather Summary for Week Ending 5/26/97

Keith Arnesen, Agricultural Meteorologist

Temperatures averaged much below normal. Extremes were 92 degrees at Toms River on the 20th and 30 degrees at Long Valley on the 22nd. Weekly rainfall averaged 0.83 inches North, 2.08 inches Central, and 1.21 inches South. The heaviest 24 hour total was 2.50 inches at Long Branch on the 25th to 26th. Estimated soil moisture, in percent of field capacity, this past week averaged 82 percent North, 62 percent Central and 60 percent South. Four inch soil temperatures averaged 54 degrees North, 59 degrees Central and 60 degrees South.

Weather Summary for the Week Ending 8 a.m. Monday 5/26/97										
WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	1.04	9.38	-1.42	78	43	58.	-4	179	-88	89
CANOE BROOK	1.41	10.26	-1.67	85	43	60.	-2	299	57	94
CHARLOTTEBURG	.84	12.66	.91	79	40	57.	-3	161	2	80
FLEMINGTON	.61	10.87	-.44	69	34	53.	-10	194	-63	80
LONG VALLEY	.72	11.35	-.82	70	30	51.	-9	161	-30	87
NEWTON	.38	9.51	-.95	66	36	51.	-10	97	-98	77
FREEHOLD	.00	.00	.00	0	99	0.	0	0	0	0
LONG BRANCH	2.50	11.70	.06	88	44	61.	-2	300	28	100
NEW BRUNSWICK	2.09	13.03	1.95	86	43	59.	-5	288	-55	100
PEMBERTON	2.15	12.27	1.54	89	40	62.	-2	414	75	100
TOMS RIVER	1.72	10.78	-.48	92	40	60.	-3	295	0	100
TRENTON	1.95	12.13	1.93	85	38	59.	-6	289	-91	100
BRIDGETON	.00	.00	.00	0	99	0.	0	0	0	0
CAPE MAY COURT HOUSE	1.06	10.44	.55	89	43	63.	-1	367	30	66
DOWNTOWN	.84	10.96	.81	89	42	61.	-4	335	-58	68
GLASSBORO	1.54	13.81	3.02	86	44	62.	-3	374	-3	100
HAMMONTON	1.79	11.99	1.49	90	42	61.	-4	329	-40	100
POMONA	1.55	11.90	2.09	91	39	62.	-2	350	37	100
SEABROOK	.63	12.45	3.16	88	46	63.	-2	369	-29	61
ATLANTIC CITY MARINA	1.05	8.28	-.99	79	47	62.	-1	339	41	80
WOODSTOWN	0.26	11.03	.46	90	40	63.	NA	388	NA	NA

No-Till Vegetable Twilight Meeting Monday, June 9, 1997, 6:00 p.m.

Karl Morgan Farm, 487 Pointers-Auburn Road, Salem, NJ

- ❖ No-till production of tomatoes, melons and pumpkins
- ❖ Hairy vetch, crimson clover and rye in mixtures; and hairy vetch alone as killed-cover crop mulch
- ❖ No-till vegetable transplant machinery demonstration

Contact: Michelle Infante, Gloucester County Agricultural Agent, (609) 863-0110.

Cream Ridge Strawberry Plasticulture and Breeding Field Day Thursday, June 5, 1997, 1:00 p.m.

Rutgers Fruit Research and Extension Center, 283 Route 539, Cream Ridge, NJ

- ❖ Plasticulture Research Plot Tours
- ❖ Eastern Variety Trials
- ❖ Organic Nutrition
- ❖ Runner Removal
- ❖ Vegetable Double Cropping
- ❖ NJAES Strawberry Breeding and Variety Showcase
- ❖ Plasticulture and Matted-row
- ❖ Field Equipment Demonstrations
- ❖ Weed, Disease and Insect Diagnostics

For further information, contact Dr. Joseph Fiola, Specialist in Small Fruit and Viticulture, (609) 758-7311.

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Rutgers Cooperative Extension - NJAES

PLANT & PEST ADVISORY

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is responsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact Rutgers Cooperative Extension of your County.

Use of Trade Names: Trade names are used in this publication with the understanding that no discrimination is intended and no endorsement is implied. In some instances the compound may be sold under different trade names, which may vary as to label clearances.