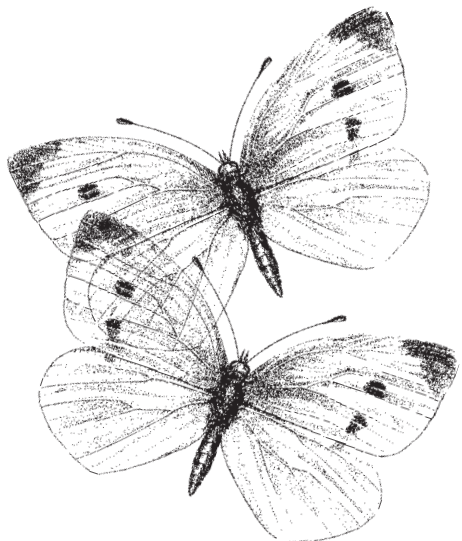


PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

MAY 19, 1999



Vegetable IPM Update

Kristian Holmstrom and Sarah Walker, Program Associates in Vegetable IPM

Cole Crops

Imported Cabbageworm (ICW) larvae have begun to appear on broccoli and cabbage fields throughout Hunterdon County. Begin sampling 5 plants each in 10 locations (50 plants total) for the presence of caterpillars. Consider treating when 20% or more of plants are infested with any larvae prior to heading or when 5% or more of plants are infested and heads are present. Observe the plants' youngest leaves as **ICW** larvae tend to feed on or near the growing point.

Sweet Corn

Continue to check fields for the presence of **flea beetles**, especially in plantings where a soil insecticide was not applied. Count the number of **beetles** on 10 consecutive plants in 10 locations. The threshold is 6 **beetles** per 100 plants for fields without a soil insecticide and with susceptible **Stewart's wilt** varieties. Multiple applications may be needed to knock down the population. Besides the threat of **Stewart's wilt** transmission, high numbers of **beetles** (greater than 30-40 per 100 plants) can cause feeding damage (striping of leaves) that may set back plant growth, especially under cool growing conditions.

European corn borer (ECB) moth catches remain low in the southern counties. By next week begin checking the earliest plantings, especially those grown under plastic, for the presence of **corn borers** in the whorl. Check for signs of feeding on 5 consecutive plants in 10 random locations in a planting. The threshold is 12% infestation, and a critical time for control is at the pretassel stage.

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

Cedarville	1	Crosswicks	1	Mullica Hill	1
Chapel Heights	1	Elm	1	Pedricktown	1
Cinnaminson	1	Hammonton	1	Sewell	1
Cohansey	1	Indian Mills	1	Woodstown	1

White Potato

European corn borer (ECB) adult activity is still low in the southern potato area. The Delaware IPM Program is reporting increasing levels and the presence of egg laying, so we are expecting

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an increase in our area by the end of this week or early next week. Begin checking the earliest plantings for the presence of egg masses, stem entry holes, or flagging terminals. The threshold for scouted fields is one egg mass or 25% stems infested. If you are relying on the blacklight trap counts to time treatments, the threshold is to treat when blacklight trap counts exceed 8 to 10 per night.

Pepper

Begin checking plants for **aphids**. Count the number of **aphids** on the undersides of two leaves per plant on five consecutive plants in ten locations in the field (50 plants total). The threshold that we have been using is just over 1 **aphid** per leaf (120 **aphids**/50 plants). Consider the presence of predators like **ladybug** adults and larvae when deciding on **aphid** treatments. For *Phytophthora* control, avoid depressions around the base of the plant when transplanting, and if possible, fill in those depressions with clean soil.

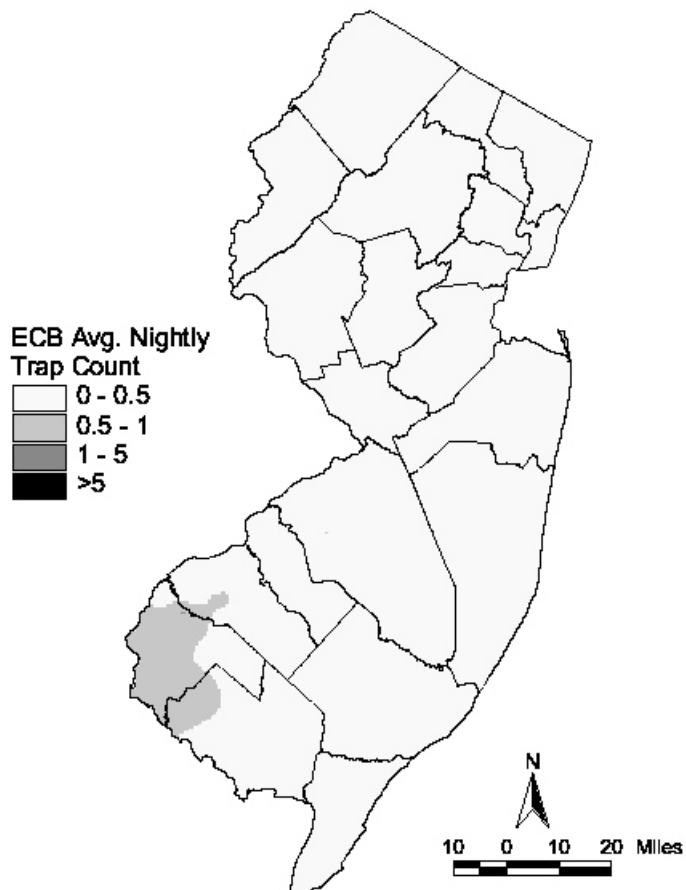
Cucurbits

The **spotted cucumber beetle** was seen on corn plants in Camden County. Begin scouting melons, squash, and cucumber fields for the presence of **beetles**. Check 5 plants in 10 locations in the field twice per week for **striped** and **spotted cucumber beetles**. The major feeding injury and disease transmission takes place from the time cucurbits are transplanted or emerging until they form runners.

New CEW and ECB Maps

For the 1999 season, **CEW** and **ECB** adult populations will be represented in this newsletter as spatial distributions for the week ending with each date of publication. Populations will not appear as graphs as in previous years. We are hopeful that this format, accompanied by information relevant to specific levels of **CEW** and **ECB** will be more useful to the agricultural community. Note that no **CEW** map appears this week because no population is active at this time.

Distribution of Adult European Corn Borer for the Week Ending May 19 1999



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

Vegetable Crops Diseases

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

✓ **Bean (snap & lima):** To avoid **root rots** be sure to completely plow down previous crop debris, and have as clean a seed bed as possible. Apply Ridomil Gold 4E in a 7-inch band over the row after seeding, or apply Ridomil Gold PC 11G as an in-furrow treatment at seeding for control of **damping-off** and **root rots**.

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

✓ **Cole crops:** Observe fields for the presence of **downy mildew** (angular shaped lesions on the older leaves with a white growth on the underside of the lesions) and **Alternaria leaf spot** (brown, target shaped lesions on the older leaves). At the first sign of disease, apply Ridomil Gold/Bravo as foliar spray and repeat every 14 days.

✓ **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 (Atlantic and Salem Counties), 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:** For control of **Phytophthora blight**, apply Ridomil Gold 4E in a 12-16 inch band over the row after transplanting or via injection through a drip irrigation system. Repeat application 21 and 42 days later.

✓ **Greens:** Observe fields for the presence of **downy mildew**. Once observed, apply Aliette as a foliar spray and repeat every 14 days.

✓ **Lettuce:** **Downy mildew** can occur on Boston lettuce at this time of year. Observe fields for the presence of angular shaped lesions on the older leaves. Once observed, apply maneb (10-day phi) or Aliette (3-day phi) as foliar spray for control.

✓ **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.

✓ **Pea:** **Bacterial blight** is present in some fields at this time. Infected plants have numerous, dark, angular shaped lesions present on the older leaves. If the dry weather conditions persist, this disease will not spread, and economic losses from the disease will not occur. However, if wet weather becomes prevalent, the disease can spread rapidly, and defoliation, blasting of blossoms and pods can occur resulting in lower yields and quality of the crop. No chemical control measures are available for this disease. Avoid walking through fields while the foliage is wet.

✓ **Pepper:** Some fields have plants dying from phytotoxicity to soil fumigants. Growers must be sure the fumigant is gone from the soil prior to transplanting to avoid phytotoxicity to the crop. Once a field is fumigated, plants should not be transplanted in the field until 3 weeks after fumigant application. To check for plant safety, collect a soil sample from the treated area; place soil in a small glass jar; press lettuce seed onto the soil surface; seal the jar with a tight fitting lid; place the jar on a window sill; observe the jar in 24-48 hours. If the lettuce seed germinates, then it is safe to transplant. In fields where **Bacterial leaf spot**-resistant varieties are not used, apply a copper fungicide + maneb as a foliar spray shortly after transplanting and 7 days later for prevention of the disease. Maintain applications of Ridomil Gold 4E shortly after transplanting, 21 and 42 days after transplanting for control of **Phytophthora blight**.

✓ **Potato (white):** Once potatoes are 6-inches tall (plants touching each other down the row), begin applications of mancozeb for control of **late blight**. Repeat application every 7 days.

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

✓ **Tomato:** Shortly after transplanting, apply a copper fungicide + mancozeb as a foliar spray and repeat in 7 days for control of **bacterial diseases**. For early fields with tomatoes 1/3 their final size present, begin a protective fungicide program. The first spray should be with Bravo; 7 days later apply Quadris; and repeat this pattern for full season control of **early blight**, **Septoria leaf spot** and **anthracnose**. □

Weed Control in Vegetable Crops

Bradley A. Majek, Ph.D., Weed Science

✓ **Cabbage:** Dual Magnum 8E has received special state labels for use to control weeds in *cabbage*. The manufacturer, Novartis, requires growers to sign an indemnification agreement that must be notarized and recorded by the Vegetable Growers Association of New Jersey for the label to be valid. Read the agreement thoroughly and fill out completely before mailing to the VGANJ for validation. Copies of the indemnification agreement are available from VGANJ or your county agent.

Use Dual Magnum to control **annual grasses** and **certain broadleaf weeds**. Weeds that Dual suppresses or controls that could not be controlled with other labeled herbicides include **yellow nutsedge**, **galinsoga**, and **nightshade**.

In transplanted cabbage, apply Dual at 0.5 to 1.33 pints per acre (0.48 to 1.27 lb ai/A) pre transplant or post transplant within 48 hours of planting. Do not incorporate pre-transplant applications. Use Dual Magnum with caution. Some temporary stunting may occur that could delay maturity.

In direct-seeded cabbage, do not apply Dual at planting. Use other labeled herbicides to control weeds as the cabbage emerges. Apply Dual at 0.5 to 1.33 pints per acre (0.48 to 1.27 lb ai/A) after the cabbage has developed 3 to 4 leaves to control weeds for the remainder of the season. Control emerged weeds by cultivation and hoeing or with postemergence herbicides before applying Dual Magnum. Use Dual Magnum with caution. Some temporary stunting may occur that could delay maturity.

The label, validated through the VGANJ, is effective for this growing season, and expires at the end of the year.

✓ **Peppers:** Dual Magnum has a special state label for use to control weeds in *bell peppers*. The label is valid only in New Jersey. The manufacturer, Novartis, requires growers to sign an indemnification agreement that must be notarized and recorded by the Vegetable Growers' Association of New Jersey for the label to be valid. Read the agreement thoroughly and fill out completely before mailing to the VGANJ for validation. Copies of the indemnification agreement are available from VGANJ or your county agent.

Use Dual Magnum to control **annual grasses** and **certain broadleaf weeds**. Weeds that Dual Magnum suppresses or controls that could not be controlled with other labeled herbicides include **yellow nutsedge**, **galinsoga**, and **nightshade**.

Apply Dual Magnum at 0.67 to 1.0 pint per acre (0.6 to 1.0 lb ai/A) pre-transplant or post-transplant as a basal-directed spray. *Read and follow all label instructions and restrictions.*

- Do not incorporate pre-transplant applications.
- Do not spray post-transplant applications "over the top" of peppers.
- Do not apply within 60 days of harvest.

The label, validated through the VGANJ, is effective for this growing season, and expires at the end of the year.

Recent cold weather may result in abnormal growth of peppers during the next few weeks. Low temperatures can injure tiny leaves in the growing points. When these leaves grow out in a few weeks, they may exhibit a variety of epinastic responses that resemble virus or 2,4-D drift injury. Leaves may be crinkled, stretched, the mid-vein may be shortened, and/or the leaves may appear otherwise abnormal. The response can be very variable. The plant will outgrow the problem in time.

✓ **Potato (sweet):** Command 4EC has received a 24-C *Special Local Needs* label for weed control in sweet potatoes. Apply 0.75 to 1.5 pints per acre (0.375 to .75 lb ai/A) and incorporate immediately to prevent vapor drift from damaging adjacent vegetation. Command will suppress or control many **annual grasses** and **broadleaf weeds**, but will not control **pigweed**, **carpetweed** or **yellow nutsedge**.

Apply Command 4EC when the humidity is low, winds are light, and blowing in a safe direction (away from sensitive vegetation). Do not spray in windy weather to avoid spray drift injury, or during calm periods when the humidity is high. Incorporate before a period of calm wind and near 100% humidity occurs to reduce the risk of vapor drift. *Read and follow all label warnings and restrictions.*

✓ **Pumpkin:** Use Command 4EC for weed control in pumpkins in New Jersey. Apply 0.25 to 0.5 lb ai/A (8 to 16 fl oz/A) preplant incorporated or preemergence. Command will suppress or control many **annual grasses** and **broadleaf weeds**, but will not control **pigweed** or **carpetweed**. Tank-mix with Prefar to improve the control of these weeds.

Preplant incorporate *only one inch deep or less* and place seed below treated soil, or apply preemergence. Deeper incorporation may result in crop injury and reduce weed control! Use a rotary hoe, rolling basket cultivators, or similar shallow cultivation equipment immediately after preemergence applications are sprayed to eliminate the risk of vapor drift injury to adjacent sensitive vegetation.

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Apply Command 4EC when the humidity is low and when winds are light and blowing in a safe direction (away from sensitive vegetation). Do *not* spray in windy weather to avoid spray drift injury, or during calm periods when the humidity is high. Incorporate Command shallowly after application and before a period of calm wind and near 100% humidity to reduce the risk of vapor drift. *Read and follow all warnings and restrictions.* □

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged below normal. Extremes were 84 degrees at Pemberton on the 13th and 34 degrees at Charlotteburg on 15th. Weekly rainfall averaged 0.00 inches north, 0.05 inches central, and 0.08 inches south. The heaviest 24 hour total was 0.63 inches at Woodstown on the 13th to the 14th. Estimated soil moisture, in percent of field capacity, this past week averaged 77 percent north, 61 percent central and 39 percent south. Four inch soil temperatures averaged 57 degrees north, 57 degrees central and 59 degrees south.

Weather Summary for the Week Ending 8 am Monday 5/17/99

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	.00	6.47	-3.29	77	38	57.	-3	184	19	69
CANOE BROOK	.00	7.18	-3.59	79	38	58.	-1	256	113	80
CHARLOTTEBURG	.00	8.90	-1.71	76	34	55.	-2	126	43	67
FLEMINGTON	.00	5.93	-4.31	79	37	57.	-3	200	45	72
LONG VALLEY	.00	6.77	-4.22	74	37	55.	-3	152	45	73
FREEHOLD	MISSING									
LONG BRANCH	.00	8.29	-2.23	73	40	55.	-5	219	52	56
NEW BRUNSWICK	.00	6.76	-3.19	77	39	58.	-4	229	4	74
PEMBERTON	.16	6.99	-2.74	84	36	58.	-4	281	60	43
TOMS RIVER	.05	4.29	-5.92	73	40	55.	-6	186	2	56
TRENTON	.02	7.45	-1.77	79	35	56.	-7	182	-72	52
CAPE MAY COURT HOUSE	.00	5.94	-3.00	75	43	58.	-3	242	19	23
DOWNTOWN	.15	7.52	-1.67	82	41	58.	-5	261	-4	44
HAMMONTON	.26	7.06	-2.42	82	42	58.	-4	248	3	39
POMONA	.09	7.98	-.94	77	41	57.	-4	221	19	45
SEABROOK	.00	7.23	-1.12	82	45	61.	-2	326	56	37
ATLANTIC CITY MARINA	.00	6.85	-1.58	71	51	58.	-2	252	57	30
WOODSTOWN	.63	8.33	-1.14	83	41	60	NA	322	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week	153	(Ending 5/10/99)								
This Week	129	(Ending 5/17/99)								

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PLANT & PEST ADVISORY

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