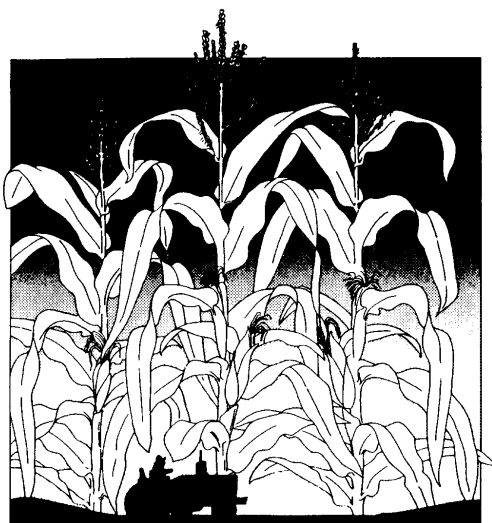


# PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

AUGUST 9, 2000



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## Sweet Corn Marketing

*Raymond J. Samulis, Burlington County Agricultural Agent*

Not too many years ago, consumers would enter a farm market and purchase a dozen ears of sweet corn for their dinner. Today, many consumers buy 2, 3 or 4 ears. Obviously, family size is down, but there are many other factors that contribute to this trend. The general affluence of society has made home cooking by many families a dying art! Recent research shows for the first time in history more than 50% of meals are eaten out of the home. The problem for the most part is restaurants do not use fresh sweet corn. Last week, we learned of a commercial establishment that told a local grower that they don't serve New Jersey sweet corn because they don't have time to husk it. If the corn were pre-husked they would consider it. Personally, I have never felt that husking a few ears of sweet corn was a big deal, but apparently some people do, and find it easier to open a bag of frozen corn.

We as an industry have not done a good job on marketing sweet corn and convincing consumers that they should purchase sweet corn over the hundreds of other vegetable/fruit items available in the markets. We must convince consumers that sweet corn is not just a vegetable item used for picnics and special occasions, but rather a staple everyday vegetable. The cranberry industry was able to do just that when they convinced consumers that cranberries were not just something to be served on Thanksgiving, but rather an important, healthy item that should be consumed regularly.

The road to bolstering public opinion about sweet corn will be a long one. If you look at other major vegetables and fruits, many of them have had coordinated national, regional and local advertising campaigns for a long time. Sweet corn, which is a leading vegetable nationally (quite possibly the largest average vegetable crop) has virtually no promotion. During this past winter's meeting season, there was a group of eastern sweet corn growers who met and suggested that some type of promotion council be established to promote the image of sweet corn. The time for such a concept is long over due. I will keep growers posted as to developments regarding this. In the meantime, be sure to properly hydro-cool, harvest at ideal maturity, and by all means work at continually convincing consumers of the quality and economy of fresh sweet corn. □

# Pest Notes

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

✓ **Beans: Leafminers** are abundant on the leaves of bean plants in several areas. These pests are usually not a problem until high populations cause the leaves to dry. Dimethoate and diazinon are labeled for **leafminer** control on beans (snap and lima), but dimethoate is likely the more effective of the two materials.

✓ **Corn (Sweet): Corn earworm adult moth** activity is rapidly increasing throughout the southern areas of the state. Delaware reports similar **moth** activity, with some catches in blacklight traps exceeding 40 moths per night. The trap catches in other areas of Delaware are more "normal", with 1-5 **moths** being caught per night. With the current heat and humidity in New Jersey, it is likely that **corn earworm** activity will rapidly increase beginning this week. Effective **corn earworm** management materials include Asana, Baythroid, Capture, Lannate, Ambush, Pounce and Warrior. Consult the labels for these materials before use for proper rates and restrictions on sweet corn.

✓ **Eggplant: Larvae of the Colorado potato beetle** are increasing in numbers on eggplant. These "softshells" will mature into the overwintering adults, to emerge next spring to repeat the cycle. It is recommended that growers *do not* use Provado 1.6F to reduce the potential of insecticide resistance development in the **beetles**. Effective alternative **potato beetle** management materials include Novodor or Raven (*B.t.*) products that are effective against larvae, SpinTor 2SC, Thiodan WP, or Vydate L. Vydate L is still effective against **potato beetles**, and is a leaf systemic that will also reduce the **spider mite** population.

✓ **Pepper: European corn borer** infestation in untreated peppers is still low, averaging between 8-10% infestation. Damage will likely increase in the next week or so based on this week's hot, humid weather. These conditions are favorable to **European corn borer** mating, oviposition and survivorship of newly hatched larvae. Many different **European corn borer** management materials are available, and all work very well. It is important to obtain thorough coverage of the plant because often the newly hatched larvae directly enter the fruit without feeding on the foliage. Thus a material must be present on the leaves and stems in the path of the small larvae to ensure contact with the pest.

Also, **beet armyworm** damage to both foliage and pepper fruit is just beginning to appear on plants at the Rutgers Research Center, Bridgeton. Foliar damage appears as large, gaping holes, leaving only veins behind, usually on the upper level of foliage.

Fruit damage appears as large holes in the side or top of the pepper fruit, which can be as large as the diameter of a pencil! Monitor the fields closely, as early detection is an important key for effective **beet armyworm** management. Because the **beet armyworm** first feeds on the foliage, control materials are different than those recommended for **European corn borers**.

Refer to pages 120-121 of the *2000 Commercial Vegetable Production Recommendations* for a discussion and listing of effective pest management materials for peppers.

✓ **Tomato: Monitor fields closely for spider mite** population development, as the **mites** seem to "suddenly" appear in large numbers in hot, humid weather. The weather forecast for this week is hot and humid, and the **mite** development will certainly be accelerated. Use a miticide before the population reaches a high level as it is difficult to reduce the population once it gets out of hand. AgriMek, Danitol and Kelthane MF are labeled for **mite** control on tomato. Note that AgriMek will also control **Colorado potato beetle** adults and larvae, and Danitol will help control **whiteflies** and **armyworms**.

Also, tomato **fruitworm (corn earworm)** populations should start increasing at this time (see sweet corn above). Monitor for this pest, and treat if damage is evident. Asana, Baythroid, Danitol, Monitor, SpinTor and Warrior are effective and labeled. Note that Monitor can be used in New Jersey as long as the applicator has a copy of the label in his/her possession at time of application because Monitor is a Special Local Needs Label (24-C) use. Monitor also effectively controls many of the sucking insect pests such as **whiteflies** and **stink bugs**. □

# Vegetable Crops Diseases

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

✓ **Asparagus:** **Gray mold** is present in younger fields at this time. Infected ferns turn brown. Needle-like leaves clump together, and a sparse, gray-colored sporulation is present over the brown, discolored ferns. In severe cases, the majority of the field turns brown. Applications of mancozeb every 7-10 days will assist in control.

✓ **Bean (snap & lima):** Conditions have been favorable for the development of **white mold (Sclerotinia)**. Fungicide application is warranted whenever soil has been wet for 6-10 days prior to bloom, and when 70-80% of the plants have 1 or more open blossoms. A second spray should be made 5-6 days after the first application. Add a spreader-sticker adjuvant to each spray to enhance and prolong fungicide activity.

✓ **Beet:** Maintain applications of a copper fungicide every 7-10 days for control of **leaf spots**.

✓ **Carrot:** Maintain applications of Bravo every 10 days for the control of **leaf blights**.

✓ **Cole crops:** **Ringspot (Mycosphaerella)** is present on Bok Choy and Mustard at this time. Circular, tan-gray lesions the size of a dime occur on the older leaves, and progress up the plant. Foliar applications of Rovral every 10 days will assist in control.

✓ **Corn (sweet):** For fields in the whorl stage or younger, apply a fungicide for control of **rust**, repeat every 7-10 days. Older fields with **rust** present will not benefit from fungicide application. **Fusarium stalk rot** is present in some fields at this time. Reddish mycelial growth is present on the stalks. No control is available at this time.

✓ **Cucumber:** **Anthraco**se is present at this time. Infected leaves contain circular, brown lesions with a darker brown border a little smaller in diameter than a dime, and the center falls out. Maintain applications of Bravo + Benlate or Topsin M + a copper fungicide alternated with Quadris + a copper fungicide for control of **foliar & fruit diseases**.

**Cottony leak (Pythium)** and **Phytophthora fruit rot** are present at this time. **Cottony leak** is characterized by a mass of white, fluffy mycelium over the fruit; whereas **Phytophthora fruit rot** is characterized by a dense, appressed, white, circular growth on the fruit surface. An application of mefenoxam (Ridomil Gold or Ultra Flourish) at seeding controls **cottony leak**; while foliar applications of a copper fungicide are needed for control of **Phytophthora fruit rot**.

✓ **Eggplant:** **Verticillium wilt & Phytophthora blight** are present in fields at this time. No control measures are available for **Verticillium wilt** during

the production season. Improve the drainage in the field, and apply a copper fungicide + a spreader sticker every 7-10 days for control of **Phytophthora blight**.

✓ **Greens (Mustard, Turnip):** Apply Ridomil Gold 4E as a soil surface application after planting for control of **damping-off** & early season control of **downy mildew**.

✓ **Leeks:** Shortly after transplanting, apply Bravo as a foliar spray for control of **purple blotch**, and repeat every 10 days.

✓ **Lettuce:** Beginning one week after thinning apply Ronilan or Rovral as a directed spray to the base of the plant and surrounding soil for control of **drop**. Rovral will also control **bottom rot**.

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

✓ **Pumpkin & winter squash:** Maintain applications of Bravo + Nova + a copper fungicide alternated with Quadris + a copper fungicide every 7-10 days for control of **foliar & fruit diseases**. Do not use Quadris near apple trees and do not use the same sprayer where Quadris was applied to spray apples to avoid phytotoxicity (defoliation) on apples. **Mosaic viruses** are present in several fields at this time. Strict **aphid** control is essential for prevention of spread. Use of Admire insecticide at planting has been helpful in reducing virus incidence in fields.

✓ **Squash (summer):** **Scab** is present on fruit at this time. Small, circular, sunken lesions are scattered over the fruit surface. Alternate applications of Ridomil Gold Bravo or Flouronil + a copper fungicide with Bravo + a copper fungicide for control of **scab & Phytophthora fruit rot**.

✓ **Spinach:** Apply mefenoxam (Ridomil Gold, Ultra Flourish) as a soil surface application shortly after seeding for control of **damping-off** and early season control of **white rust**.

✓ **Tomato:** **Tomato spotted wilt virus (TSWV)** is present in some fields at this time. New growth contains black discoloration in ring patterns. Maintain control of **thrips** to reduce spread within the field. **Blotchy ripening (gray wall)** is present on fruit in some fields. Large areas of green and yellow tissue are surrounded by normal red tissue. This problem often appears on shaded fruit on plants with dense vegetation. Cloudy, moist, cool weather, high soil moisture, high nitrogen, soil compaction, and low potassium increase the incidence and severity of the problem. Maintain applications of Bravo alternated with Quadris every 7 days for control of **Foliar & fruit diseases**. □

# Vegetable IPM Update

Kristian Holmstrom and Sarah Walker, Program Associates in Vegetable IPM

## Sweet Corn

**European corn borer (ECB)** adult activity is moderate to high now throughout the state (see **ECB** map). While **ECB** is an obvious threat to all stages of sweet corn, this flight coincides with increased **fall armyworm (FAW)** and **corn earworm (CEW)** activity, and sprays targeting the latter pests will control **ECB**. Monitor fields weekly, and consider treating if greater than 12% of pre-silking plants are infested with **ECB** alone or in combination with **FAW**.

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

Allentown	27	Ellisdale	9	Califon	5
Crosswicks	17	Phillipsburg	7	Centerton	5
Little York	11	Sergeantsville	6	Milford	5
Manville	11	Burlington	5	Allamuchy	4

**CEW** adult activity is still increasing throughout the state, with some locations registering high populations (see **CEW** map). Silking sweet corn plantings are at very high risk of infestation at this time. In shaded areas on the **CEW** map indicating a population of 0.8-8.0 moths per night, a three-day silk spray schedule is warranted. In areas where the **CEW** map indicates a population higher than 8 per night, a 2 day schedule may be necessary to maintain clean ears.

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

Pemberton	23	Crosswicks	16	Pedricktown	13
Farmingdale	22	Hammonton	16	Burlington	11
Fishing Creek	19	Allentown	14	Elm	11
Indian Mills	18	Millstone	14	Wall	11

## General Sweet Corn Spray Schedule

Silking corn: North	3 days
Central	3 days
South	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.

## Cole Crops

**Flea beetles** have been found in increasing numbers on direct seeded collards and newly transplanted cabbage and broccoli in the northern counties. Fields should be monitored weekly for the presence of **flea beetles**, especially when the plants are very young. Consider treating if **flea beetles** are found on most plants and damage is occurring. **Imported cabbageworm (ICW)** continues to be a problem on cole crop plantings throughout the state. Check fields weekly, and consider treating if greater

than 20% of plants are infested with **ICW**, **cabbage looper (CL)**, or **diamondback moth larvae (DBM)** prior to heading, or if 5% or more plants are infested and heads are present.

## Tomatoes

Increasing populations of **tomato fruitworm (CEW)** are an indication that tomato fields should be checked weekly for the presence of larval infestations. **CEW** larvae may often be found burrowing into fruit near the calyx on the more exposed fruit at the top or side of the canopy. Generally, this type of infestation does not occur until we see area moth catches above 10 per night. This level of **CEW** moth activity is being found in some areas. Consider treating if local trap catches exceed 10 moths per night, or larval infestations are found in plantings.

**Stinkbug** catches on our blacklight trap network generally remain much lower than the previous two years. Indications from growers and scouts are that the incidence of **stinkbug** injury on fruit is also greatly reduced. It is probable that adequate rainfall has resulted in sufficient alternate forage for these pests. It should be noted, however, that within the last week, trap catches of *Euschistus stinkbugs* have increased somewhat in the Hammonton area. It is not clear what is causing this activity in the traps, but tomatoes in this general area may require sprays to prevent fruit damage.

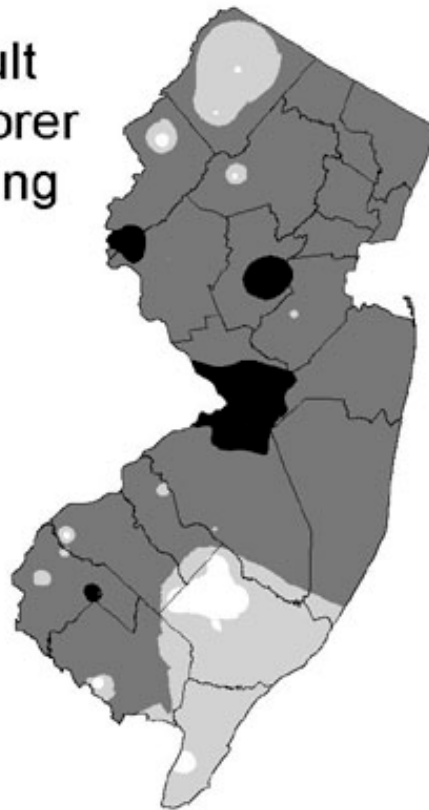
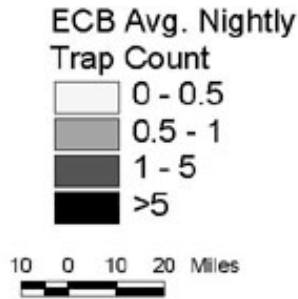
## Peppers

**ECB** adult counts have increased in blacklight traps in most counties (see **ECB** map) and egg laying has been observed in some scouted fields. **CEW** adult blacklight trap counts also remain at moderate levels throughout the state, with locally high populations occurring (see **CEW** map). Maintain a weekly spray schedule for **ECB** for fields with half-inch or greater size fruit. In areas of high **CEW** counts (10-20 per night in blacklight traps) consider using materials in the fruit cover sprays that will also control **CEW**.

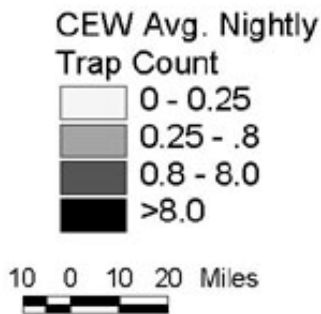
**Beet armyworm (BAW)** adults are beginning to show up in low numbers in pheromone traps in Cumberland County. In the southern counties begin checking fields regularly (at least once a week) for the presence of **BAW** larvae and signs of leaf feeding in the upper plant canopy. The larvae are green with a dark stripe along the side of the body and a dark spot on each side behind the head. **BAW** larvae feed mostly on the undersides of the leaves between the leaf veins, skeletonizing the tissue. The early infestations are usually isolated and clumped in a field. Make sure to confirm the presence of **BAW** before treating fields, since other worm pests could be causing the damage. Small **hornworm** larvae were found this week in a field in Atlantic County, causing small holes in the upper canopy. **Hornworms** also

SEE IPM ON PAGE 5

## Distribution of Adult European Corn Borer for the Week Ending August 9, 2000



## Distribution of Adult Corn Earworm for the Week Ending August 9, 2000



*IPM FROM PAGE 4*

feed on the undersides of the leaves, but as the larvae mature they will consume the entire leaf.

### Beans

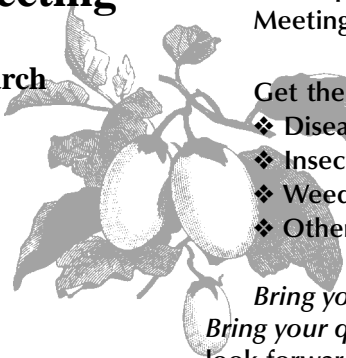
**ECB** adults are active at moderate to high levels in areas throughout the state (see **ECB** map). Target the bud-early bloom and the late bloom-early pin stages for **ECB** control. At this time, a weekly schedule for **ECB** control is recommended for fresh market snap beans from pin stage to harvest. For processing beans, a 5 to 7 day spray schedule is needed from the pin stage to harvest. Note also that **CEW** populations are at moderate to high levels throughout the state. A 5 to 7 day schedule to control **CEW** is recommended in areas where populations exceed 20 per night in the blacklight traps. Check lima bean fields for the presence of **CEW** larvae and treat if 1 larva is found per 6 foot of row. □

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

# Vegetable Twilight Meeting

August 21, 2000

Rutgers Agricultural Research  
and Extension Center  
121 Northville Rd.  
Bridgeton, NJ



Plots open for viewing at 4:00 p.m.  
Meeting to begin at 5:30 p.m.

Get the Latest Information

- ❖ Disease Updates
- ❖ Insect Updates
- ❖ Weed Control Updates
- ❖ Other Timely Issues

See Field Trials

- ❖ Eggplant Variety Trials
- ❖ Pepper Variety Trials
- ❖ Processing Tomato Trials
- ❖ Central Asian Melon, Tomato and Pepper Variety Trials
- ❖ Sweet Corn Variety Trials

*Bring your plant insect samples to be identified.  
Bring your questions for agents and specialists. We  
look forward to seeing you at the meeting!*

For additional information contact Stephen A. Garrison, Specialist in Vegetable Crops at Rutgers Agricultural Research and Extension Center at (856) 455-3100.

## Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged near normal. Extremes were 91 at Pemberton on the 3rd and 49 degrees at Charlotteburg on the 5th and 6th. Weekly rainfall averaged 1.32 inches north, 2.04 inches central, and 1.31 inches south. The heaviest 24 hour total was 3.28 inches at Pomona on the 5th to the 6th. Estimated soil moisture, in percent of field capacity, this past week averaged 95 percent north, 89 percent central and 69 percent south. Four inch soil temperatures averaged 71 degrees north, 75 degrees central and 77 degrees south.

### Weather Summary for the Week Ending 8 am Monday 8/07/00

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50			MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP		
BELVIDERE BRIDGE	2.10	28.51	7.85	85	54	69.	-3	1677	-38	91	
CANOE BROOK	.90	20.24	-1.52	88	57	72.	-1	1854	141	92	
CHARLOTTEBURG	.63	22.65	.71	85	49	67.	-4	1368	27	91	
FLEMINGTON	1.49	20.67	-.38	88	56	72.	-1	1900	141	93	
LONG VALLEY	1.47	22.66	.06	81	56	69.	-2	1520	1	93	
FREEHOLD	3.60	18.97	-1.47	86	59	74.	0	2041	159	92	
LONG BRANCH	1.99	25.10	4.69	88	62	74.	0	1801	-2	84	
NEW BRUNSWICK	2.07	20.95	.48	87	58	73.	-1	1968	1	92	
PEMBERTON	2.40	19.80	-.81	91	55	75.	1	2452	529	88	
TOMS RIVER	1.46	23.24	2.22	88	58	75.	2	1958	155	86	
TRENTON	.75	18.28	-1.27	86	58	74.	-2	2041	-12	65	
CAPE MAY COURT HOUSE	.40	20.22	2.10	88	60	77.	1	2036	110	54	
DOWNSTOWN	.32	21.90	2.75	90	58	77.	2	2136	71	65	
GLASSBORO	.70	22.36	2.24	88	61	77.	2	2264	226	72	
HAMMONTON	.42	19.33	-.85	88	56	76.	0	2062	24	55	
POMONA	3.44	25.34	7.04	86	59	76.	2	2000	98	93	
ATLANTIC CITY MARINA	2.60	21.97	4.43	86	67	77.	2	2045	228	84	
SOUTH HARRISON	1.01	25.27	5.04	87	61	76	NA	2218	NA	NA	

Maximum thermometer at Pemberton has been replaced. Temperatures have been averaging much too high and therefore Growing degree days units are too high.

WES KLINE — GDD BASE 40 PINEY HOLLOW Last Week 229 (Ending 7/31/00) This Week 260 (Ending 8/06/00)

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