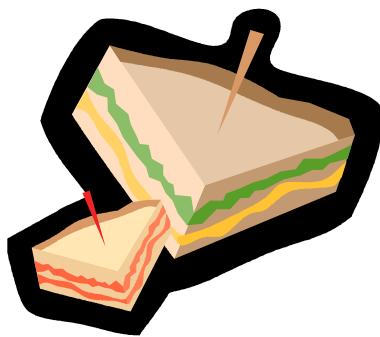


PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

JUNE 18, 2008



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Food Safety Series

Wesley Kline, PhD – Agricultural Agent, Rutgers Cooperative Extension of Cumberland County

Q - Can a worker eat or drink on the packing line?

A – No, workers are not permitted to eat, drink or sample on a packing line since they may contaminate the product being graded. For example, an employee has hepatitis A and samples product from the line. As the person places the fruit or vegetable in his mouth, he contaminates his fingers with the virus. As he continues grading, any product touched can be contaminated with the virus. Soon the FDA is reporting an outbreak of hepatitis A and a nightmare begins. A designated area should be set aside where employees can eat lunch and take breaks. A picnic table set up outside the building is a good solution. If the facility is being audited and the auditor sees an employee eating on the line or sampling product off the line it can result in automatic “Unsatisfactory” which means the audit will immediately stop. After the problem has been corrected, the audit would need to be rescheduled. There are three main reasons for an automatic “Unsatisfactory”:

1. “An immediate food safety risk is present when produce is grown, processed, packed or held under conditions that promote or cause the produce to become contaminated.”
2. “The presence or evidence of rodents, an excessive amount of insects or other pests in the produce during packing, processing storage.”
3. “Observation of employee practices (personal or hygienic) that have jeopardized or may jeopardize the safety of the produce.”

Q – Our company is required to taste the product during packing. How can this be done if there is no eating on the line?

A – You should set up a quality control area where tasting and other factors can be evaluated. This can be as simple as a table in the corner of the packing area. Samples can be collected from the packing line or from the finished packed product and taken to the designated area.

Q – We keep hearing and seeing reports about the Salmonella outbreak on television, on radio and in newspapers. Where can we get official information in more detail?

A – There are two websites which provide information on food-borne illness alerts, recalls, etc. The U.S. Food and Drug Administration: <http://www.fda.gov> and the Center for Disease Control and Prevention: <http://www.cdc.gov>. The FDA website will allow you to subscribe for all recalls and safety alerts to be received by email.

SEE FOOD SAFETY ON PAGE 3

Pest Notes

Gerald M. Ghidiu, Ph.D., Specialist in Vegetable Entomology

✓ **General:** FMC has announced a registration for a new insecticide combination named 'Brigadier'. Brigadier is a premixed combination of bifenthrin (Capture) and imidacloprid (Admire, Provado), containing a total of 2 lbs active ingredient per gallon. It is labeled for beans, brassica head and stems, brassica leafy, cilantro, coriander, eggplant, head lettuce, peppers, potato, spinach, tomato, and sweet potato. This material lists many pests on the label, including **beetles, aphids, thrips, leafminers, stink bugs, leafhoppers, grasshoppers, Lygus bugs, most worm pests (loopers, corn borers, cutworms, armyworms, diamondback moth larvae, etc.)**, and other pests. Because it is a combination of a pyrethroid and a neonicotinoid, it will control a wide variety of pests.

✓ **Cucurbits:** Reports from Rutgers IPM as well as other states (Delaware, Maryland) indicate that high numbers of **cucumber beetles** are found in many cucurbit fields. These pests are especially damaging to seedlings and young plants, and transmit the plant disease **bacterial wilt**. Many cucurbits, especially pumpkins and muskmelons, are susceptible to this disease. If at-plant insecticides were not used, and beetles are present, begin spraying after plant emergence and repeat applications at weekly intervals if new beetles continue to appear (IPM guidelines suggest that you check 5 consecutive plants at 10 random locations in the field, and if beetles are found at 5 or more sites, treatments are recommended). Effective materials include Asana, Baythroid, bifenthrin, lambda-cyhalothrin, Lannate, permethrin, Actara, Sevin, Thionex and others. All of these materials will control the beetles about equally well, but thorough coverage is important for effective control of these beetles.

✓ **Eggplant:** **Colorado potato beetle** eggs have been hatching, and many small larvae (1-2nd instar) as well as some large larvae (3-4th instar) are present. These pests are much easier to control while still small, and much more difficult to control as large larvae or adults. Time your insecticide applications to target newly hatched CPB larvae as that will ensure best results. Consult page F38 of the *2008 Commercial Vegetable Production Recommendations for NJ* for suggestions on what to spray for CPB on eggplant. Remember to rotate the "mode of action" of the insecticides in your spray program to reduce the development of insecticide resistance by the beetles. See page E23-E25 of the same book for information on insect resistance and modes of action of insecticides.

✓ **Tomatoes:** **Thrips** populations are increasing in tomato and pepper fields throughout the area. Other states from Virginia northward report high thrips activity

SEE PEST NOTES ON PAGE 3

IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

Trap catches of **European corn borer (ECB)** adults have declined somewhat in the southern counties, while activity has shifted northward with slightly increased catches in Hunterdon and Warren counties (see ECB map). As the adult generation passes, feeding in sweet corn will increase. Feeding into the 20-30% range has been recorded in northern counties this week, with even higher percentages to the south. For whorl stage sweet corn, consider treating for ECB when 12% or more plants show signs of the "shot-hole" type feeding on newer leaves. Remember to treat plantings as the tassels open and begin a silking stage spray program from that time forward. ECB adults will continue to lay eggs on these plants through the silking stage, and constitute a threat to the ears. A silk spray program as dictated by local corn earworm (CEW) counts will help prevent ear infestations from ECB. Consult the *2008 Commercial Vegetable Production Recommendations* for materials and rates.

The highest nightly ECB catches for the previous week are as follows:

Centerton	3	Port Colden	2	Milford	1
Sergeantsville	3	Indian Mills	1	Oldwick	1
Elm	2	Little York	1	Shirley	1
Hillsborough	2	Medford	1	Tabernacle	1

Adult **corn earworms (CEW)** have declined slightly in south western New Jersey and in parts of Hunterdon and Somerset counties (see CEW map). Activity is highest in Atlantic and southern Burlington counties at this time. Catches still range from Cape May County to Warren County. This population continues to be a significant threat to early season silking sweet corn. Growers should access information on CEW populations from this publication or from population maps posted on the RCE Vegetable IPM Program website: <http://www.pest-management.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm>

Shaded areas on the map (blue on the web) indicate a 4-5 day silking spray schedule, while cross-hatched areas (green on the web) represent a 3-day silking spray schedule.

The highest nightly CEW catches for the previous week are as follows:

Folsom	2	Woodstown	2	Matawan	1
Indian Mills	2	East Vineland	1	Medford	1
Shirley	2	Elm	1	Pedricktown	1
Tabernacle	2	Hammonton	1	RAREC	1

Tomatoes

Be aware that the practices of pruning and tying tomato plants in the field can spread **bacterial pathogens**

SEE IPM ON PAGE 3

IPM FROM PAGE 2

if they are present on any of the plants. It is advisable to use latex gloves while pruning, and discard them at the end of each row. Using new gloves with each new row will help limit spread in the field. Additionally, tying wands may be dipped in a bleach solution at row end as well for the same reason. Bacterial infections (speck, spot and canker) typically appear first as very dark lesions on leaf edges or interior tissue. Foliage of any age may be affected. Various chemical applications may also be used to help suppress bacterial infections (see the *2008 Commercial Vegetable Production Recommendations*), and these should be considered even in the absence of symptoms.

Peppers

ECB larvae are a threat to newly transplanted peppers at this time. Larvae hatching from eggs laid underneath leaves will bore into the main stem of these small plants. The result is a plant that loses all growth above the point of entry. While the plant begins to grow laterally below the wound, the first fruit set is typically lost. Scout fields weekly. Look at two leaves (top and bottom) each on 5 consecutive plants in 10 random locations. If 2 or more ECB eggmasses are found, consider an insecticide application to limit injury. ECB eggmasses are flat and waxy looking; almost appearing like fish scales on the leaf surface. If fruit of one-half inch or larger are present, consider treating if 2 or more eggmasses are found, or the ECB adult catch in local blacklight traps averages one or more per night. Adult populations of this intensity are represented by the cross-hatched section (green on the web) on the ECB map. If an insecticide application is required for ECB management, seek to use materials that have minimal impacts on aphid predators and parasites. Such materials include spinosad (preserves most predators, but eliminates parasitic wasps), and methoxyfenozide (preserves both). See *2008 Commercial Vegetable Production Recommendations* for more materials and rates.

Pumpkins and winter squash

Pumpkin and winter squash plantings are beginning to emerge now. As this occurs, be sure to check for the presence of **striped** and **spotted cucumber beetles**. These beetles will feed on the seed leaves of newly emerged plants, causing significant injury and potentially transmitting **bacterial wilt**. If seeds were not planted with a systemic insecticide to prevent this type of feeding, scout the fields twice weekly until plants have exceeded the 4 true leaf stage. Check 5 consecutive plants each in 10 random locations, and consider treating if cucumber beetles are found at more than 5 locations.

Snap Beans

Potato leafhopper (PLH) adults have appeared in snap beans in the northern counties as of late last week. This pest is a particular problem on beans because it

often goes unnoticed until foliar distortion and burn occurs. Once this damage appears, yields have already been compromised. It is critical that beans be monitored regularly for the presence of PLH. If a sweep net is available, consider treating if more than 100 nymphs and adults are present in 20 sweeps of pre-bloom stage plants. This threshold increases to 250 during bloom and to 500 per 20 sweeps during pod development. If no sweep net is available, check plants in 10 random field locations and consider treating if adults and nymphs are found throughout. Adults are pale green, and will fly out from foliage when disturbed and immediately fly back into the plant canopy. Nymphs are wingless and bright green and may be found on the underside of leaves.

Activities of the Vegetable IPM Program in northern New Jersey are supported and funded in part by the New Jersey Highlands Council.

SEE ECB AND CEW MAPS ON PAGE 7

FOOD SAFETY FROM PAGE 1

If you have questions about food safety on the farm check out our website at <http://njveg.rutgers.edu/html/2-r-5foodsafety.html>. There is a copy of the "Developing a Plan for third-Party Audits" manual on line which can be downloaded with all the logs and checklists needed to help develop a food safety plan. There is also a section on frequently asked questions and a place to post questions which will be answered directly to your email. □

PEST NOTES FROM PAGE 2

in many crops, likely as a result of the long streak of hot, humid weather we recently experienced. The frequent use of pyrethroids will likely increase a thrips problem, especially if western flower thrips is present. Some of the most effective materials against thrips include Lannate, Monitor, Radiant, SpinTor (Entrust), and Venom. If you inject materials through your drip irrigation system in peppers or tomatoes, the use of Admire, Platinum or Venom through the drip irrigation will help control leaf-feeding thrips as well as beetles and other pests. □

TOMATO FROM PAGE 5

amount of N applied to plantings.

✓ **Tomato – Bacterial spot and speck** – Symptoms of spot and speck look very similar on infected leaves. Lesions are small, circular, blackish-brown and with time develop a halo, or yellowing of tissue surrounding the lesion. As lesions develop they can coalesce (join together) and can cause premature death. After transplanting, apply Actigard at 0.33 oz 50 WG/A, or fixed copper (M1) at 1 lb a.i./A *plus* a mancozeb (Dithane, Manex II, Manzate, Penncozeb, M3) at 1.5 lb 75DF or OLF, or ManKocide (M1 + M3) at 2.5 to 5.0 lb 61WP/A, or Cuprofix MZ (M1 + M3) at 1.75 to 7.25 lb 52.5DF/A on a 7 day schedule. □

Vegetable Diseases of the Week

Andy Wyenandt, Ph.D., Specialist in Vegetable Pathology



Bacterial spot on green tomato fruit.



Phytophthora crown rot of summer squash causing plant to collapse. Base of stems turn soft, black with greasy, white sporangia (spores) developing on infected stem tissue.



Discolored vascular tissue of cucurbit stem with Bacterial wilt infection. Examine base of stem for a tannish-copper discoloration of vascular tissue.

Vegetable Disease Update

Andy Wyenandt, Ph.D., Specialist in Vegetable Pathology and Wesley Kline, Ph.D., Cumberland County Agricultural Agent

✓ **Cucurbits – Bacterial Wilt** – Symptoms of Bacterial wilt will vary depending on cucurbit crop. In general, plants may wilt during the day in hot weather and ‘recover’ during cooler parts of the evening and morning. Margins and interveinal areas of leaves become necrotic which cause leaves to appear ‘scorched’. Look for beetle feeding scars on cotyledons and stems of young plants. Healthy green plants will turn chlorotic (yellow) with time and infected plants will eventually collapse and die exposing fruit to sunscald injury. Cutting through stem tissue at the base of infected plants often reveals a coppery-tan color where the bacterium causes the vascular tissue to ‘plug up’ (see VDOW). Control of Bacterial wilt begins with controlling striped and spotted cucumber beetles which vector the pathogen early in the growing season as plants emerge. Late-season beetle control will remain important as fruit begins to mature. Late-season beetle feeding may cause injury to stems ruining aesthetic quality. For more information on cucumber beetle and Bacterial wilt control please see the *2008 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Cucurbits – Powdery mildew season is just around the corner!** In a typical year, powdery mildew occurs from mid-July until the end of the season. Symptoms typically begin on older, lower leaves and can spread rapidly under dry, humid conditions. **Control of Powdery mildew begins with regular scouting for symptoms and weekly fungicide applications.** Begin a fungicide program when PM has been found in region and/or when 1 lesion is found on the underside of 45 leaves. Fungicide resistance management of the fungus which causes Powdery mildew is critical in the mid-Atlantic region! Fungicides with a high risk for resistance development, such as the strobilurin (Pristine, FRAC code 11) and Nova or Procure (FRAC code 3), should be tank mixed with a protectant fungicide such as chlorothalonil (M5) and rotated with fungicides of a different chemistry.

For control of cucurbit Powdery mildew in: Pumpkin and winter squash fields:

Alternate:

Nova or Rally (myclobutanil, 3) at 5 oz 40WP/A plus chlorothalonil--2-3 pt 6F/A, or

Procure (triflumizole, 3) at 4-8 oz 50WS/A plus chlorothalonil--2-3 pt 6F/A

With:

Micronized Wettable Sulfur (M2) at 4 lb 80W/A, sulfur may injure plants especially at high temperatures. Certain varieties can be more sensitive. Consult label for precautions, or

SEE DISEASES ON PAGE 5

DISEASES FROM PAGE 4

With a tank mix containing:

chlorothalonil *plus* Pristine (pyraclostrobin + boscalid, 11 + 7) at 12.5-18.5 oz 38WG/A

If Powdery mildew has become well established in the mid- to late part of the season, only apply protectant fungicides such as chlorothalonil or sulfur.

Summer squash and cucumber fields:

Alternate:

Nova or Rally (myclobutanil, 3) at 5 oz 40WP/A *plus* chlorothalonil at 2-3 pt 6F/A, or

Procure (triflumizole, 3) at 4-8 oz 50WS/A *plus* chlorothalonil at 2-3 pt 6F/A

With a tank mix containing:

chlorothalonil *plus* Pristine (pyraclostrobin + boscalid, 11 + 7) at 12.5-18.5 oz 38WG/A

In Muskmelon and Watermelon fields:

Alternate:

Nova or Rally (myclobutanil, 3) at 5 oz 40WP/A *plus* chlorothalonil at 2-3 pt 6F/A, or

Procure (triflumizole, 3) at 4-8 oz 50WS/A *plus* chlorothalonil at 2-3 pt 6F/A

With a tank mix containing:

Quintec (quinoxifen, 13) at 6 oz 2.08F/A *plus* chlorothalonil at 2-3 pt 6F/A

chlorothalonil *plus* Pristine (pyraclostrobin + boscalid, 11 + 7) at 12.5-18.5 oz 38WG/A

For more information on control of Powdery mildew of cucurbits please see the *2008 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Pepper - Bacterial leaf spot** – Symptoms of Bacterial spot on pepper leaves include small, brown water-soaked lesions that turn brown and necrotic in the centers. Spots may coalesce and form large blighted areas on leaves and premature defoliation can occur. On fruit, brown lesions can form which have a roughened, cracked wart-like appearance. High temperatures, high relative humidity and rainfall favor Bacterial spot development. Loss from Bacterial spot can be reduced somewhat by maintaining high levels of fertility, which will stimulate new growth. Applying a fixed copper (M1) at labeled rates *plus* maneb (M3) at 1.5 lbs 75DF/A or 8 to 10 oz Tanos (famoxadone + cymoxanil, 11 + 27) may help suppress spread. For more information on control of Bacterial leaf spot of pepper please see the *2008 New Jersey Commercial Vegetable Production Recommendations*.

✓ **Pepper – Phytophthora blight**

For control of the crown rot phase of blight:

Apply 1 pt Ridomil Gold 4E/A or 1 qt Ultra Flourish 2E/A (mefenoxam, 4). Apply broadcast prior to planting or in a 12- to 16-inch band over the row before or after transplanting. **Make two additional post planting** directed applications with 1 pint Ridomil Gold 4E or 1 qt Ultra Flourish 2E per acre to 6 to 10 inches of soil on either side of the plants at 30-day intervals. Use formula

in the “Calibration for Changing from Broadcast to Band Application” section of Calibrating Granular Application Equipment to determine amount of Ridomil Gold needed per acre when band applications are made.

When using polyethylene mulch, apply Ridomil Gold 4E at the above rates and timing by injection through the trickle irrigation system. Dilute Ridomil Gold 4E prior to injecting to prevent damage to injector pump.

For prevention of the stem and fruit rot phase of blight:

Apply the following on a 7- to 10-day schedule:

Fixed copper at 2 lb 77WP/A or OLF, or

Revus (mandipropamid, 40) at 8 oz 2.08F/A *plus* fixed copper, or

Ridomil Gold Copper (mefenoxam + copper, 4 + M1) at 2.5 lb 65WP/A. Make three to four applications at 10- to 14-day intervals. (Only apply Ridomil Gold 4E at planting and 30 days later. The third application of Ridomil Gold 4E cannot be made when Ridomil Gold Copper is applied.)

The following materials are labeled for Phytophthora on peppers, but there is little information on efficacy in the Mid-Atlantic region. For best results tank mix with a copper containing fungicide.

Forum (dimethomorph, 40) at 6.0 oz 4.18SC/A, or

Tanos (famoxadone + cymoxanil, 11 + 27) at 8-10 oz 50W/A

✓ **Tomato – Buckeye Rot** – Wet weather and wet soils favor the development of Buckeye rot. Symptoms of Buckeye Rot on green fruit include brownish-tan lesions that have a **definitive concentric appearance**. As lesions form the fruit will begin to soften up, this is quite different than Late blight which will cause a dark brownish/black lesion with the fruit remaining somewhat firm. Unlike Late blight, Buckeye rot won't attack the foliage. For more information on control please see the *2008 New Jersey Commercial Vegetable Production Recommendations*.

✓ **Tomato - Stem Rot/Pith Necrosis** – Symptoms begin to develop as green fruit begins to mature. Bacteria are most likely ubiquitous to tomato fields and develop when weather conditions and cultural practices lead to favorable conditions for disease development. Symptoms include the development of irregular brown lesions on main stems and branches. Late pruning (suckering) can provide entry points for both bacterial diseases, especially during wet conditions. Internally, stems will become brown and mushy. High humidity is necessary for disease development in both cases. High nitrogen and low night temperatures are associated with Pith Necrosis development. Control of both begins with cultural practices such as avoiding working in fields with wet foliage, avoiding late pruning and watching the

SEE TOMATO ON PAGE 3

Cultural and Organic Methods for Striped Cucumber Beetle Control, Part I

Reprinted from Vegetable Notes, UMass Extension, June 12, 2008, Vol. 9, No. 6

Striped cucumber beetles roared into action with the arrival of hot weather this past week. Managing cucumber beetles is best accomplished by using a combination of cultural practices, with insecticides used in ways that minimize cost and environmental impact. Here we will discuss transplants, which are becoming more widely used by many growers, row covers, and information for organic growers on Perimeter Trap Cropping and organic insecticide.

Crop rotation. Because beetles spend the winter in field borders close to last year's crop, planting into the same field encourages rapid invasion by high numbers of beetles. Rotating to a field at a distance from last year's cucurbits reduces beetle numbers significantly. Of course, crop rotation has many other benefits as well – in vine crops, its critical for disease management. Any barriers between the fields – woods, buildings, fallow fields or other crops, roadways and waterways – help delay the arrival of beetles.

Using Transplants. Several studies in the Northeast have shown that three-week-old transplants, set out in the field at the same time as a direct-seeded crop, will produce not only earlier but higher yields. These studies were done with both summer and winter squashes. Transplants have multiple benefits. Germination of untreated seeds in cool soils can be spotty, while transplanting ensures a good stand. Transplants provide a jump on the weeds. Plants are bigger when cucumber beetles arrive so that they are less vulnerable to both feeding damage and to wilt. An insecticide or repellent can be applied to flats before plants are set out, making it less costly. Planting dates are more flexible; for some crops, it may be possible to delay planting until late June and avoid the worst of the beetles. Plants can be held inside to avoid late frost or growers can wait until fields are dry (or wet) enough to plant. Of course, it is not advisable to hold transplants too long. If they are already flowering or have been stressed when they are set out, they tend to develop into small plants with early but small fruit. Standard seedling production methods work well for vine crops, but large cell sizes (72, 36 or 24) or peat pots are recommended as roots should not be disturbed when transplanting.

Row Covers. Floating or spun-bonded row covers are very effective barriers that keep beetles off the crop during the critical early growth stage. They have

the added benefit of enhancing growth and reducing wind damage in the early season for an earlier yield. Studies have also shown an increase in yield with row covers. Covers must be removed at flowering to allow for pollination. Wire hoops are very helpful to prevent damage from abrasion. The hoops are usually used on single rows, but can also be used under wide sheets of 15 or 25 or 50 feet. Black plastic adds to the warmth and helps to solve the problem of weed management under the covers.

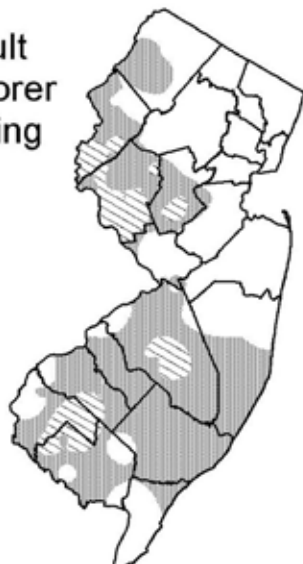
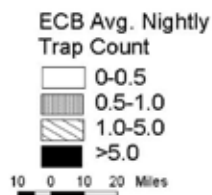
Perimeter Trap Cropping (PTC) A technique that is gaining popularity in the Northeast is planting trap crops around the border of the field. Cucurbit crops that are being planted or transplanted in June (pumpkin, butter-nut, summer squash, cucumber) can benefit from using a perimeter trap crop, most likely Blue Hubbard or but-tercup squash. The following suggestions for managing the border apply to organic and conventional growers, except that the choice of insecticides is much broader for conventional growers:

- Scout the trap crop at least twice weekly and spray the border with an insecticide (e.g., Pyganic) as soon as beetles are found. Don't wait for beetles to build up in the borders or chew them down. It is important to maintain healthy border plants. Scout again to determine if repeat sprays are needed in the border. One to 3 sprays may be needed as beetles continue to colonize.
- An alternative organic control, for those who don't want to use sprays, is suction. A reverse leaf blower can be used (at least twice weekly) to suction beetles off the border plants. One grower who tried this last year was pleased with the results and noted that the blower chopped up the beetles nicely and though it did some damage to the border plants it kept beetles out of the main crop.
- For diversified growers who don't have large acreage of any single cucurbit crop, it is possible to grow a mix of crops inside the border. However, watch out for relatively attractive crop that might need additional sprays. For example, zucchini is more attractive than summer squash and may need to be sprayed even if it is inside a blue hubbard perimeter.
- Where heavy infestations might be expected, such as borders along woods where beetles may have overwintered, use a wider perimeter of 2-3 rows.
- If you know the amount of Blue Hubbard needed for the border is far more than you need, consider using other *C. maxima* crops, such as buttercup, kabocha, Red Kuri, Prizewinner, or Cinderella Pumpkin to create the perimeter border.

A mixed border has worked well where growers have tried this approach.

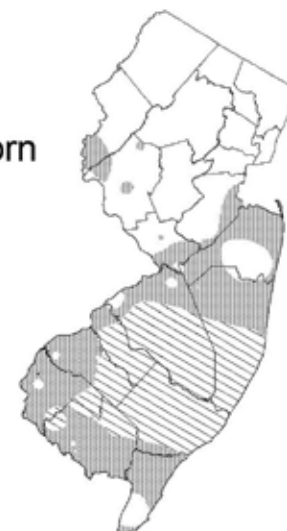
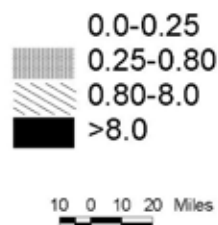
Part II will appear in next week's issue. □

Distribution of Adult European Corn Borer for the Week Ending June 18, 2008



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

Distribution of Adult Corn Earworm for the Week Ending June 18, 2008



Data collected and processed by: Kris Holmstrom,
Rutgers Cooperative Extension Pest Management Office

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much much above normal, averaging 76 degrees north 77 degrees central and 78 degrees south. Extremes were 100 degrees at Toms River and Hammonton on the 11th, and 54 degrees at Charlotteburg on the 14th. Weekly rainfall averaged 0.88 inches north, 0.63 inches central, and 0.51 inches south. The heaviest 24 hour total reported was 1.13 inches at Pomona on the 15th to 16th. Estimated soil moisture, in percent of field capacity, this past week averaged 79 percent north, 62 percent central and 53 percent south. Four inch soil temperatures averaged 76 degrees north, 77 degrees central and 77 degrees south.

Weather Summary for the Week Ending 8 am Monday 6/16/ 8

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	.57	14.48	1.04	96	59	77.	9	769	167	66
CANOE BROOK	1.75	15.66	1.06	98	57	77.	9	781	215	95
CHARLOTTEBURG	.44	14.72	.10	94	54	74.	9	646	221	69
FLEMINGTON	1.03	15.59	1.69	96	56	76.	7	766	176	81
NEWTON	.62	14.21	1.09	95	59	77.	10	801	314	73
FREEHOLD	.51	11.70	-2.03	97	56	76.	6	765	94	70
LONG BRANCH	.82	14.91	.99	97	58	77.	8	711	101	71
NEW BRUNSWICK	.66	13.37	-.08	97	58	77.	7	791	78	76
TOMS RIVER	.59	12.96	-.70	100	56	77.	9	778	171	60
TRENTON	.58	14.16	1.70	96	62	78.	7	874	116	55
CAPE MAY COURT HOUSE	.51	11.32	-.76	91	61	76.	7	817	140	61
DOWNSTOWN	.03	12.49	.11	99	58	78.	7	890	110	41
GLASSBORO	.98	13.71	.42	97	63	79.	8	971	211	70
HAMMONTON	.36	10.97	-1.97	100	57	79.	8	934	183	48
POMONA	1.13	13.32	1.44	98	59	79.	9	887	204	84
SEABROOK	.04	12.70	1.03	97	63	79.	8	971	185	38
SOUTH HARRISON	.28	13.46	.38	97	62	79	NA	957	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW										
LAST WEEK	231	(Ending 6/9/08)								
THIS WEEK	269	(Ending 6/16/08)								

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

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