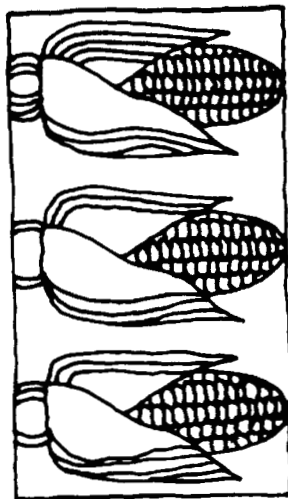


PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

JULY 16, 2008



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IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

The second **European corn borer (ECB)** flight has not yet occurred in much of the northern half of the state, although there are signs that adults are emerging in parts of the southern counties. Higher trap counts have been registered in Atlantic, Burlington, Camden and Gloucester counties this week (see ECB map). Most feeding in sweet corn is in the pre-tassel or older stages in the northern-most counties, with most whorl stage corn free of ECB damage. A recurrence of feeding injury will follow shortly after adults begin to fly. 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:

Springdale	2	Elm	1	Medford	1
Burlington	1	Folsom	1	Sergeantsville	1
Centerton	1	Hammonton	1	Shirley	1
Downer	1	Indian Mills	1	Tabernacle	1

Adult **corn earworm (CEW)** catches are increasing in number and intensity in the southern counties (see CEW map). Only scattered catches have occurred north of Middlesex County. Overall, this population is a 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.pestmanagement.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:

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Centerton	3	Green Creek	2	Beckett	1
Shirley	3	Pedricktown	2	Elm	1
Downer2	RAREC	2	Hammonton	1	
Folsom 2	Woodstown	2	Tabernacle	1	

As of this week, **fall armyworm (FAW)** has been detected feeding in Cape May, Burlington, and Middlesex counties. All occurrences were on seedling or whorl stage sweet corn. FAW feeding initially is found on small groups of plants in the field. FAW is capable of causing significant injury to sweet corn plants and will feed on all stages, including seedlings. For this reason it is necessary to check all pre-silking fields for signs of FAW feeding. Look for large, ragged holes and lots of caterpillar droppings in the whorl. Consider treating if 12% or more FAW injury is found alone, or in combination with ECB injury in a planting.

Scouts are reporting **corn leaf aphid** populations in pretassel stage corn. These blue-gray aphids will build up in the tassel prior to the silk stage. If uncontrolled, they will migrate to the ear and get in between husk layers, making ears less desirable at the market. In general, repeated use of synthetic pyrethroid insecticides in the silk spray schedule can result in aphid problems. Consider rotating to different chemistry, particularly early in the silking spray schedule. Methomyl, a carbamate insecticide, will provide adequate control of these aphids as well as caterpillar pests.

Silking Spray Schedules*:

- North – 6-7 days
- Central – 4-5 days
- South – 3 days

* Note: These are general recommendations. Local trap catches may indicate some variation in the frequency of insecticide applications to silking corn.

Pumpkins and winter squash

Many fields are now in the vine-run (or bush) stage at this time, and are less affected by **cucumber beetle** feeding. Often, **western corn rootworm (WCR)** beetles will be found feeding on blossoms. These are similar in appearance to striped cucumber beetle, but do not pose a threat to the plants. WCR range from mostly black to mostly green-yellow, rather than having distinct stripes like the cucumber beetle. Additionally, a WCR beetles' abdomen protrudes past the end of the shell, unlike the cucumber beetle. It is very important to scout fields weekly, for the presence of pests including **aphids** and **TSSM**. Check 10 mature leaves per site in 10 random sites throughout the field. Consider treating if leaves with an average of approximately 25 aphids are found in each of 10 sample sites. Populations this high can result in deposition of droppings onto the surface of maturing fruit, as well as overall stress to the plants. **Melon aphids** have been found on some northern pumpkin plantings this week. TSSM occasionally becomes an economic pest on smaller plantings under hot, dry

conditions. If TSSM is found in more than one site in the field, and the overall trend is increasing, consider treating.

As fruit set occurs and fruit begin to gain size, **powdery mildew (PM)** infections will develop. This fungal pathogen first appears as a dime-sized lesion that looks like white powder. They can develop on either leaf surface as well as the petioles. While scouting, look on mature leaves, particularly those within the canopy for PM lesions. When the threshold of 1 lesion per 50 older leaves is reached, begin the regular, weekly protectant fungicide program.

Be alert for the possibility of **downy mildew (DM) infections**. As of July 9, DM has been detected in southern Delaware, although spore trajectories posted on the Downy Mildew Forecast website (<http://www.ces.ncsu.edu/depts/pp/cucurbit/forecasts/c080714.php>) did not indicate that New Jersey was significantly threatened this week. DM first appears as sharp yellow lesions on the upper surface of leaves. Veins are yellow and constricted on the lower leaf surface. Shortly after this, dark sporulation occurs along veins on the lower surface beneath the lesion. This sporulation will be present when conditions are wet or very humid. In a matter of several days, significant defoliation can occur. Fungicides specific to DM and related fungi are required for good control of this pathogen. For recommended fungicide rotations for DM and PM, consult the *2008 Commercial Vegetable Production Recommendations*.

Tomatoes

When bacterial infections are from a field source (from infected debris, weed hosts, etc.), symptoms on tomatoes often appear as fruit are maturing. All infections are characterized by very dark, often wet looking lesions on leaves of any age. In the case of **bacterial canker**, lesions often start at leaf margins but may also be found on petioles. **Bacterial speck** results in a dark blister-like lesion on infected fruit, while **bacterial spot** causes a more severe dark fruit lesion. Bacterial canker causes a whitish blister referred to as "bird's-eye spot" on fruit. If these symptoms appear in a planting, consider regular applications of copper if this is not already part of the program. Avoid fields when wet. Always work in younger plantings first if activity is planned in multiple plantings. This will prevent the distribution of bacteria from older infected plants to younger ones. The younger the plants are when they are infected, the more likely economic injury is to occur. Consider placing buckets with a 5-10% bleach solution in water at the end of rows when tying or pruning. This will enable workers to dip wands or pruning tools in the solution between rows to limit spread among plants.

Brown stinkbugs are active in many areas now. This is the time of year when adults are present and moving around in search of food and egg laying sites. Tomatoes are a favored host, especially if dry weather reduces the

SEE TOMATOES ON PAGE 3

availability of native host plants. Recent wet weather may help keep stinkbugs on non-crop hosts, but now is the time to pay attention to fruit in the field for signs of feeding. Stinkbug feeding on tomatoes first appears as a diffuse whitish blotch on green fruit. The spot changes to bright yellow as the fruit matures. If this feeding is on the increase in the field or in harvested fruit, consider treating to suppress the population.

As always, be aware that **thrips** thrive under warm conditions. Thrips are capable of causing the "gold fleck" symptom on ripening fruit, as well as significant foliar injury should the population get very large. When sampling for other pests, tap a fresh flower cluster over an index card or other small piece of paper. Look for very small, yellow thrips to be shaken out onto the paper. Low to moderate populations are often best found using this method. If the population gets very high, thrips will be seen moving about on the leaflets and will cause clear patches to develop as they feed on foliage. While it is not necessary to treat if thrips are found in one or two flower clusters, consider treating for this pest if they are increasing in sampled flower clusters and fruit are present. Treatment is also warranted if thrips are numerous enough to be present on foliage. It is a good idea to inspect transplants prior to planting to insure that they do not get placed in the field with a thrips infestation. Check the *2008 Commercial Vegetable Production Recommendations* for labeled insecticides.

Peppers

Beet armyworm (BAW) pheromone traps are now in place throughout southern New Jersey. As yet, catches are extremely low, and would not register an image on the map template. As catches increase BAW maps will appear in this publication.

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

Vegetable Diseases of the Week

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



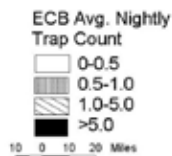
Symptoms of cucurbit downy mildew on underside of infected cucumber leaf. Note: The purplish-brown spores of downy mildew develop only on the underside of leaves.



Choanephora wet rot of young summer squash fruit. Note the 'bread mold' like appearance.

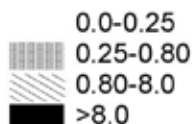
SEE VDOW ON PAGE 7

Distribution of Adult European Corn Borer for the Week Ending July 16, 2008

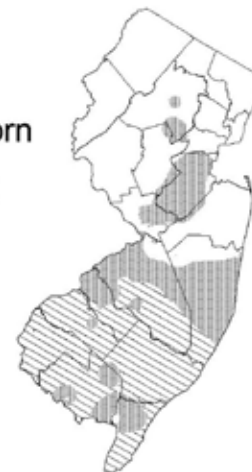


Data collected and processed by: Kris Holmstrom, Marilyn Hughes
Rutgers Cooperative Extension & Center for Remote Sensing

Distribution of Adult Corn Earworm for the Week Ending July 16, 2008



10 0 10 20 Miles



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

Pest Notes

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

✓ **Squash and Cucurbits:** **Squash bug** adults are active in cucurbit fields, and the first eggs are beginning to appear. The temperatures will be increasing this week, and egg hatch should occur within the next several days. Treatments for management of squash bugs are timed for small larvae, as soon after egg hatch as possible. *The 2008 NJ Commercial Vegetable Production Recommendations* recommends that if you find >1 egg mass per plant during flowering, a treatment for squash bugs should be made. Several pyrethroids are labeled and effective, including Asana XL, bifenthrin (Capture, Brigade, etc), lambda-cyhalothrin (Warrior, etc), and permethrin (Pounce, etc). Two non-pyrethroid materials that are also labeled are carbaryl (Sevin) and Thionex (old name = Thiodan). Be careful NOT to overuse pyrethroids, especially during the hot weather, as it will likely result in either aphid or spider mite flare-ups, or both.

Also, a new miticide has received a label for **spider mites** in melons (such as cantaloupe, citron melon, muskmelon, watermelon, etc). Zeal can be applied within seven (7) days of harvest. Read label carefully, as only one (1) application per season is permitted.

✓ **Tomatoes:** Scouts report that **stink bugs** are active in tomato fields throughout the southern portions of NJ. Stink bug populations have recently been reported in Virginia, Delaware, and Long Island, NY as well, so it is likely that the weather along the eastern coast has been a factor in stink bug development. These pests are very difficult to control because they are hard to detect in the field, they readily fly in and out of tomato fields, and most insecticides do not work well against stink bugs. One of the long-standing materials that does work well is Monitor, labeled on tomatoes in NJ, but it has a 7-days to harvest restriction. Pyrethroids will work well, but thorough coverage is important. Cyfluthrin, Danitol, lambda-cyhalothrin, Mustang MAX, Proaxis, and Renounce are labeled in tomatoes (READ LABEL: most have a 0 – 1 day harvest, some have a 5 days to harvest). Thionex is also labeled, and has been effective against stink bugs in past trials.

✓ **General:** Dr. J. Mahar reports that **corn earworm** and **beet armyworm** trap counts are rapidly increasing. It is important to be able to distinguish between these two worm pests because pyrethroids and Thionex work well against the earworm but do not work against the beet armyworm. For beet armyworm, best results are obtained using Avaunt, Confirm, Entrust/SpinTor/Radiant, Intrepid (high rate) or Proclaim. Both of these pests move around the plant, and from plant to plant, so thorough coverage is important to effective management. Use high volume, high pressure and a spreader/sticker when possible. □

Cucurbit Downy Mildew Confirmed in S. Delaware

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

Cucurbit downy mildew was confirmed on cucumber in southern Delaware (Georgetown, Sussex Co.) on July 9th. This is the first report of cucurbit downy mildew in the mid-Atlantic region this growing season! Downy mildew has also been confirmed in central and western New York. Importantly, once early-season cucurbit fields are finished, those fields should be sprayed immediately with gramoxone to reduce potential infection sources. This is especially important if you have later plantings!

Once Downy mildew has been detected in the region, basic fungicide maintenance programs for cucurbit crops should be adjusted to include fungicides for downy mildew control.

Tank mix one of the products listed below with a protectant fungicide such as chlorothalonil (M5), or maneb (M3), or mancozeb (M3) (see label for rates and specific crop uses):

Ranman (cyazofamid, 21) at 2.1 to 2.75 fl. oz. 400SC/A, or Previcur Flex (propamocarb HCL, 28) at 1.2 pt 6F/A, or Gavel (zoxamide + mancozeb, 22 + M3) at 1.5 to 2.0 lb 75DF/A (some muskmelon may be sensitive) Curzate (cymoxanil, 27) at 3.2 oz 60DF/A, or Tanos (famoxodone + cymoxanil, 11 + 27) at 8 oz 50WDG/A

Remember that downy mildew materials should always be tank mixed with a protectant fungicide and rotated weekly with fungicides from a different FRAC code to reduce the chances for fungicide resistance development. For more information on CDM control please see the *2008 New Jersey Commercial Vegetable Production Recommendations Guide*. To track the progress of CDM please visit NCSU cucurbit downy mildew forecasting webpage at: <http://www.ces.ncsu.edu/depts/pp/cucurbit>.

If you suspect downy mildew on your farm, please contact your county agent or Andy Wyenandt (856) 455-3100 ext 4144 so we can confirm its presence in NJ. □

TOMATO DISEASE FROM PAGE 6

ease 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 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, Penncozebe, 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 Disease Update

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

✓ **Cucurbits – Angular leaf spot** - Symptoms are distinct and easily diagnosed. Small water-soaked **lesions** develop on leaves and expand until they are **delimited by larger secondary veins** in leaves resulting in angular lesions. After time these lesions turn brown and infected tissue drops-off resulting in ‘shotholes’. Angular leaf spot can be spread by splashing rain, insects, on the hands of workers and on farm machinery. Working in the field when the foliage is wet favors the spread of the disease. The disease can also be spread by blowing wind and in irrigation water. Best management of Angular leaf spot begins with clean-seed and planting in fields that has been out of cucurbit production for at least 2 years. Cultivating when foliage and soil are wet and irrigating with pond water should be avoided. There are cucurbit varieties with resistance. Add label rate of fixed copper + mancozeb to fungicide maintenance program and repeat applications every 7 days.

✓ **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’. 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 has been found on zucchini!** 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

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*.

✓ **Eggplant – Phomopsis blight** – can affect all above ground portions of the plant. Symptoms include well-defined circular lesions on infected leaves with **diagnostic black fruiting bodies** developing within the lesion. If disease progresses infected leaves may turn yellow and die. Fruit lesions are similar to leaf infections, but lesions may become much larger causing fruit to become soft. Wet weather and high temperatures favor Phomopsis blight development. Control of Phomopsis blight begins with scouting and weekly preventative fungicide applications. Alternate one of the following: azoxystrobin (FRAC group 11, Amistar 80WDG at 2 to 5 oz/A or Quadris at 6.2 to 15.4 fl oz 2.08F/A), or Flint (trifloxystrobin, 11) 50WDG at 2 to 4 oz/A, or Cabrio (pyraclostrobin, 11) 20EG at 8 to 12 oz/A with maneb (M3) 75DF at 1.5 to 2 lb/A or OLF.

SEE DISEASE UPDATE ON PAGE 6

✓ **Pepper – Anthracnose** - Symptoms of fruit infection include sunken, circular spots which develop blackish-tan to orange concentric rings as lesions develop. Lesions on stems and leaves appear as grayish-brown spots with dark margins and can easily be overlooked. Control of Anthracnose begins with using clean-free seed and/or transplants. A three-year crop rotation with non-solanaceous crops is recommended. After the harvest season, pepper fields should be disced and plowed under thoroughly to bury crop debris. Beginning at flowering and as small fruit begin to set, alternate maneb (M3) at 1.5 to 3 lb/A 75DF with one of the following FRAC code 11 fungicides: azoxystrobin (Quadris at 6.2 to 15.4 fl oz 2.08F/A), or Flint (trifloxystrobin) 50WDG at 2 to 4 oz/A, or Cabrio (pyraclostrobin) 20EG at 8 to 12 oz/A or Tanos (famoxadone + cymoxanil, 11 + 27) at 8 to 20 50WDG/A.

✓ **Pepper - Bacterial leaf spot – Bacterial leaf spot has been found.** 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 is beginning to show up in fields around South Jersey!**

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

✓ **Potato – Black Leg** – Black leg is caused by *Erwinia* spp. which also cause ‘soft rots’. The bacteria which lead to the aerial phase of Blackleg are soil-borne (originate from old crop debris) and spread by rainfall, overhead irrigation and wind. The aerial phase of Blackleg does not originate from decaying seed pieces. The bacterium can enter the plant through wounds created by cultivation or through stems damaged by blowing wind, sand or hail. Dense canopies, warm weather and prolonged periods of leaf wetness favor the spread of aerial Blackleg. Fortunately, the disease rarely extends below ground and only causes dieback of stems over time. Symptoms of the aerial phase of Blackleg first appear as an irregular, water-soaked ‘green’ decay on stems that turns light-brown to black over time. Hot, dry weather will cause infected areas to dry out and become brittle. To help suppress aerial Blackleg, avoid excessive overhead irrigation if possible. Do any cultivating when plants are dry, cultivating in the presence of dew or wet plants may help to spread the bacterium around.

✓ **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 dis-

SEE TOMATO DISEASE ON PAGE 4



Phytophthora fruit rot of bell pepper and tomato. Note: The white fungal growth on surface of fruit are spores (sporangia) which are spread easily by wind and rain.



Phytophthora crown rot of bell pepper. Note the blackish-brown stem diagnostic of Phytophthora blight.

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged above normal, averaging 76 degrees north 76 degrees central and 77 degrees south. Extremes were 94 degrees at Canoe Brook on the 9th, and 54 degrees at Charlotteburg on the 12th. Weekly rainfall averaged 0.54 inches north, 0.31 inches central, and 0.40 inches south. The heaviest 24 hour total reported was 1.33 inches at Glassboro on the 9th to 10th. Estimated soil moisture, in percent of field capacity, this past week averaged 75 percent north, 63 percent central and 67 percent south. Four inch soil temperatures averaged 74 degrees north, 75 degrees central and 76 degrees south.

Weather Summary for the Week Ending 8 am Monday 7/14/ 8

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	.72	16.81	-.39	90	58	77.	5	1421	274	77
CANOE BROOK	1.04	18.07	-.23	94	56	76.	3	1411	264	80
CHARLOTTEBURG	.00	16.90	-1.59	87	54	74.	4	1220	299	66
FLEMINGTON	.91	17.30	-.32	93	56	76.	2	1406	222	80
NEWTON	.01	15.91	-.91	88	56	76.	5	1430	414	69
FREEHOLD	.31	12.92	-4.25	90	58	75.	1	1432	147	62
LONG BRANCH	.00	15.62	-1.51	87	61	75.	1	1368	158	34
NEW BRUNSWICK	.63	18.15	1.20	91	58	77.	2	1482	120	73
TOMS RIVER	.35	14.51	-2.84	90	58	75.	1	1447	227	42
TRENTON	.26	15.97	-.06	89	61	77.	1	1563	144	56
CAPE MAY COURT HOUSE	.04	12.49	-2.68	87	62	75.	0	1519	217	53
DOWNTOWN	.25	16.00	.25	89	60	76.	1	1578	146	61
GLASSBORO	1.79	16.04	-.79	89	64	78.	3	1709	298	78
HAMMONTON	.06	12.57	-4.07	90	61	77.	1	1651	245	43
POMONA	.10	14.89	-.13	90	61	77.	3	1612	312	40
SEABROOK	.15	15.12	-.08	89	64	77.	1	1695	254	55
SOUTH HARRISON	.18	13.96	-2.98	90	63	78	NA	1681	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW LAST WEEK				250 (Ending 7/7/08)				THIS WEEK 257 (Ending 7/14/08)		

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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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