

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

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You, Your Products, and the People that Consume Them

Jhilson Ortiz, Sr. Program Coordinator Agriculture Marketing

Have you ever wondered what benefits marketing can give you, if you are already doing what most people understand as marketing activities?

Measuring marketing success in a post production/pre sale environment tramples on all the original objectives of what marketing is good for; after all, marketing is indeed the link between you, your products, and the people that consume them; and hence, should faithfully reflect a sale of a *wanted product at a needed time*.

The time and the conditions for a product to sell itself are long gone with the increased competitiveness of other companies to most likely position products at a better time, with better presentations, and even an improved perceived quality ranking. After taking care of becoming competitive on all those aspects, what applies now is more an idea of "our best customers are informed consumers"; yet agriculture businesses fail to address such an important topic.

But what kind of information is needed, and when? The information to be shared has to match the needs and concerns of the clients. The first trade line, the wholesale client, needs to know what social, ecological, and bottom line impact it has for them to do business with you. The second trade line, the client consumer, needs to know what the product is good for, and how their participation as clients in your line of business affects their own welfare.

Case in point: A couple of years ago while on a marketing research visit to a local farm market, we noticed how consumers were attracted to a beautiful plant arrangement that was offered for sale at the farm stand. Busy as they day was, there was no one to explain to several interested people what the plant was good for, how to use it, how long it will last, what kind of recipes can be prepared from it, and how to take care of it to extend its "garden life". An uninformed consumer has no tools to make a purchasing decision when they like a product and most likely shy away from buying it; which translates to lost sales and a lost opportunity to gain a happy and loyal consumer. □

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Food Safety Series

Wesley Kline, Ph.D., Cumberland County Agricultural Agent

Q – My port-a-johns have a hand-washing sink inside. I have been told this is not acceptable for third party audits. Why?

A – That is correct, there must be a hand washing station outside all toilet/restroom/field sanitation facilities. A supervisor must have the ability to see if workers are washing their hands. This does not mean that the supervisor records each time someone washes his or her hands. The best type of handwashing station is one that has a foot pump. This way the worker does not touch a faucet which may contaminate the faucet. The station must have a supply of single-use towels, toilet paper, hand soap or antibacterial soap and potable water for hand washing.

Q – Is a handwashing station needed in the packing-house?

A – Yes, there should be a wash station in the packinghouse or just outside the packinghouse. One of the main sources for cross contamination is from workers who do not wash their hands prior to returning to work.

Q – The Port-a-Johns are being cleaned by a service, but the log inside the units is not filled out. Is this a problem?

A – Yes, the service must fill out the log inside the unit. The date and person's name must be listed. I have seen several situations where the units were clean, but no one filled out the log. The log is your proof that the facilities are being cleaned on a scheduled basis. Remember it is the grower's responsibility to ensure the facilities are clean at all times. Even with a weekly servicing, the units should be checked daily by someone on the farm.

Q – I heard that "Country of Origin (COOL)" regulations are being implemented this year. How does this fit with a Good Agricultural Practices Third Party Audit?

A – The COOL regulations are separate from the third party audit. However, the information required by COOL will help with a traceback program for a third party audit. COOL was included in the 2002 farm bill, but the implementation was delayed until September 30, 2008. The USDA will be releasing the rules for implementation in late July. Until those rules are published, we do not have the final word on what will be required. It appears, if a grower has 'Product of the USA', 'Product of New Jersey', or 'Jersey Fresh' along with the grower name and address on the box they will be in compliance. This means wood crates need to have the same information. The individual product i.e. peaches could be stickered which would also comply. The same information should be listed on the bill of lading and all records are to be kept for two years. □

Vegetable Diseases of the Week

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



Buckeye rot of tomato. Note concentric rings developing on green fruit.



Angular leaf spot of cucurbits. Lesions are delimited by veins creating 'angular' lesions.



Mosaic virus symptoms on young pumpkin leaf.

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 (see VDOW). 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

SEE DISEASES ON PAGE 4

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.

✓ **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

✓ **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** (see VDOW). 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 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

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Fungal Leaf Blights of Carrot

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

Alternaria and Cercospora are two soil-borne fungal pathogens that may cause early defoliation in carrots reducing yields and making harvest difficult. Both pathogens produce distinct symptoms on carrots. **Powdery mildew causes characteristic white, powdery lesions on foliage. Symptoms of Alternaria include irregular, dark brown to black spots which typically show up on older leaves first. Cercospora leaf spots are round, grayish-brown and are more prevalent on younger foliage.** Both leaf blights typically start at the margins of leaflets and as more spots develop leaflets begin to wither and die. Symptoms similar to leaf infections can develop on stems and petioles. Control of both diseases begins with regular scouting and preventative fungicide applications on susceptible varieties. Apply Quadris (azoxystrobin, 11) at 9.0 to 15.4 fl. oz 2.08F/A, or Cabrio 20EG (pyraclostrobin, 11) at 8 to 12 oz/A, or Pristine (pyraclostrobin + boscalid, 11 +7) at 8 to 10.5 oz. tank-mixed or alternated with chlorothalonil (M5) at 1.5 to 2 pt/A or OLF, or Endura 70W at 4.5 oz/A. Apply Rovral 50WP (iprodione, 2) at 1 to 2 lb/A or Switch (cypridonil, 9) at 11 to 14 oz/A for Alternaria only. Do not make more than one sequential application of Quadris, Pristine or Cabrio (FRAC code 11). For more information on tolerant varieties and control please see the *2008 New Jersey Commercial Vegetable Production Recommendations*. □

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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. □

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rain and on new growth. And, wear a respirator or mask when mixing and spraying. Although kaolin is very safe in terms of skin exposure or ingestion, handlers should take precautions to avoid breathing the powder. □

Pest Notes

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

✓ **Colorado Potato Beetle:** New York (Long Island) reports that repeated applications of Entrust have not been very effective against Colorado potato beetle on potato. Dr. G. Dively reports that it is possible resistance has been increasing with Long Island beetles. For New Jersey growers, it is important to alternate insecticides with different Modes of Action to reduce or delay the onset of resistance to the available insecticides. Overuse of any insecticide will increase the potential of resistance by the beetles, including materials such as the neonicotinoids (Admire, Platinum, Assail, Venom, etc) as well as the new chemistry insecticides (SpinTor, Coragen, etc).

Long Island also reports that Pyganic was not effective, but Maryland reports that field tests showed that combinations of Pyganic and Neem were effective, especially against smaller larvae.

Also, if foliar sprays are applied (regardless of material selected), target the newly hatched larvae for best results. Apply sprays when eggs are just starting to hatch, before the small hatchlings disperse throughout the plant.

✓ **Pepper:** Although the numbers of corn earworm moths is increasing, the European corn borer moth activity is decreasing. It is expected that the activity will remain at a low level for several weeks, and start increasing again in early August.

New Labels for New Jersey

Altacor and Coragen (both from E. I. DuPont de Nemours & Co.) are *now labeled* in New Jersey. Both of these materials have rynaxypyr as an active ingredient, and control many important pests. Altacor is labeled on potatoes for Colorado potato beetle and European corn borer, and Coragen is labeled on Brassica leafy crops (cole crops, cabbages, etc), cucurbits, fruiting vegetables (eggplant, tomato, pepper), and Leafy vegetables (amaranth, arugula, cardoon, dandelion, lettuces, spinach, radicchio, etc). Rynaxypyr is very effective against worm pests, especially the hard-to-control worm pests such as beet armyworm, diamondback moth larvae, cabbage loopers, etc. It is systemic and can be applied through a trickle irrigation system.

Assail (acetamiprid), from UPI, is now labeled on the cucurbit crop group, legumes and beans. It is designed as a foliar spray and is very effective against beetles, whiteflies, thrips, etc. Acetamiprid belongs to the same class of insecticides (neonicotinoids) as Admire, Platinum, and Venom, and thus has the same insecticide resistance management group number. □

IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

Trap catches of **European corn borer (ECB)** adults have declined dramatically throughout the state with only light, scattered catches recorded over the past week (see ECB map). This flight is nearly over and feeding in sweet corn is now increasing to high levels in many areas as larvae from this flight emerge and begin to feed. Feeding into the 40% range is not uncommon at this time. 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	1	Hackettstown	1	Phillipsburg	1
Denville	1	Indian Mills	1	Shirley	1
Elm	1	Little York	1	Springdale	1
Flanders	1	Morristown	1	Tabernacle	1

Adult **corn earworm (CEW)** catches have declined in most of the state over the past week. One remaining hot-spot is along the Raritan bay-shore (see CEW map). This population remains 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:

Allamuchy	1	Indian Mills	1	New Egypt	1
E. Vineland	1	Lawrenceville	1	RAREC	1
Folsom	1	Matawan	1	Tabernacle	1
Green Creek1		Medford	1	Woodstown	1

Silking Spray Schedules*:

North – 6-7 days

Central – 5 days

South – 4-5 days

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

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.

With warmer and drier weather, **two-spotted spider mites (TSSM)** may appear in pepper fields. While scouting for other pests, observe leaves for the presence of light-colored pin-spots called "mite stipple". The undersides of leaves with this symptom will have TSSM and possibly webbing under the affected area. TSSM are favored by warm weather and can build up rapidly under dry conditions. As the population increases, leaves will begin to turn yellow, and ultimately dry and brown. It may be possible to spot treat for mites if they are found early, as they will often move into peppers from adjacent crops like eggplant and watermelon, or from weedy areas that have recently been mowed.

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 of-

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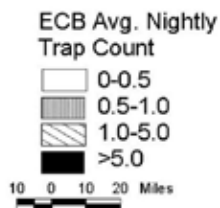
ten goes unnoticed until foliar distortion and burn occurs. Once this damage appears, yields have already been compromised. It is critical that beans be monitored regularly for the presence of PLH. If a sweep net is available, consider treating if more than 100 nymphs and adults are present in 20 sweeps 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.

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

Using Blacklight Trap Information to Reduce Spray Costs

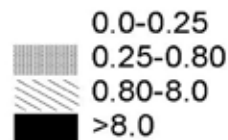
For the 2007 growing season, northern New Jersey sweet corn growers were able to eliminate an average of 9 silk spray applications (36% reduction) by following schedule recommendations derived from the corn earworm (CEW) catches in the RCE Vegetable IPM Program blacklight network. This reduction is in comparison to the standard 3-day schedule that is typically followed in the absence of information on CEW activity. Using lambda-cyhalothrin (Warrior at \$255/gal) as an example, a grower treating 10 acres of silking corn with each spray would save \$50-75 per spray in insecticide alone, or a total of \$450-675 during the course of the season. This does not include the savings related to the cost of diesel fuel needed to make the applications. If you are not currently in a scouting program or have a RCE Vegetable IPM Program blacklight trap on your farm, be sure to regularly access information regarding CEW activity either from this newsletter, or from the pest maps posted on the Vegetable IPM website : <http://www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm>. □

Distribution of Adult European Corn Borer for the Week Ending June 25, 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 25, 2008



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

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

*Reprinted from Vegetable Notes, UMass Extension,
June 12, 2008, Vol. 9, No. 6*
Continued from Part I that appeared in the June 18 issue.

Organic insecticides. Insecticides available for organic growers for use in cucurbit crops include kaolin clay (Surround WP), pyrethrin (Pyganic Crop Spray 5.0 EC, a contact poison), and spinosad (Entrust, a contact poison and feeding toxin).

There have been studies done in Massachusetts which showed that spinosad is effective against striped cucumber beetle; in fact, it worked better than Pyganic. For this reason, it might be worth a try against this difficult pest --especially in a situation where cultural controls are not working or where a border spray is needed in a PTC system. Control may vary according to coverage and timing. It is legal to use a pesticide on a crop in Massachusetts as long as the label includes that crop;

this is true even if the specific target pest is not listed. Cucumber beetle is not specifically listed on the Entrust label, but it is labeled for use in cucurbit crops.

Surround WP should be applied before beetles arrive because it acts as a repellent and protectant, not a contact poison. Beetles do not "recognize" the plant and so do not feed; also the clay particles stick to their feet and antennae and are irritating. This product can be tricky to mix and use. One approach is to mix a slurry in a bucket and then add the slurry to the tank, as the dry powder can cake if added directly to the tank mix. Another approach is to add the powder to water and allow it to settle slowly. Once the powder is fully wet, agitate gently. Regular agitation is needed during spraying. With direct-seeded crops, apply as soon as seedlings emerge if beetles are active. Transplants can be sprayed before setting out in the field. Surround can also be used on the main crop of a PTC system, creating a "push-pull" dynamic. Ensure good coverage of the foliage (it will look like it was sprayed with white latex paint), including, if possible, the undersides of leaves (not easy when cotyledons are close to the ground). Reapply after a heavy

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Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged below normal, averaging 67 degrees north 69 degrees central and 71 degrees south. Extremes were 88 degrees at several locations on the 17th, and 48 degrees at Charlotteburg on the 19th. Weekly rainfall averaged 0.62 inches north, 0.15 inches central, and 0.13 inches south. The heaviest 24 hour total reported was 0.60 inches at Charlotteburg on the 20th to 21st. Estimated soil moisture, in percent of field capacity, this past week averaged 83 percent north, 66 percent central and 55 percent south. Four inch soil temperatures averaged 68 degrees north, 70 degrees central and 71 degrees south.

Weather Summary for the Week Ending 8 am Monday 6/23/ 8

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC	
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP		
BELVIDERE BRIDGE	.31	14.79	.44	86	51	68.	-1	895	163	64	
CANOE BROOK	.80	16.46	.97	87	50	68.	-1	907	209	93	
CHARLOTTEBURG	1.13	15.85	.25	82	48	64.	-2	749	212	84	
FLEMINGTON	.21	15.80	1.03	86	49	67.	-3	887	161	81	
NEWTON	.63	14.84	.81	84	51	67.	-1	920	311	75	
FREEHOLD	.30	12.00	-2.54	87	50	70.	-1	907	94	65	
LONG BRANCH	.12	15.03	.38	82	55	68.	-2	841	94	55	
NEW BRUNSWICK	.20	13.57	-.64	86	51	69.	-3	927	66	73	
TOMS RIVER	.06	13.02	-1.43	85	52	69.	-1	916	175	46	
TRENTON	.05	14.21	1.00	87	53	69.	-3	1009	98	44	
CAPE MAY COURT HOUSE	.25	11.07	-1.75	88	54	71.	0	973	154	40	
DOWNTOWN	.06	12.55	-.53	87	52	69.	-3	1025	93	36	
GLASSBORO	.00	13.71	-.42	88	56	72.	0	1126	215	50	
HAMMONTON	.07	11.04	-2.71	88	53	71.	-1	1083	180	40	
POMONA	.16	13.48	.95	88	53	70.	-1	1032	207	59	
SEABROOK	.26	12.96	.48	88	54	72.	0	1124	186	41	
SOUTH HARRISON	.07	13.53	-.43	88	54	71	NA	1106	NA	NA	
WES KLINE -- GDD BASE 40 PINEY HOLLOW	LAST WEEK			269	(Ending 6/16/08)		THIS WEEK		205	(Ending 6/23/08)	

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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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